

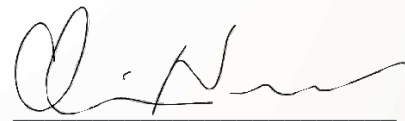
CIVIL ENGINEERING
ENVIRONMENTAL
SURVEYING
LANDSCAPE ARCHITECTURE
GEOTECHNICAL

ENVIRONMENTAL IMPACT STATEMENT

Delaware Avenue
Subdivision
Block 13302, Lot 16.01,
Long Hill Township,
Morris County,
New Jersey

Prepared For:
Mario Parisi
8 Lower Overlook Drive
Jersey City, NJ 07933

November 30, 2017



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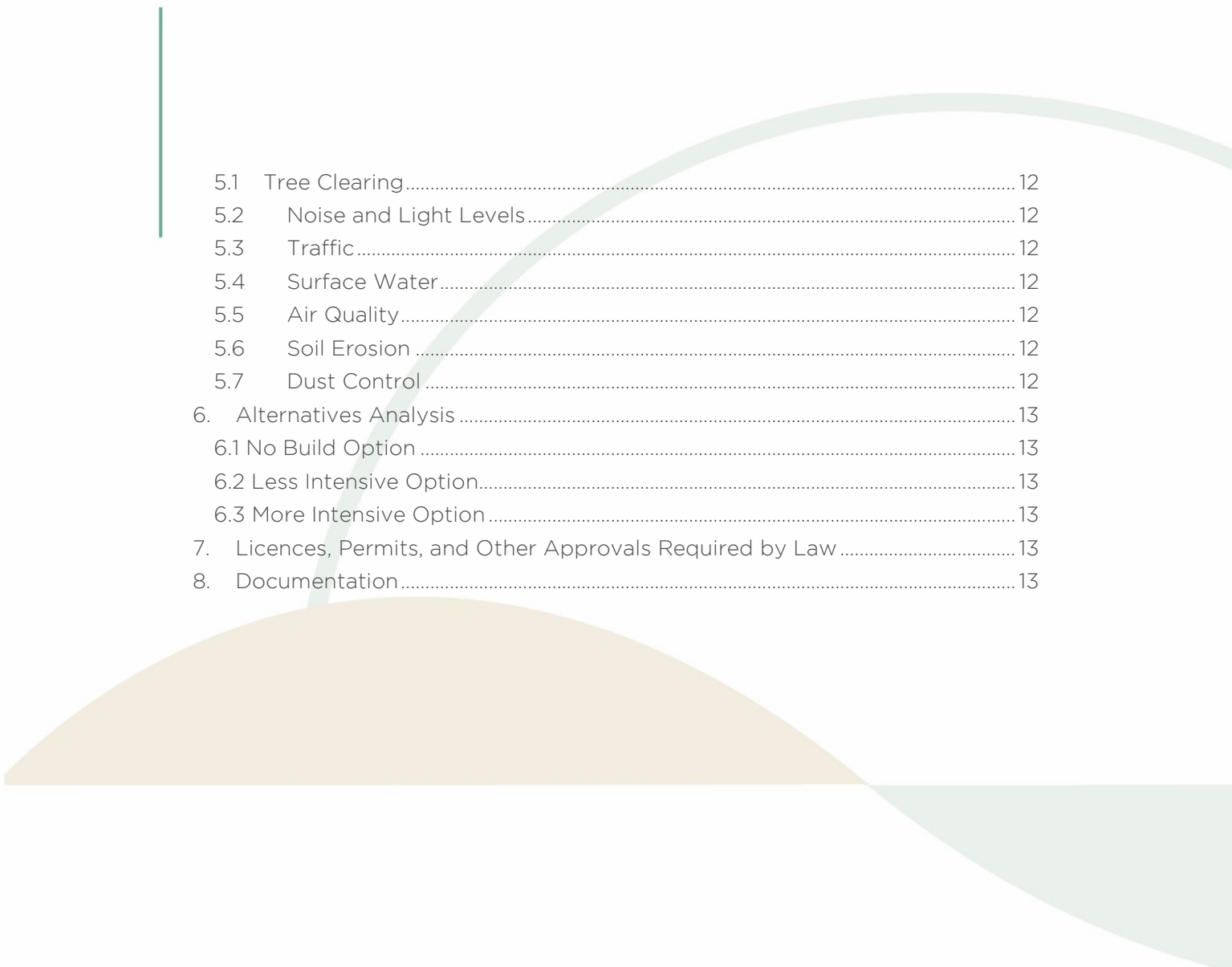
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TABLE OF CONTENTS

Table of Contents.....	1
Executive Summary.....	3
List of Figures.....	4
List of Appendices.....	5
1. Description of Project.....	6
2. Natural Resource Inventory.....	6
2.1 Types of Soils.....	6
2.2 Surface and Groundwater.....	7
2.3 Surface and Subsurface Geology.....	8
2.4 Drainage.....	8
2.5 Trees and Flora.....	8
2.6 Wildlife.....	8
2.7 Wetlands.....	8
3. Man-Made Resource Inventory.....	9
3.1 Public Infrastructure.....	9
3.2 Archaeological and Historical Features.....	9
3.3 Sewerage Facilities.....	9
3.4 Water Supply.....	9
3.5 Solid Waste Disposal.....	9
3.6 Traffic.....	9
3.7 Noise.....	9
4. Impact.....	10
4.1 Soil Erosion.....	10
4.2 Flooding.....	10
4.3 Surface and Groundwater Quality.....	10
4.4 Vegetation Destruction.....	10
4.5 Wildlife Habitat.....	10
4.6 Air Quality.....	10
4.7 Reduction of Open Spaces.....	10
4.8 Critical Areas.....	10
4.9 Scenic Value.....	11
4.10 Adjacent and Other Impacted Noncontiguous Areas.....	11
5. Mitigation Measures.....	12





5.1	Tree Clearing.....	12
5.2	Noise and Light Levels.....	12
5.3	Traffic.....	12
5.4	Surface Water.....	12
5.5	Air Quality.....	12
5.6	Soil Erosion.....	12
5.7	Dust Control.....	12
6.	Alternatives Analysis.....	13
6.1	No Build Option.....	13
6.2	Less Intensive Option.....	13
6.3	More Intensive Option.....	13
7.	Licences, Permits, and Other Approvals Required by Law.....	13
8.	Documentation.....	13

EXECUTIVE SUMMARY

The owner of the subject property seeks to subdivide the existing undeveloped 11.30-acre lot into 10 residential lots and 1 lot to be conserved as open space. The designs for this project must preserve existing critical areas where feasible and mitigate impacts where disturbance is proposed. This Environmental Impact Statement (EIS), prepared in accordance with Long Hill Township Ordinance 147, provides an inventory of existing natural and man-made resources, an assessment of the environmental impacts of the proposed project, environmental protective measures to be employed, and lists unavoidable adverse impacts should the project be implemented.

This proposed project includes regrading and changes in land cover, and the construction of roads, accompanying roadway improvements, utilities, and stormwater management infrastructure. This construction will occur on the 11.30 acre (Ac.) property, Block 13302, Lot 16.01, located along Delaware Avenue in Long Hill Township, Morris County, New Jersey.

The significant findings of the EIS include the following:

1. There would be no significant environmental impacts from the proposed project. The proposed activities on-site include 10 residential lots with single family dwellings.
2. Impact to endangered species habitats will be mitigated through appropriate tree removal. The wetlands habitat to the south of the property will not be impacted.
3. Erosion and sediment control measures will mitigate any impacts to soil erosion.
4. Stormwater runoff from the proposed development will be managed through stormwater basins and associated infrastructure.
5. The increase in municipal services, including the anticipated water and wastewater demand will be accommodated by existing municipal infrastructure and the proposed septic systems.

In summary, it is anticipated that the proposed site improvements can be implemented without creating any appreciable adverse environmental impacts. If unforeseen environmental impacts are incurred, appropriate mitigation measures will be implemented.



LIST OF FIGURES

FIGURES:

Figure 1:	USGS Map
Figure 2:	Zoning Map
Figure 3:	Soil Map
Figure 4:	Road Map
Figure 5:	FIRM Map
Figure 6:	Tax Map



LIST OF APPENDICIES

APPENDICIES:

Appendix A: Natural Heritage Database Report

1. DESCRIPTION OF PROJECT

This Environmental Impact Statement (EIS) has been prepared in accordance with the requirements of Section 147 - Environmental Impact Statement Ordinance of the Township of Long Hill. This EIS describes and presents the results of our analysis of all potential direct and indirect effects associated with the proposed site improvements, with particular emphasis on the protection, preservation and enhancement of the natural environment.

The project proposes to subdivide the existing Lot 16.01 into 11 lots, 10 of which will be single family residential and 1 which will be conserved as open space. The existing gravel roadway will be paved and improved to connect the abutting ends of Delaware Avenue. Two cul-de-sac streets will connect this improved road to the proposed lots. Sidewalks, curbing, and accompanying street improvements are proposed. Impacts to existing critical areas, including wetlands, flood hazard areas, and endangered species habitats, will be avoided wherever possible and minimized through strategic planning in areas of disturbance. Increased stormwater runoff will be managed by proposed stormwater basins and drywells on the site. Increases in sanitary flows will be accounted for through the construction of septic fields on 8 of the residential lots and sewer connections on the remaining 2 residential lots.

The proposed work for this property will require setback and lot area variances in order to accommodate the density modification for the R-2 zone. These variances are being requested and completion of this will make the proposed work compatible with the municipal and county master plans.

2. NATURAL RESOURCE INVENTORY

The following section presents the existing natural resources on the subject property and includes the items outlined in the EIS Subject Areas Checklist. Refer to Section 4 for a listing of potential impacts to these items if the proposed project were implemented.

2.1 Types of Soils

The *USDA Soil Survey of Morris County, New Jersey* as published by the NRCS Web Soil Survey (WSS 2009) indicates that the majority of the site is comprised of the following major soil series/phase:

- MknB - Minoa Silt Loam, 12 to 18 percent slopes

The *USDA Soil Survey of Morris County, New Jersey* indicates that the property contains the Minoa Silt Loam (MknB) soil designation. (See Figure 3) The Minoa series consists of moderately deep, somewhat poorly drained soils formed from coarse-loamy lagoonal deposits. Slopes of this series range from 12 to 18 percent. The soil survey also indicates that the depth to bedrock is typically more than 80 inches and depth to the water table ranges from 6 to 18 inches. The capacity of the soil to transmit water is moderately high to high. Minoa Silt Loam has no hydric soil rating and falls within hydrologic soil group B/D.



- PeoC - Pen Channery Silt Loam, 8 to 15 percent slopes

The *USDA Soil Survey of Morris County, New Jersey* indicates that the property contains the Penn Channery Silt Loam (PeoC) soil designation. The Penn series consists of moderately deep, well drained soils that formed in residuum weathered from shale and siltstone. Slopes of this series range from 8 to 15 percent. The soil survey also indicates that depth to bedrock in these soils range from 20 to 40 inches and saturated hydraulic conductivity is moderately low to moderately high. The soil has no hydric soil rating and is classified as Hydrologic Soil Group B.

- PbpAt - Parsippany Silt Loam, 0 to 3 percent slopes

The *USDA Soil Survey of Morris County, New Jersey* indicates that the property contains the Parsippany Silt Loam (PbpAt) soil designation. The Parsippany series consists of moderately deep, poorly drained soils formed from fine glaciolacustrine deposits derived from basalt, shale and granitic gneiss material. Slopes of this series range from 0 to 3 percent. The soil survey also indicates that the depth to bedrock is typically more than 80 inches and depth to the water table ranges from 0 to 6 inches. The soil is subject to frequent flooding and ponding with moderately low to moderately high capacity to transmit water. The soil has a hydric soil rating and is classified as Hydrologic Soil Group D. The capacity of the soil to transmit water is moderately high to high.

- PgmD - Penn-Klinesville Channery Silt Loams, 12 to 18 percent slopes

The *USDA Soil Survey of Morris County, New Jersey* indicates that the property contains the Penn-Klinesville Channery Silt Loams (PgmD) soil designation. The Penn and Klinesville series form in fine-loamy residuum weathered from acid reddish shale, siltstone, and fine-grain sandstone. Depth to bedrock ranges from 10 to 39 inches and depth to water table is more than 80 inches. Slopes for Penn-Klinesville Silt Loams range from 12 to 18 percent. The Penn series has no hydric soil rating, is classified in Hydrologic Soil Group C, and is well drained. The Klinesville series has no hydric soil rating, is classified as Hydrologic Soil Group D, and is somewhat excessively drained.

- WhpB - Whippany Silt Loam, 3 to 8 percent slopes

The *USDA Soil Survey of Morris County, New Jersey* indicates that the property contains the Whippany Silt Loam (WhpB) soil designation. The Whippany series consists of moderately deep, somewhat poorly drained soils that formed in silty and clayey glaciolacustrine deposits derived from shale and/or granite and/or basalt. Slopes of this series range from 3 to 8 percent. The soil survey also indicates that depth to bedrock in these soils is more than 80 inches and depth to water table ranges from 6 to 18 inches. Whippany Silt Loam has no hydric soil rating and is classified as Hydrologic Soil Group C. The capacity of the soil to transmit water is moderately low to moderately high.

2.2 Surface and Groundwater



The topographic relief on the property ranges from 213 to 270 feet above MSL. The surface topography across most of the property is moderately steep to steep, with slopes ranging from 1-25%. Stormwater run-off follows the surface topography. The southern drainage area, which encompasses approximately 4.65 acres of land, directs run-off to the southeast via sheet flow and into the wetlands and surrounding properties. The northern drainage area, which encompasses approximately 3.08 acres, directs run-off to the eastern property boundary.

2.3 Surface and Subsurface Geology

The geology beneath the site consists of fine- to medium-grained sandstone, siltstone, and silty mudstone. The tract is part of the Towaco Formation.

2.4 Drainage

The existing site directs runoff to the wetlands in the southern end of the property and to the adjacent properties in the northeast. Runoff primarily flows through wooded areas and soils are well-drained. The AE Flood Hazard Area is located to the south of the property with a design elevation of 214 above MSL (See Figure 5)

2.5 Trees and Flora

The site contains a mix of native deciduous trees and native undergrowth.

2.6 Wildlife

The site provides habitat for the Federally Listed State Endangered Indiana Bat and the State Threatened Barred Owl. The former species lives within wooded areas in the summer months and migrates to caves and mines off site during hibernation.

2.7 Wetlands

Wetlands and their associated 50' buffer cover approximately 1.13 acres of the property and are located in the southern end of the property.



3. MAN-MADE RESOURCE INVENTORY

The following section presents the existing man-made resources on the subject property and includes the items outlined in the EIS Subject Areas Checklist. Refer to Section 4 for a listing of potential impacts to these items if the proposed project were implemented.

3.1 Public Infrastructure

The property currently contains New Jersey Power and Light overhead wires within an easement in the south of the property. A New Jersey Transit rail line is located to the south of the property.

3.2 Archaeological and Historical Features

The site contains no archaeological or historical features.

3.3 Sewerage Facilities

The surrounding sites have access to public sewer. A sewer line travels through the property, beneath the existing gravel road.

3.4 Water Supply

The surrounding properties are serviced by the New Jersey American Water Company. Existing water mains abut the western and eastern edges of the property.

3.5 Solid Waste Disposal

The existing undeveloped lot has no solid waste disposal service.

3.6 Traffic

The surrounding road system gives access to residential lots. No county or state roads abut the site.

3.7 Noise

Noise levels on the property and in the surrounding areas are relatively low and are attributed to the existing residential neighborhood and to trains traveling to the south of the property along the New Jersey Transit rail line.



4. IMPACT

The following section presents the positive and negative effects from the proposed development that cannot be avoided.

4.1 Soil Erosion

The proposed tree removal and construction will increase soil erosion on site.

4.2 Flooding

No construction is proposed within the flood hazard area located along the southern edge of the property. Runoff flowing towards the edge of the property will not exacerbate flooding due to proposed stormwater management measures.

4.3 Surface and Groundwater Quality

Proposed construction will increase impervious surfaces, thereby increasing stormwater runoff from the property. Groundwater recharge on site would also be affected if no stormwater management system were proposed.

4.4 Vegetation Destruction

The existing wooded area on site will be cleared for development. Wetland vegetation will remain undisturbed.

4.5 Wildlife Habitat

The proposed subdivision requires the clearing of the wooded area on site, which provides seasonal habitat for the Indiana Bat species and year-round habitat for the Barred Owl.

4.6 Air Quality

Air quality will not be significantly impacted by the proposed development. A possible contributor to air pollution would be the increased traffic in the area due to greater housing density.

4.7 Reduction of Open Spaces

The entire lot is currently covered by a wooded area and no township- or county-designated open spaces are located within the property. The proposed subdivision sets aside approximately 3.02 acres for open space.

4.8 Critical Areas

Several critical areas exist on site, including wetlands, flood hazard areas, and steep slopes. The wetlands and Flood Hazard area will be undisturbed by the proposed development. The steep slopes on site will be regraded to accommodate the proposed roadways, dwellings, and driveways. The proposed grading will meet existing grade before the property boundaries and other critical areas.





4.9 Scenic Value

No scenic views will be obstructed by the proposed development.

4.10 Adjacent and Other Impacted Noncontiguous Areas

The adjacent lots, which consist of residential properties and property owned by the New Jersey Department of Transportation, will not be adversely affected by the proposed development.

5. MITIGATION MEASURES

5.1 Tree Clearing

The proposed clearing of the wooded area will be planned and executed with as little disturbance to the species on site as possible. Tree removal will not occur during the summer months when the Indiana Bats reside in wooded areas, and will instead be planned during the bats' hibernation in non-wooded areas. Tree plantings are proposed throughout the development, as shown on the Landscape Plan.

5.2 Noise and Light Levels

No significant increase in noise levels are anticipated. Street lighting will not exceed the light levels regulated by Long Hill Township Ordinance 153.2.

5.3 Traffic

The proposed 10 residential units will not significantly alter traffic patterns in the surrounding neighborhood. Parking will remain on property and appropriate pedestrian safety measures are proposed for the new road development. Connecting the two halves of Delaware Avenue will result in improved traffic flow to and from the adjacent subdivision.

5.4 Surface Water

Wetland buffers on site will be maintained. The increase in runoff from proposed impervious surfaces will be managed using stormwater basins and drywells, designed to accommodate the maximum allowable impervious surfaces on site. See the attached Stormwater Management Report for further details.

5.5 Air Quality

No significant impact to air quality will occur as a result of the proposed development.

5.6 Soil Erosion

A soil erosion and sediment control plan is included with the site plans to provide measures to mitigate potential impacts. Proposed mitigation measures include silt fence, super silt fence, tree protection, and inlet filters. Proposed stormwater basins shall act as sediment basins during construction.

5.7 Dust Control

Dust will be controlled on site using a variety of methods, including but not limited to sprinkling disturbed area with water and employing physical barriers such as burlap fences and bales of hay.



6. ALTERNATIVES ANALYSIS

6.1 No Build Option

A no build option was considered as part of this alternatives analysis. The site currently has no residential units on the property and would remain that way under this option. This would leave the space under-utilized and not allow the property owner to realize the economic potential of the property. There would be no new impacts as a result of this option because there would no changes to the property.

6.2 Less Intensive Option

A less intensive option was considered for the property. This alternative includes the construction of fewer residential lots. This alternative would result in lower demands on utility services, less stormwater runoff, and less traffic. However, the property and its surroundings can support the larger development and the reduction in size impacts the economic viability of the project. This alternative would still require significant clearing of trees and stormwater management basins to mitigate runoff.

6.3 More Intensive Option

A more intensive option was considered for the property. This alternative would include creating larger housing units and developing a portion of the proposed Lot 11. This alternative would increase runoff and utility demands and would encroach on wetland and flood hazard buffers. This alternative was rejected due to the inability of the lot to easily support the additional impervious surface, the increase in utility demand, and the increase in costs associated.

7. LICENSES, PERMITS, AND OTHER APPROVALS REQUIRED BY LAW

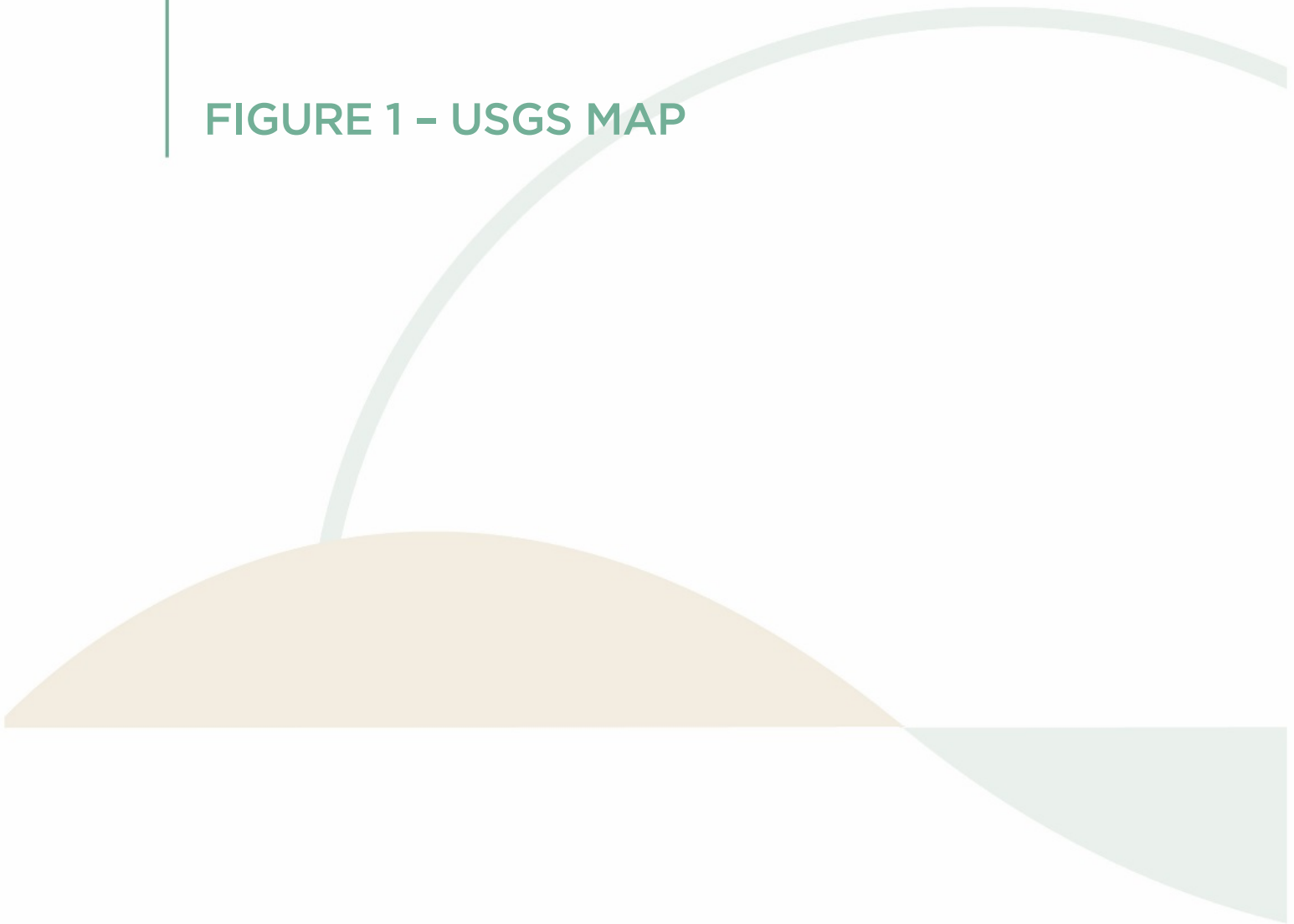
The proposed activities being done on site will require approval from the Morris County Planning Board, Morris County Soil Conservation District, NJDEP Water Allocation, and NJDEP Treatment Works Approval.

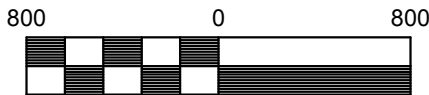
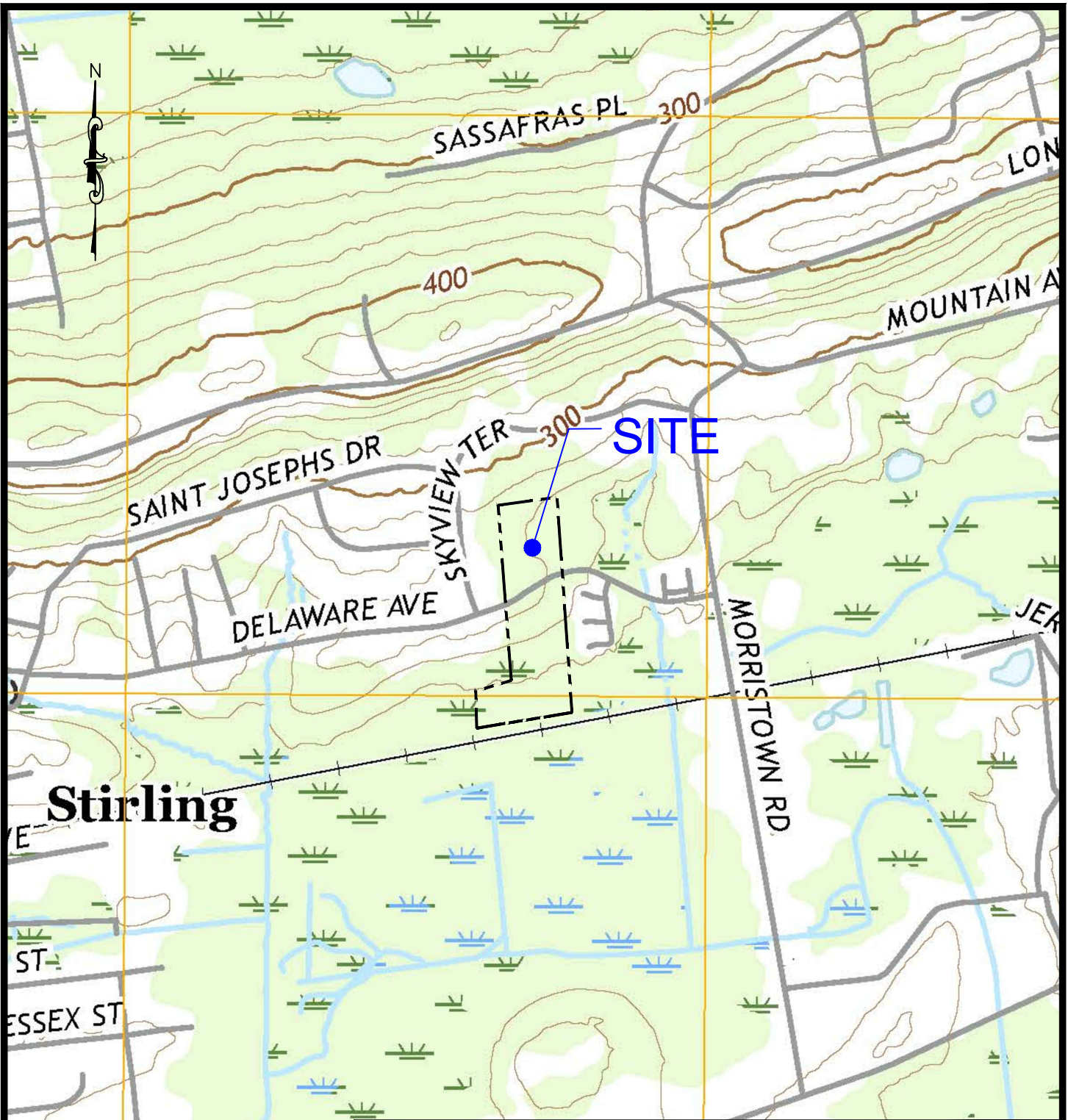
8. DOCUMENTATION

The USDA Soil Survey of Morris County, New Jersey as published by the NRCS Web Soil Survey (WSS 2009) was referenced for reporting the existing soil types on site. NJ-GeoWeb GIS data was referenced for reporting the existing surficial geology and groundwater conditions on site. A natural heritage database report was referenced for the potential wildlife habitats reported on site. All descriptions of the proposed project are in accordance with the master plan set.



FIGURE 1 - USGS MAP





Scale 1" = 800'

REFERENCES: UNITED STATES GEOLOGICAL SURVEY (USGS)
CHATHAM QUADRANGLE
TOPOGRAPHIC MAP

SITE LOCATION CENTER:
EASTING (X) = 27579.36
NORTHING (Y) = 6915.30
NAD1983 NEW JERSEY STATE PLANE (FEET)

TITLE:

FIGURE 1: USGS



140 WEST MAIN STREET CLINTON TOWNSHIP, NJ 08829
(908) 238-0544 FAX: (908)238-9572
C.O.A. #: 24GA28021500

A PROFESSIONAL ASSOCIATION

LOCATION:

DELAWARE AVENUE
BLOCK 13302, LOT 16.01
LONG HILL TOWNSHIP
MORRIS COUNTY
NEW JERSEY

DATE: 09/06/17

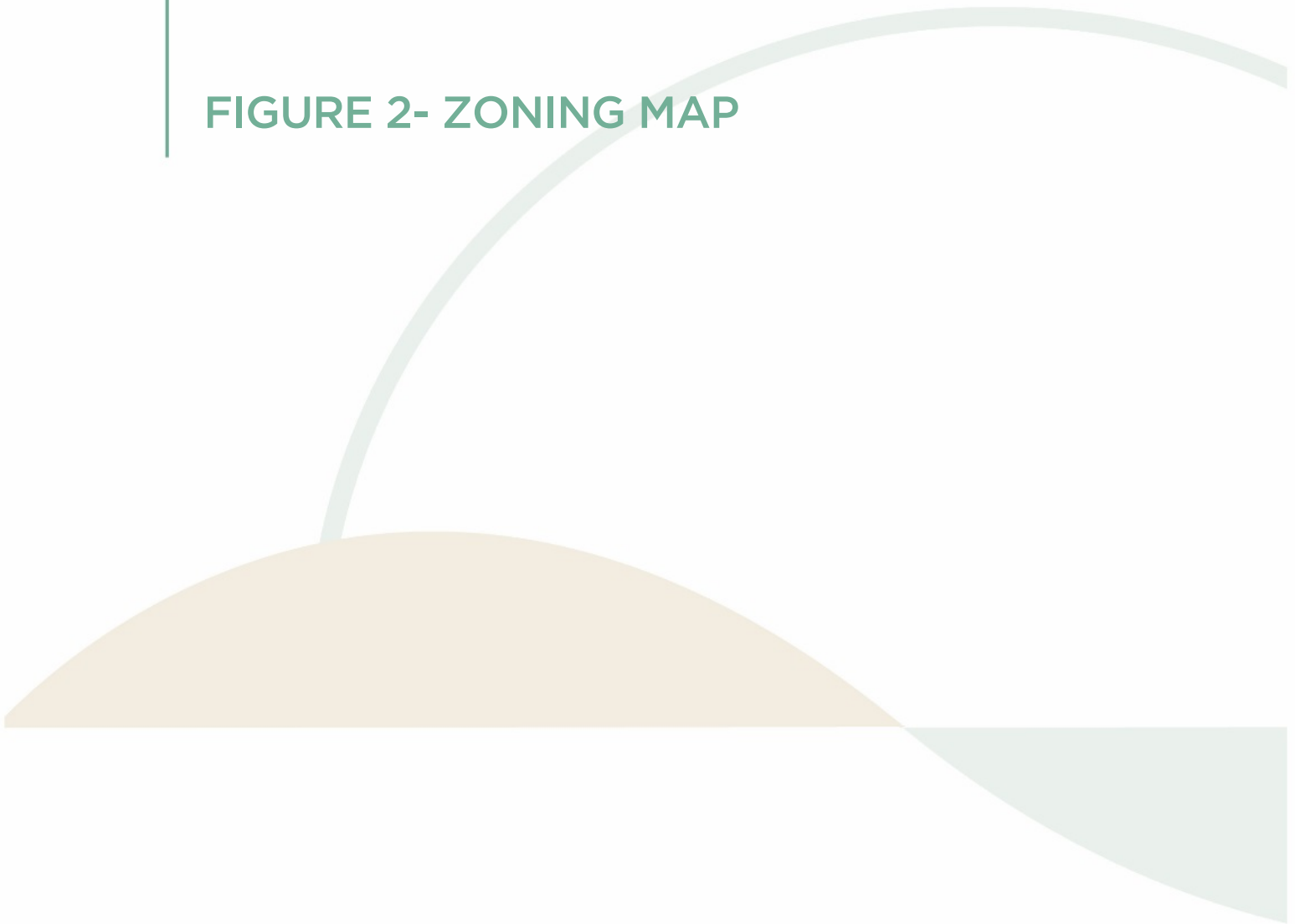
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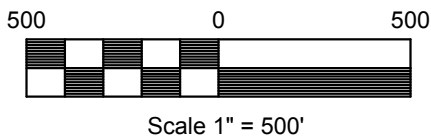
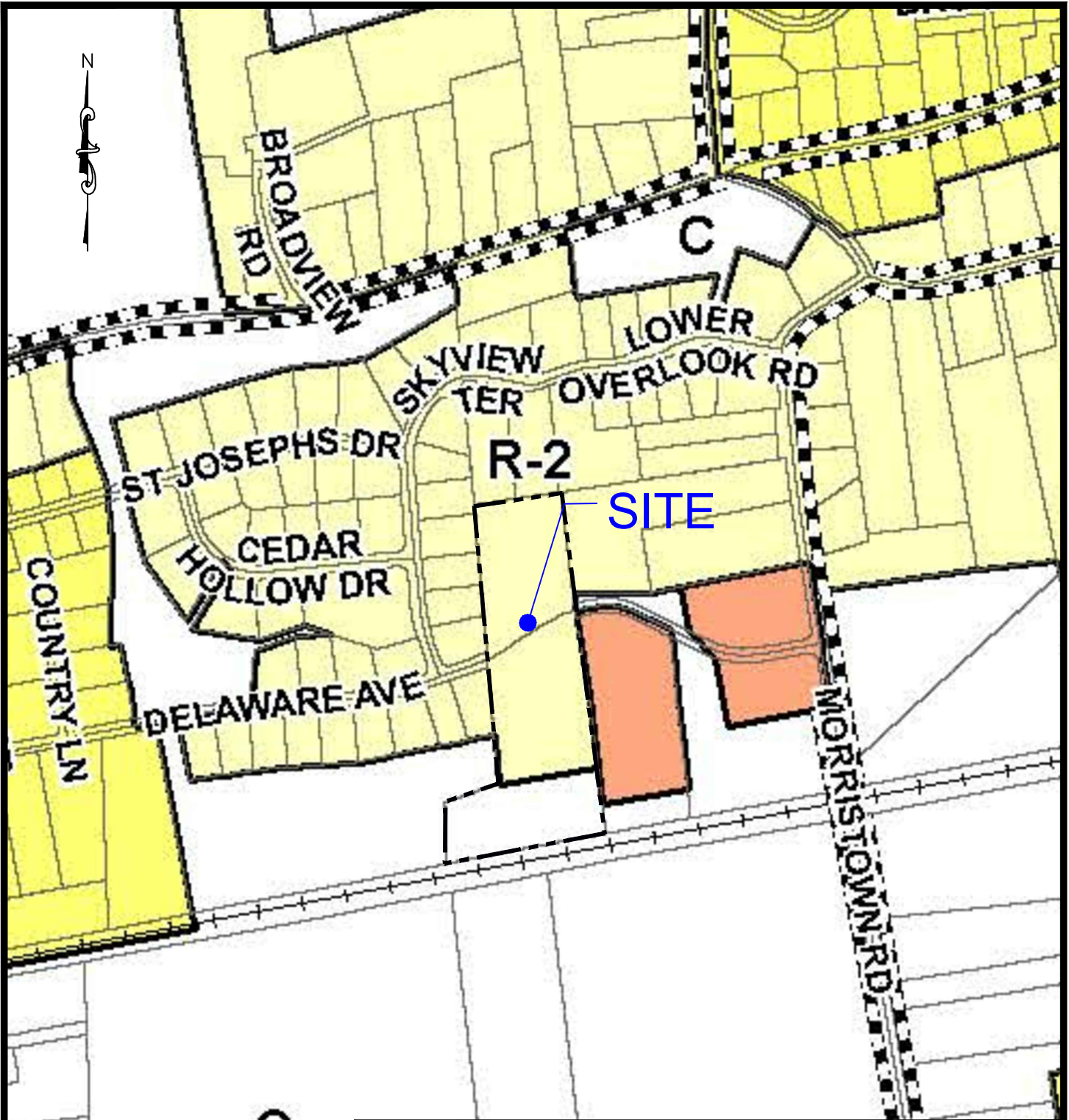
FILENAME: 01_USGS

FIGURE No.

1

FIGURE 2- ZONING MAP





TITLE:

FIGURE 2: ZONING



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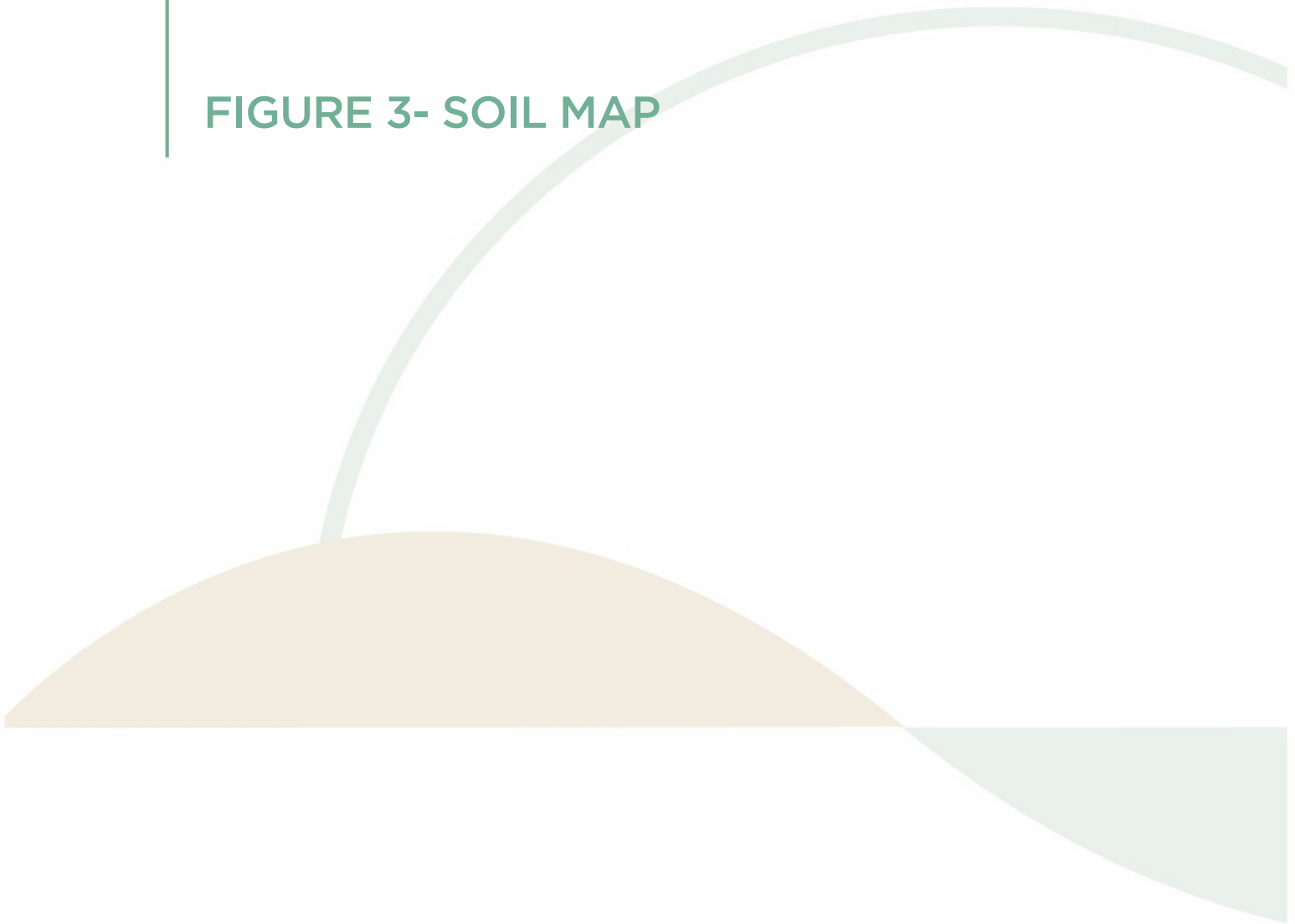
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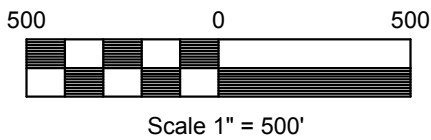
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FIGURE No.

2

FIGURE 3- SOIL MAP





TITLE:

FIGURE 3: SOIL MAP



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LOCATION:

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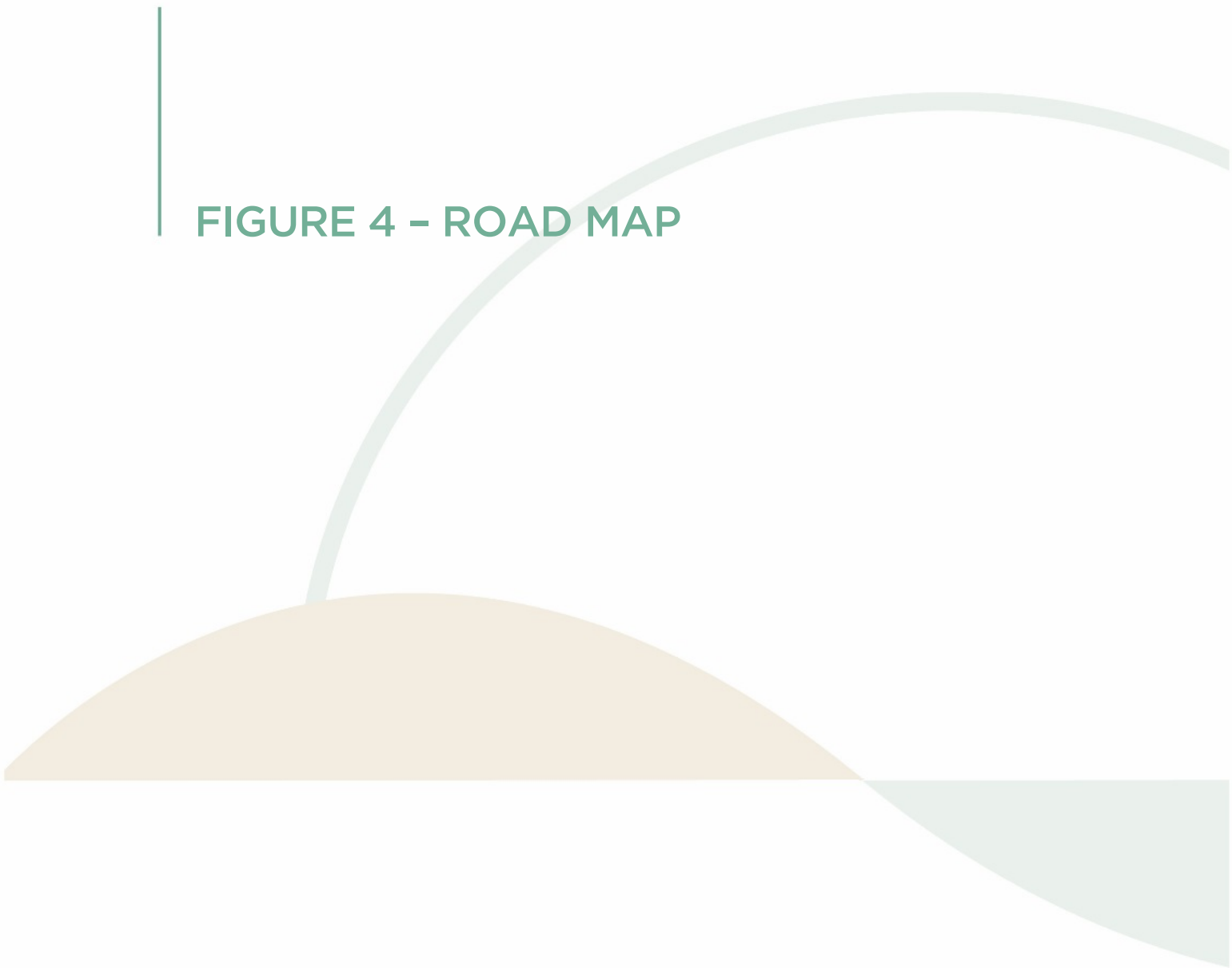
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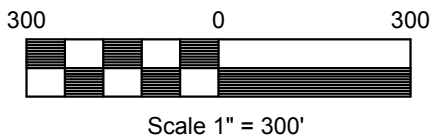
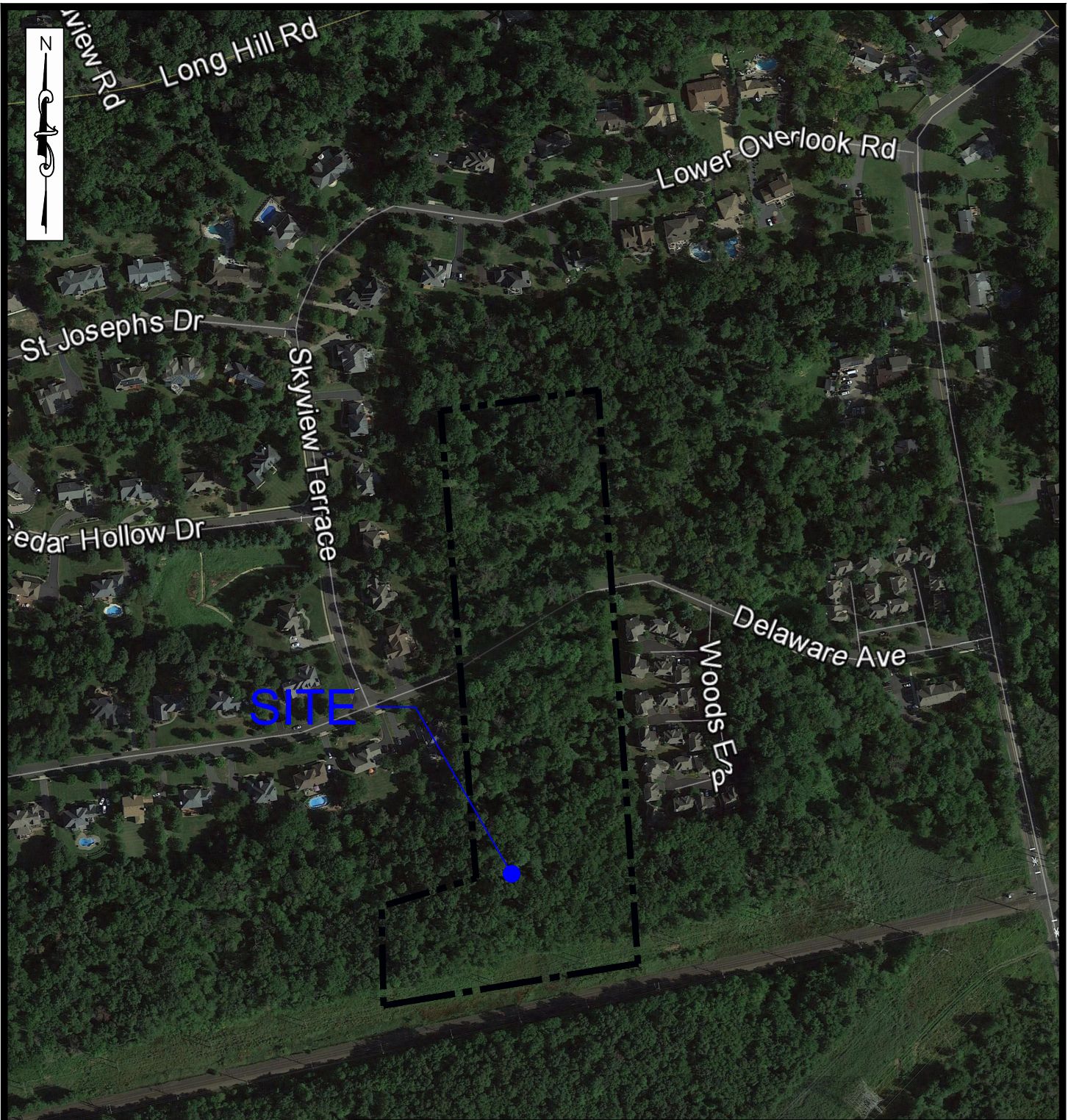
FILENAME: 03_SOIL

FIGURE No.

3

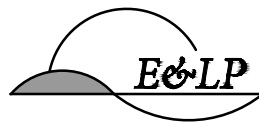
FIGURE 4 - ROAD MAP





TITLE:

FIGURE 4: ROAD MAP



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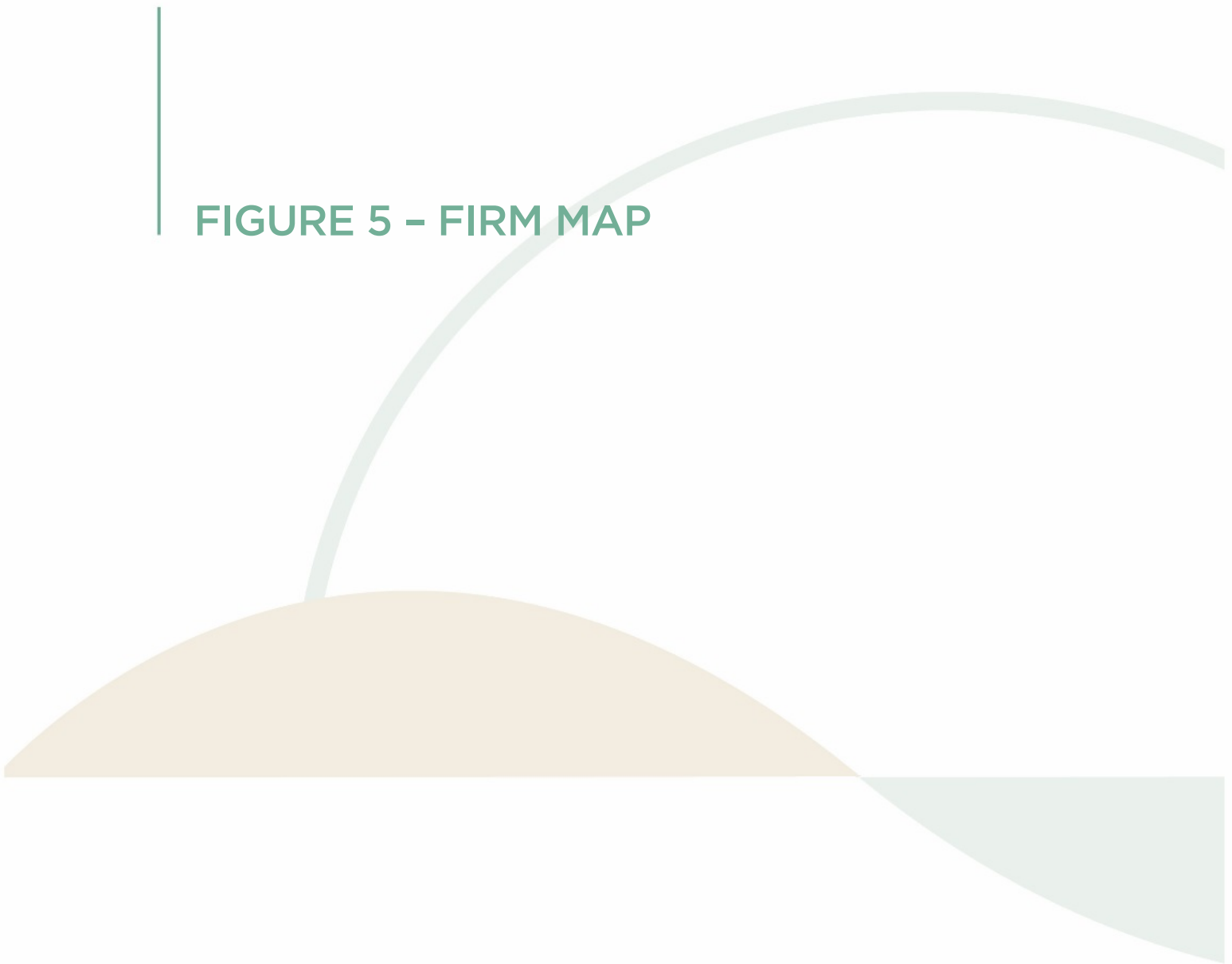
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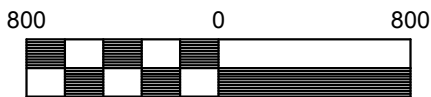
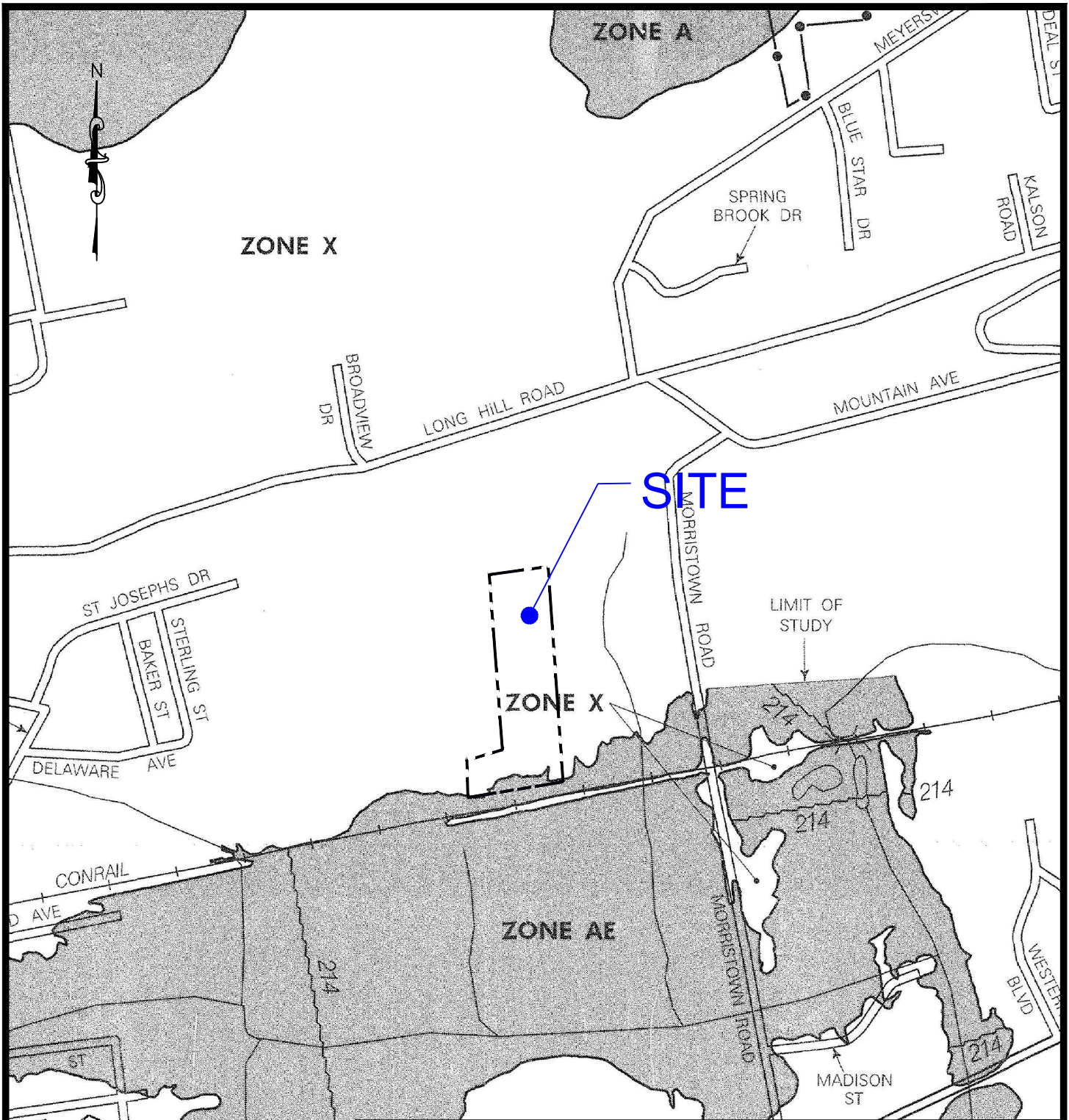
FILENAME: 04_ROADMAP

FIGURE No.

4

FIGURE 5 - FIRM MAP





Scale 1" = 800'

REFERENCES: THIS MAP WAS CREATED USING A MAP ENTITLED "NATIONAL FLOOD INSURANCE PROGRAM FLOOD INSURANCE RATE MAP, TOWNSHIP OF LONGHILL, NEW JERSEY, MORRIS COUNTY", COMMUNITY PANEL NUMBER 340356 0005 B, REVISED ON SEPTEMBER 21, 2001.

TITLE:

FIGURE 5: FIRM



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 C.O.A. #: 24GA28021500

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LOCATION:

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 MORRIS COUNTY
 NEW JERSEY

DATE: 09/06/17

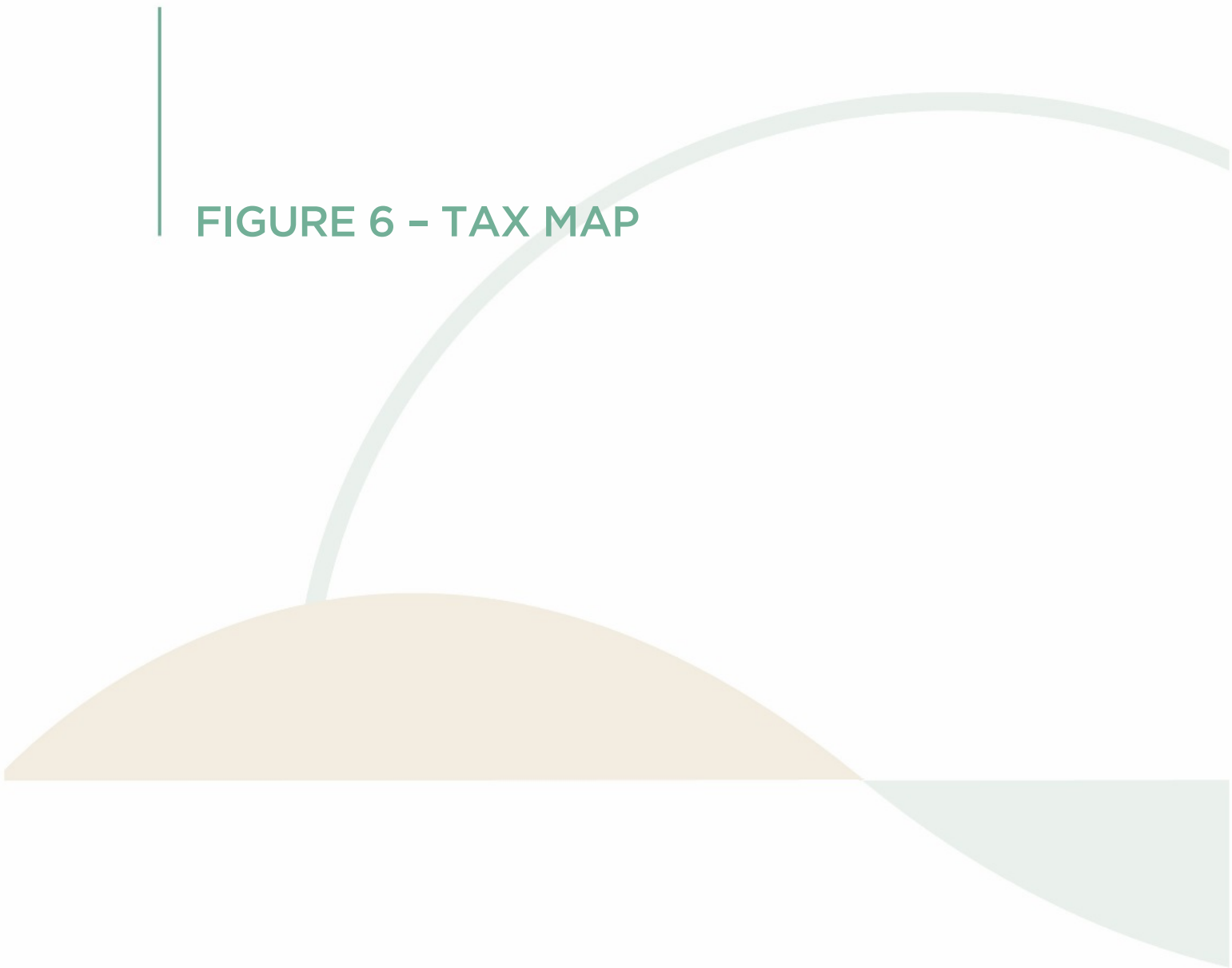
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FILENAME: 05_FIRM

FIGURE No.

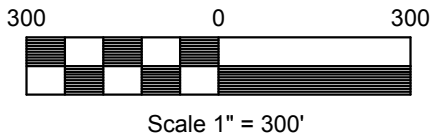
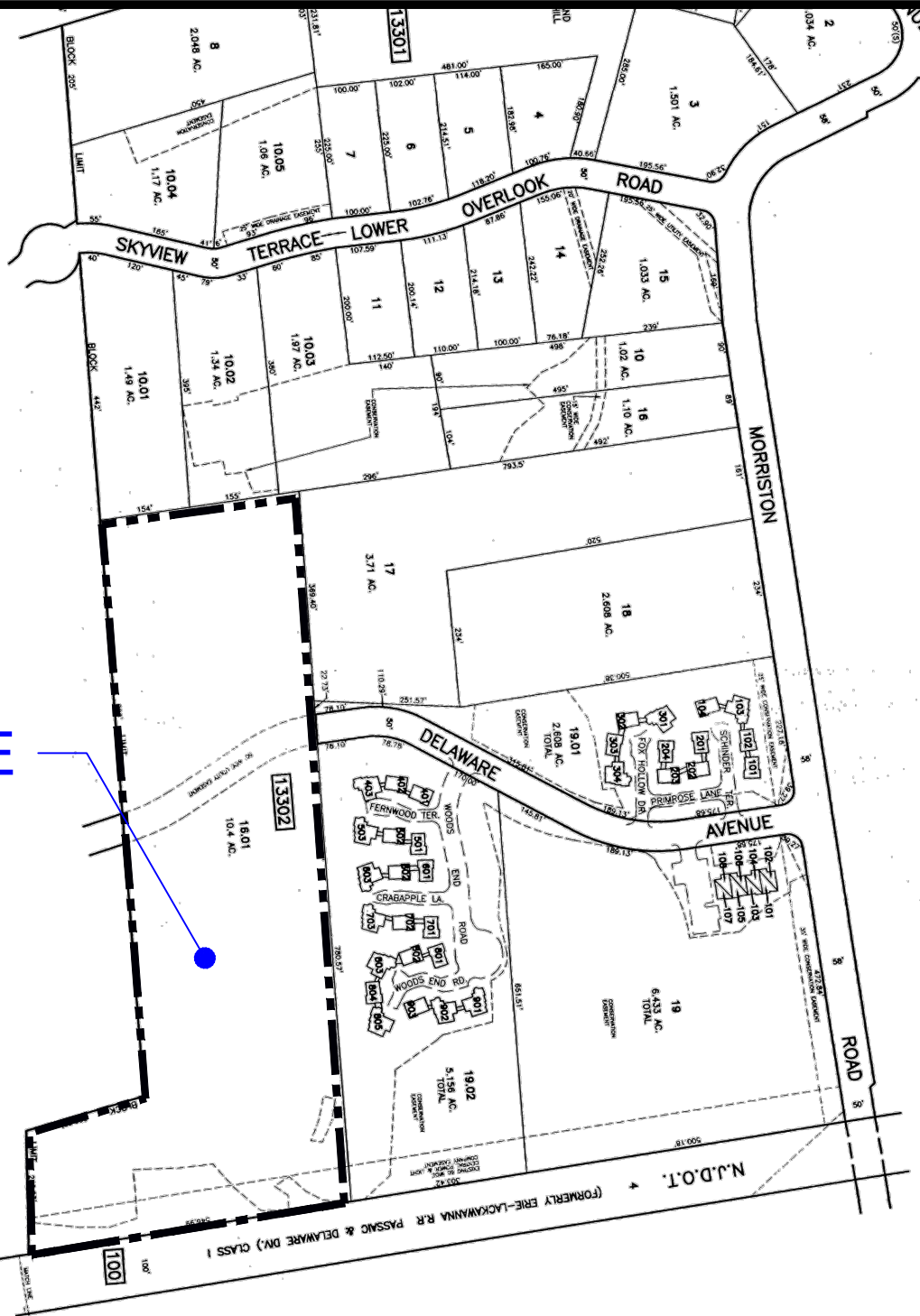
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FIGURE 6 - TAX MAP





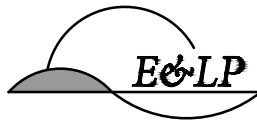
SITE



TITLE:

FIGURE 6: TAX MAP

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LOCATION:

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MORRIS COUNTY
NEW JERSEY

DATE: 09/06/17

PROJECT NO.: 0115210

FILENAME: 06_TAXMAP

FIGURE No.

6



APPENDIX A - NATURAL HERITAGE
DATABASE REPORT

Table 1: On Site Data Request Search Results (6 Possible Reports)

<u>Report Name</u>	<u>Included</u>	<u>Number of Pages</u>
1. Possibly on Project Site Based on Search of Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database	No	0 pages included
2. Natural Heritage Priority Sites On Site	No	0 pages included
3. Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.3 Species Based Patches	Yes	1 page(s) included
4. Vernal Pool Habitat on the Project Site Based on Search of Landscape Project 3.3	Yes	1 page(s) included
5. Rare Wildlife Species or Wildlife Habitat on the Project Site Based on Search of Landscape Project 3.3 Stream Habitat File	No	0 pages included
6. Other Animal Species On the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program	No	0 pages included

**Rare Wildlife Species or Wildlife Habitat on the
Project Site Based on Search of
Landscape Project 3.3 Species Based Patches**

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Strank
<i>Aves</i>	Barred Owl	<i>Strix varia</i>	Breeding Sighting	3	NA	State Threatened	G5	S2B,S2N
	Barred Owl	<i>Strix varia</i>	Non-breeding Sighting	3	NA	State Threatened	G5	S2B,S2N
	Indiana Bat	<i>Myotis sodalis</i>	Active Season Sighting	5	Federally Listed Endangered	State Endangered	G2	S1
<i>Mammalia</i>	Indiana Bat	<i>Myotis sodalis</i>	Maternity Colony	5	Federally Listed Endangered	State Endangered	G2	S1
	Indiana Bat	<i>Myotis sodalis</i>	Roost Site	5	Federally Listed Endangered	State Endangered	G2	S1

**Vernal Pool Habitat on the
Project Site Based on Search of
Landscape Project 3.3**

Vernal Pool Habitat Type

Vernal Pool Habitat ID

Vernal habitat area

2914

Total number of records: 1

Table 2: Vicinity Data Request Search Results (6 possible reports)

<u>Report Name</u>	<u>Included</u>	<u>Number of Pages</u>
1. Immediate Vicinity of the Project Site Based on Search of Natural Heritage Database: Rare Plant Species and Ecological Communities Currently Recorded in the New Jersey Natural Heritage Database	No	0 pages included
2. Natural Heritage Priority Sites within the Immediate Vicinity	No	0 pages included
3. Rare Wildlife Species or Wildlife Habitat Within the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.3 Species Based Patches	Yes	2 page(s) included
4. Vernal Pool Habitat In the Immediate Vicinity of Project Site Based on Search of Landscape Project 3.3	Yes	1 page(s) included
5. Rare Wildlife Species or Wildlife Habitat In the Immediate Vicinity of the Project Site Based on Search of Landscape Project 3.3 Stream Habitat File	No	0 pages included
6. Other Animal Species In the Immediate Vicinity of the Project Site Based on Additional Species Tracked by Endangered and Nongame Species Program	No	0 pages included

**Rare Wildlife Species or Wildlife Habitat Within the
Immediate Vicinity of the Project Site Based on Search of
Landscape Project 3.3 Species Based Patches**

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank	
<i>Amphibia</i>	Blue-spotted Salamander	Ambystoma laterale	Occupied Habitat	4	NA	State Endangered	G5	S1	
	<i>Aves</i>	Barred Owl	Strix varia	Breeding Sighting	3	NA	State Threatened	G5	S2B,S2N
Barred Owl		Strix varia	Non-breeding Sighting	3	NA	State Threatened	G5	S2B,S2N	
Brown Thrasher		Toxostoma rufum	Breeding Sighting	2	NA	Special Concern	G5	S3B,S4N	
Great Blue Heron		Ardea herodias	Foraging	2	NA	Special Concern	G5	S3B,S4N	
Red-shouldered Hawk		Buteo lineatus	Non-breeding Sighting	2	NA	Special Concern	G5	S1B,S3N	
Veery		Catharus fuscescens	Breeding Sighting	2	NA	Special Concern	G5	S3B,S4N	
<i>Mammalia</i>		Indiana Bat	Myotis sodalis	Active Season Sighting	5	Federally Listed Endangered	State Endangered	G2	S1
		Indiana Bat	Myotis sodalis	Maternity Colony	5	Federally Listed Endangered	State Endangered	G2	S1
		Indiana Bat	Myotis sodalis	Roost Site	5	Federally Listed Endangered	State Endangered	G2	S1
		Northern Myotis	Myotis septentrionalis	Active Season Sighting	5	Federally Listed Threatened	NA	G1G2	S1

**Rare Wildlife Species or Wildlife Habitat Within the
Immediate Vicinity of the Project Site Based on Search of
Landscape Project 3.3 Species Based Patches**

Class	Common Name	Scientific Name	Feature Type	Rank	Federal Protection Status	State Protection Status	Grank	Srank
	Northern Myotis	Myotis septentrionalis	Roost Site	5	Federally Listed Threatened	NA	G1G2	S1

**Vernal Pool Habitat
In the Immediate Vicinity of
Project Site Based on Search of
Landscape Project 3.3**

Vernal Pool Habitat Type

Vernal Pool Habitat ID

Vernal habitat area

2914

Total number of records: 1