

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 Resource 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 previously approved to be added (Helms & Reddington) or to be added as part of the Phase V project to the original Landfill lot which have a gross area of 284.54 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 information and calculations required by that section on this Sheet 8 of 29. BLC proposes to utilize 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 8 of 29. For Section 180-95(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

As outlined above, the base site area is calculated by taking the gross property area from survey minus those right-of-way and easements within the properties analyzed as shown on plan Sheet 3 of 29. Where easements or right-of-way overlap, only one easement or right-of-way is subtracted from the gross area. The easements and right-of-way that are included within this calculation are only those existing easements and right-of-way that will not become obsolete as a result of PADEP/USACE permitted removal of the corresponding resource. The calculation is as follows:

Gross Site Area:	284.54 ac.
Existing Right-of-Way:	(11.32 ac.) (2.071ac 18.0.10 & 14-fee Sheet 3 of 29)
Land Within Easements:	(101.28 ac.) (11.13 (97.3) See Sheet 3 of 29)
Easement & Right-of-Way Overlap:	5.643 ac.
Base Site Area:	181.88

RESOURCE PROTECTION

As calculated above, the Base Site Area is 181.88 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 overlap, the one with the highest reservation was delineated herein (Exhibit #1).

RESOURCE	REQUIRED RESERVATION	LAND IN RESOURCE	RESOURCE PROTECTION LAND
Floodplains	100%	0 ac.	0 ac.
Wetlands	100%	0.75 ac.	0.75 ac.
Waters of the Commonwealth*	100%	6.64 ac.	6.64 ac.
Env. Sensitive Woodlands	85%	145.47 ac.	123.65 ac.
Steep Slopes >25%	85%	0.03 ac.	0.03 ac.
Woodlands	80%	13.57 ac.	10.86 ac.
Steep Slopes (15% to 25%)	70%	0.44 ac.	0.31 ac.
Steep Slopes (8% to 15%)	60%	0.22 ac.	0.13 ac.
TOTALS		167.22 ac.	142.37 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 parcels to be consolidated (Approved with the original landfill lot, the net buildable area within the proposed consolidated parcels (excluding the original landfill lot) is calculated as follows:

Base Site Area:	181.88 ac.
Req'd Resource Protection Area:	142.37 ac.
Buildable Site Area:	39.51 ac.

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 132.2 acres, which is 92.99 acres more than the calculated Buildable Site Area of 39.21 acres. Thus, Bethlehem Landfill proposes to utilize 92.99 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 92.99 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.

MAXIMUM IMPERVIOUS AREA

Calculation of the maximum impervious area is determined by multiplying the calculated buildable site area times the maximum permitted impervious surface rates. 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 to be consolidated 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 (39.21 ac.) x 0.60 = 23.53 ac.

The proposed impervious area on the to be consolidated parcels, upon development of the Phase V Expansion, is 9.53 acres of impervious area on 284.54 acres. This includes all proposed paved or gravel surfaces on the 284.54 acre gross site area. Thus, the maximum allowable impervious surface area is not exceeded with the proposed Phase V Expansion.

SITE CAPACITY CALCULATION SUMMARY

Base Site Area = 181.88 ac.
Allowable Buildable Site Area = 39.21 ac.
Prop. Buildable Site Area = 132.2 ac.
Max. Permitted Number of DU's = N/A
Max. Permitted Impervious Surfaces = 23.48 ac.
Prop. Impervious Surfaces = 9.53 ac. of Impervious Area on 284.54 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 92.99 acres.

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 92.99 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, seven (7) wetlands (d thru j) exist within the parcels to be consolidated with the original Landfill Lot having a total acreage of 6.754 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 59 feet beyond the wetland boundary. Wetland buffers exist within the new parcels to be consolidated to the original 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	Prop. Protection Rate
Wetland	0.75 ac.	0.27 ac.	100%	64%
Wetland Buffer	4.09 ac.	2.57 ac.	85%	37%

LAKES AND PONDS

No lakes or ponds exist within the properties analyzed. 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 follows:

- 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 new properties previously approved to be added (Helms & Reddington) or to be added as part of the Phase V project to the original Landfill lot. Refer to Exhibit #3 (on Sheet 10 of 29).

Steep Slope	Resource Total Area	Utilized Area	Req. Protection Rate	Prop. Protection Rate
8% to 15%	80.5 ac.	33.0 ac.	60%	59%
15% to 25%	95.0 ac.	50.3 ac.	70%	47%
Greater than 25%	68.3 ac.	33.3 ac.	85%	51%

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 foot or more which contain an average of one or more trees measuring six inches in caliper or greater per 1,000 square foot.

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 2002 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 new properties previously approved to be added (Helms & Reddington) or to be added as part of the Phase V project to the original Landfill lot. Refer to Exhibit #2 on Sheet 9 of 29.

Woodlands	Resource Total Area	Impacted Area	Req. Protection Rate	Prop. Protection Rate
Woodlands	252.58 ac.	120.72 ac.	80%	52%
Env. Sen. Woodlands	225.69 ac.	112.34 ac.	85%	50%

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 FRM Map Number 42095C0335E dated July 16, 2014 and a review of soils located within the property against those soils 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 property.

RIPIARIAN 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 new properties previously approved to be added (Helms & Reddington) or to be added as part of the Phase V project to the original 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 new properties previously approved to be added (Helms & Reddington) or to be added as part of the Phase V project to the original Landfill lot.

These stream protection easements have been established by previous Land Development Plans for expansion and realignment of the Landfill. Two (2) stream protection easements identified as miscellaneous stream protection Easements #12 on Sheet 3 of 29 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 herein 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	Prop. Protection Rate
Stream Protection Easement	7.17 ac.	2.26 ac.	100%	68%
Riparian Buffers	7.89 ac.	3.77 ac.	85%	52%

CONCLUSIONS

As presented, development of the Phase V Expansion within the new properties previously approved to be added (Helms & Reddington) or to be added as part of the Phase V project to the original Landfill lot having a gross area of 284.54 acres result in an impacted area of 132.2 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 8 of 29. BLC proposes to utilize 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 8 of 29. 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 herein.

TOTAL AREA OF DEVELOPMENT ON PARCELS TO BE CONSOLIDATED (132.2 AC.)

LEGEND

- FLOODPLAIN = 0.00 AC.
- WETLAND AREAS = 0.75 AC.
- WATERS OF THE COMMONWEALTH RIPIARIAN AND WETLAND BUFFERS = 6.64 AC.
- ENVIRONMENTALLY SENSITIVE WOODLANDS = 145.57 AC.
- STEEP SLOPES >25% = 0.03 AC.
- WOODLANDS = 13.57 AC.
- STEEP SLOPES 15-25% = 0.44 AC.
- STEEP SLOPES 8-15% = 0.22 AC.
- AREA OF ENVIRONMENTAL RESOURCE PROTECTION ANALYSIS 284.54 ACRES

Reserved 30' Dedicated R/W for Riverside Drive

Railroad (Opp. Side of Riverside Dr.) Pennsylvania Lines LLC

Bethlehem Landfill Company Deed 2022-1, 150680

Bethlehem Landfill Company Deed 2022-1, 269095 Property 1

Bethlehem Landfill Company Deed 2022-1, 269095 Property 2

Bethlehem Landfill Company Deed 2022-1, 197490

Bethlehem Landfill Company Deed 2021-1, 334953

IESI PA Bethlehem Landfill Corporation Deed 2017-1, Page 002419

Louis J. & James R. DiDomenico S36-62

Bethlehem Landfill Company Deed 2021-1, 168996

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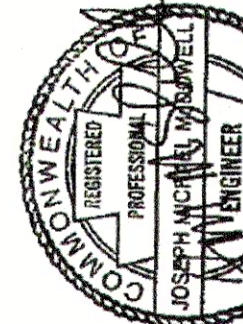
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NATURAL RESOURCE DELINEATION FOR BUILDABLE AREA AND MAXIMUM IMPERVIOUS AREA CALCULATIONS (EXHIBIT #1)



DATE: 09/26/23

REVISION: EXCLUDED STEELY LOT ADDITION

NO. 1

REVISION: NORTHAMPTON CO.

PHASE V PRELIMINARY LAND DEVELOPMENT & LOT CONSOLIDATION PLAN

Bethlehem Landfill Company

PENNSYLVANIA

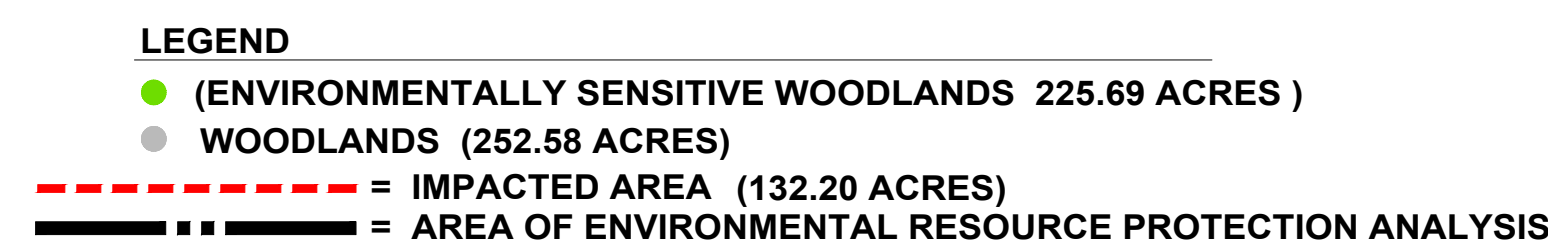
SCALE: AS NOTED

DATE: 09/11/23

SCALE: AS NOTED

DRAWING NO.

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PHASE V EXPANSION

NATURAL RESOURCE IMPACTS

ENVIRONMENTALLY SENSITIVE WOODLAND (112.34 AC.)
WOODLANDS (120.72 AC.)

SCALE: 1" = 300'

**BETHLEHEM
TOWNSHIP**

**TOTAL AREA
OF DEVELOPMENT
ON PARCELS TO
BE CONSOLIDATED
(132.2 AC.)**

EXISTING LANDFILL

AREA #4

EXHIBIT #2 - WOODLANDS

