

ENVIRONMENTAL IMPACT STATEMENT

For

JACKSON TRAILS Major Subdivision

**Block 23001 Lots 22 through 29
Jackson Township
Ocean County, New Jersey**

Prepared By:

**PROFESSIONAL DESIGN SERVICES, L.L.C.
1245 Airport Road, Suite 1
Lakewood, NJ 08701
*PDS #17286***

JUNE 30, 2018

IAN M. BORDEN P.P., AICP, CF

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1.0 PROJECT DESCRIPTION

1.1 Introduction

Being known as Block 23001, Lots 22 through 29, the project site contains 129 acres and is located along South Hope Chapel Road in Jackson Township, Ocean County, New Jersey. Figure 1 is a location map for the project site. It is proposed to develop the site with single family market rate homes and low/moderate income multi-family housing units in accordance with the RG-3 zone. A separate house of worship is also proposed as permitted in the RG-3 zone consistent to the Conditional Use standards. A total of 367 single family homes and 92 multi-family affordable housing units are proposed.

The subject property is situated along the north side of South Hope Chapel Road (OC Route 547) adjacent to the boundary with Manchester Township. The surrounding area is developed with residential homes to the east across South Hope Chapel Road and west. Commercial businesses are located immediately to the north and south of the subject site along South Hope Chapel Road. The majority of the property is developed with an existing horse farm. The portions of the property in the northern and southern portions are undeveloped and forested.

The property contains a small area of freshwater wetlands and wetlands transition area along South Hope Chapel Road. There are no regulated flood hazard areas nor riparian buffers on site.

The project is located within the Pinelands Area and, therefore, regulated by the NJ Pinelands Commission pursuant to the Comprehensive Management Plan (NJAC 7:50-1.1 et. seq.). The site is located within the Regional Growth Land Use Management area as defined by the Pinelands Comprehensive Management Plan (CMP). The Pinelands Commission has issued Certificates of Filing for the properties and a copy of each of the Certificates of Filing are included in the appendices.

The project will be serviced by public water and sewer.

The project is proposed to be developed consistent with the Jackson Township Land Use and Development Regulations and the Pinelands Comprehensive Management Plan.

The Environmental Impact Statement (EIS) and site design have been prepared in conformance with the Jackson Township Ordinance regarding preparation and content of an EIS (Section 109-169). Township and County Master Plans, the Jackson Township Natural Resources Inventory and various other pertinent planning documents were reviewed to assist in the preparation of this document. The EIS addresses specific elements of the proposed site design (i.e., stormwater runoff) and potential impacts and steps taken to minimize or avoid adverse environmental impacts (Environmental Performance Controls).

Site development plans have been prepared by Professional Design Services; these plans have been utilized in support of the preparation of this document.

1.2 Land Use and Zoning

The site is located within the Regional Growth Land Use Management area as defined by the

Pinelands Comprehensive Management Plan (CMP); the Regional Growth area is defined by the CMP as areas of existing growth capable of accommodating regional growth influences while protecting the essential character and environment of the Pinelands. The subject properties are located within the Regional Growth -3 Zone (RG-3) which permits residential development up to a density of 4.5 dwelling units per acre. The Jackson Township Zoning Ordinance (Chapter 244-91), as certified by the Pinelands Commission in February 2018, permits lots for single family homes having a minimum size of 7,500 square feet. The ordinance, which was created to be consistent with the Township affordable housing settlement and updated Master Plan, also requires affordable housing residential units be provided of 20% of the number of lots. The affordable housing units may be provided in attached multi-family buildings having no more than 4 units per building. It is proposed to create 367 single family lots and 92 multi-family affordable housing units. The project fully conforms to the RG-3 zone requirements and no variances are required. The RG-3 zone also permits a house of worship subject to the Conditional Use Standards contained in 244-115. A house of worship is proposed which complies with all of the Conditional Use standards. No variances are required for either the residential housing or house of worship.

The project is being developed consistent to the Residential Site Improvement Standards. All of the proposed streets contain 30' of pavement with curb and sidewalk on both sides.

1.3 Utility Plans

The Jackson Township Municipal Utilities Authority owns and operates public potable water and sanitary sewer systems in Jackson Township. The site lies within the JTMUA's franchise area and also within the Central Sewer Service Area of the OCUA.

There is no public sewer in this portion of Jackson Township; accordingly, an off-site extension will be constructed to allow for public sewer service to the project. The off-site extension will include extension of the Manchester Township System (MTDOU) from its nearest location in County Route 571, approximately 2 miles southeast of the site. An on-site collection system and pump station will be constructed to convey flows to the proposed extension of the MTDOU system.

The pump station, on-site system and the off-site system located within Jackson Township will be dedicated to the JTMUA. The off-site system located in Manchester Township will be dedicated to the MTDOU. Similarly, public water main does not exist along the site frontage; however, an off-site extension of the water system will be conducted to provide for potable water and fire service to the project. Water main will be extended from the intersection of South Hope Chapel Road and Whiteseville Road to the project site. All proposed water mains will be dedicated to the JTMUA.

1.4 Stormwater Management

The stormwater management plan will provide non-structural low impact measures and utilize management practices to efficiently collect and control increased stormwater runoff. Design standards of the Pinelands Commission (NJAC 7:50-6.84) require the applicant manage stormwater runoff by recharging all increased runoff from impervious areas from the 10-year, 24 hour storm and controlling runoff peaks for the 2, 10 and 100 year storm events to less than pre-development runoff

levels.

Two stormwater management basins will be constructed. The North Pond will be a wet pond with a permanent water surface. The South Pond will be an excavated, dry pond with its bottom elevation set more than 2 feet above the seasonal high water elevation. The system will contain an outlet structure and emergency spillway to regulate all outflows and provide a stable discharge towards South Hope Chapel Road.

Stormwater run-off will be collected by a system of inlets and underground piping. Rooftop run-off will be directed to individual dry wells on each lot. Wherever possible, run-off from rooftops and roadways will be directed over sloped grassed areas prior to entering a collection point. This will serve to enhance water quality by promoting filtration and settlement of pollutant laden particulates.

The Stormwater Management Report prepared by PDS contains the description, design methodology and outlines the regulatory compliance of the proposed stormwater management system.

2.0 SITE DESCRIPTION AND INVENTORY

Investigations of the project site were conducted by the author and PDS staff from 2005 until May 2018. The following inventory describes the existing environmental conditions onsite.

2.1 Topography and Hydrology

The project site lies within the outer coastal plain physiographic province. The project site is located within the Coastal Plain geomorphic province. The geologic framework of the Coastal Plain is one of underlying gently southeastward dipping unconsolidated clays, marls, silts and sands of the tertiary (65 to 1.75 million years ago) period.

The project lies within the Kirkwood Formation, which is overlain by the Cohansey Sand and underlain by the Shark River/Manasquan Marl. The Kirkwood Formation crops out along the northern part of Ocean County. The Kirkwood Formation ranges in thickness from a minimum of 50 feet in the outcrop area to a maximum reported thickness of about 800 feet in Atlantic City (Geology and Groundwater Resources of Ocean County, NJ 1969). The topography of the site slopes gradually from the southwest towards the northeast.

Figure 2 is a copy of the USGS Quadrangle Topography Map with the site located.

2.2 Soils

The project site is underlain by the following soils as depicted by the U.S. Department of Agriculture; Ocean County Soil Survey (issued April 1980 and reissued February 1989). Figure 3 is a copy of the Soil Survey with the site located.

Soil Type	% Slope	Depth to SHWT*
EvB - Evesboro Sand	0-5	>6.0'
DoB- Downer Sand	0-5	>6.0'

**SHWT = Seasonal High Water Table*

The permeability of both soil series are typically rapid and the available water capacity is

low. The depth to seasonal high water is typically greater than 6 feet. This soil series typically have an acidic reaction but are not acid-producing. The use of lime in landscaped areas is required to neutralize the soil to provide adequate growing conditions.

Soil borings were performed throughout the project site to assess soil conditions and seasonal high water table. The depth to seasonal high water occurs at a depth greater than five (5) feet. The soils are permeable and do not pose any significant limitations on the proposed development.

2.3 Surface Water

There is no surface waters located on the site.

2.4 Subsurface Water

The upper part of the Kirkwood Formation and the Cohansey Sand are hydraulically connected and together function as an aquifer system. Underlying the Kirkwood-Cohansey aquifer system is the composite confining unit, a complex series of geologic units that, depending on location, can include as many as nine distinct units. The part of the composite confining unit of interest in this area ranges in age from Paleocene to early Miocene and is made up of the Vincentown Formation, Manasquan Formation, Shark River Formation, Piney Point Formation, and basal clay of the Kirkwood Formation. Two minor aquifers are present in this part of the composite confining unit. The Vincentown aquifer consists of the Vincentown Formation, which is comprised of moderately permeable Quartz sand. The Vincentown aquifer is used as a source of water only in and near the outcrop areas, in the northwestern part of the County. The other minor aquifer, Piney Point aquifer, is confined and is composed of fin to coarse grained glauconitic quartz sand and shell beds.

Based upon field observations, there are approximately 25 wells currently located with 500 feet of the project site. Such wells are typically screened in the unconfined portion of the Cohansey/Kirkwood Aquifer at depths between 40 and 120 feet in depth and are used to service existing single family homes located around the subject property, primarily behind the site to the north.

The project will also recharge stormwater runoff to this aquifer by virtue of compliance with the Pinelands Stormwater Management Regulations. As a result, the runoff from all impervious surfaces during a 10 year, 24 hour storm (5.4 inches) event will be retained on the site and recharged to this aquifer.

2.5 Topography and Existing Development Features

Topographic contours and all existing feature onsite and within 50 feet of the site are depicted on the Subdivision Plans.

2.6 Wetlands and State Open Waters

Wetlands are areas where the substrate is inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands include

lands with poorly drained or very poorly drained soils, as designated by the National Cooperative Soil Survey of the Soil Conservation Service of the United States Department of Agriculture. All activities must comply the Pinelands Comprehensive Management Plan.

There is a small area of freshwater wetlands located on the site adjacent to South Hope Chapel Road. The wetland location has been verified by Pinelands Commission by virtue of the Certificate of Filing. The required wetland buffer is 175' based on the Pinelands Buffer Model as verified by Pinelands Commission. There is no disturbance proposed to the freshwater wetlands or wetland buffer area.

2.7 Floodplains

There is no floodplain located on or within 1,000 feet of the property. No development is proposed within any regulated flood hazard areas or flood plain.

2.8 Vegetation

The subject property is primarily a horse farm containing a house, barn and fields. The eastern and western portions of the property are forested with a oak/pine upland forest. Vegetation identified on the site include tree species such as White oak (*Quercus alba*), Eastern black oak (*Quercus velutina*), Eastern red cedar (*Juniperus virginiana*), and Pitch pine (*Pinus rigida*). The understory comprises of American holly (*Ilex opaca*), Green briar (*Smilax rotundifolia*), Mountain laurel (*Kalmia latifolia*), Late low-bush blueberry (*Vaccinium angustifolium*), and Numbwill (*Muhlenbergia schreberi*).

2.9 Wildlife

The property does not contain critical habitat for threatened or endangered species based on the studies performed by Dubois Environmental and accepted by Pinelands Commission through issuance of the Certificates of Filing.

2.10 Noise

Noise is defined as "any sound of such level to be injurious to human health or welfare, or which would unreasonably interfere with the enjoyment of life or property throughout the state or in any portion thereof, but excludes noise emanating from residential structures." Ambient noise levels are assumed to be well below the NJDEP standards, due to the nature of the area.

The existing noise characteristics within the area are representative of a residential setting and are influenced by auto traffic on South Hope Chapel Road. Typical daytime noise levels of residential communities range from 45 to 50 dBA (decibel). As the general project area is low-density residential and accounts for a low volume of traffic, noise levels are minimal. Local traffic in the site vicinity is the primary on-site noise contributor.

Lakehurst Naval Air Engineering Station (NAES) is located approximately 3 miles southwest of the project site. McGuire Air Force Base, Fort Dix and NAES have been combined to form a Joint Base in 2009. This consolidation has created an increase in the tempo of aviation operations

at NAES by deployment of additional Air National Guard aircraft and adding Assault Landing Zone training for C-17 aircraft. An Air Installation Compatible Use Zone (AICUZ) Study completed in July 2013 determined the project site is not located within any noise zone areas.

2.11 Cultural, Historical and Archaeological Resources

Historic and archaeological resources may include objects, structures, shipwrecks, neighborhoods, districts, and manmade or man-modified features of the landscape and seascape, including archaeological sites, which either are on or are eligible for inclusion on the State or National Register of Historic Places. The property does not contain any cultural, historic or archaeological resources.

2.12 Land Use

The site is currently partially forested, and also occupied by a horse farm and home site. The surrounding land uses are mixed, containing residential, commercial and industrial uses.

The Jackson Township Land Use and Development Ordinance (Chapter 244) zones the property within the Regional Growth-3 Zone (RG-3). The project complies with all of the zone requirements. Purchase of 110 Pinelands Development Quarter Credits is required as outlined in the certified ordinance as is the development of affordable housing as proposed.

The project proposes a total of 367 market rate single family homes and 92 low/moderate housing units in multi-family buildings. The resulting density for the 459 total residential units proposed is 3.6 units per gross acre, less than the maximum permitted density of 4.5 units per acre.

The house of worship is permitted as a conditional use in the RG-3 zone. The proposed house of worship fully complies with the conditional use standards

The project is consistent with the Jackson Township Zoning Ordinance and Pinelands Comprehensive Management Plan.

2.13 Air Quality

The subject property lies within a rural residential setting of Jackson Township and is zone RG-2. There are no point sources of air pollution within or surrounding the subject property, including fossil-fueled electric power generating plants, industrial boilers or processing plants. The air quality within this setting is generally good.

The NJDEP, Bureau of Air Monitoring maintains two (2) air quality monitoring stations in Ocean County (the Colliers Mills Fish & Wildlife Management Area Station and the Toms River Elementary School Station) and a station in Burlington County (at the Lebanon State Forest). The Colliers Mills station is in close proximity to the site and is indicative of the ambient air quality in the "northern coastal region" of New Jersey.

The tables from the NJDEP, Bureau of Air Monitoring 2000 Air Quality Report describe the ambient air quality monitoring results of the monitoring stations. As indicated in the table, the air quality standards for the State are generally good at the three stations.

Due to the residential nature of the project proposed, the most significant potential air quality

impact would arise from carbon monoxide vehicle emissions. Localized increases typically occur at places of vehicular concentration and delays, such as intersections. Based on the traffic impact study performed by McDonough, Rea & Associates the project will not create any air quality impacts from vehicular concentrations and delays.

3.0 ENVIRONMENTAL IMPACT STATEMENT

The Jackson Township Ordinance regarding preparation and content of an Environmental Impact Statement requires an assessment of both adverse and positive impacts of the proposed activity. These impacts have been previously addressed within the site description and inventory. The following brief list of impacts is provided in summary:

a. Soil Erosion and Sedimentation

Run-off shall be directed to catch basins and a collection system for sedimentation control and direction to detention basins. No erosion is anticipated along the roadways since the project proposes curbing to stabilize the edge of pavement. The proposed development shall be reviewed by the Ocean County Soil Conservation District and complies with their standards. All disturbed areas not occupied by improvements such as roads and houses will be vegetatively stabilized as required by the certified plan.

b. Floodplain

No regulated floodplain areas are located on the project site. No development activities are proposed within any floodplain areas.

c. Surface Water

No surface waters are located on the project site.

d. Ground Water

Significant subsurface disruption will not occur and major impacts to groundwater resources are not anticipated. Potable water will be provided by the JTMUA. Estimated average demand will be approximately 200,000 GPD for the project, based upon the NJ Residential Site Improvement Standards, NJAC 5:21.

e. Ground Water Capabilities

Potable water will be provided by the JTMUA. The groundwater withdrawal will be regulated by the NJDEP under the JTMUA's diversion and allocation permit. There will be no local impact from the project as there is no groundwater withdrawal proposed at the project site.

f. Sewage Disposal

Sewage will be conveyed to the JTMUA system, then to the MTD OU system, and ultimately to the OCUA for treatment. Estimated discharge of approximately 200,000 GPD will result from the project.

g. Solid Waste Disposal

1. Construction All solid waste generated during tree removal activities shall be recycled by creating mulch or firewood for reuse, as appropriate and market

conditions dictate. All solid waste generated during construction such as lumber, paper, etc. will be collected in dumpsters located on the site and disposed of in a manner consistent with local ordinances and the Ocean County Recycling Plan. Care will be taken to ensure that all construction debris is collected frequently to prevent any temporary adverse impacts such as wind blown movement.

2. Residences Solid waste generated by the homes will be collected, recycled and disposed of in a manner consistent with local ordinances and the Ocean County Recycling Plan.

h. Vegetation

Approximately 30 acres of forest vegetation will be removed. The project will comply with the Jackson Township Land Use Ordinance Chapter 244 and Tree Ordinance Chapter 100.

i. Wildlife Habitats

Upland forested wildlife habitat will be cleared and developed by the project. No critical wildlife habitats for threatened or endangered species are located on this property.

j. Scenic and Historic Features

No scenic or historic features exist onsite.

k. Air Quality

Decreased air quality because of air-borne dust associated with the proposed construction activities is a projected short-term impact. Methods to control soil erosion and sediment control will be implemented in order to minimize air quality degradation. Long-term degradation of air quality as a result of an increase in traffic is not expected. Levels of service at nearby intersections will not degrade as a result of the project. The proposed project by itself is not anticipated to result in a significant impact on ambient air quality since it will not generate traffic delays.

l. Noise

Projected noise levels, as a result of the proposed development, is not anticipated to increase ambient noise levels above NJDEP standards as described in Section 2.10. The noise levels during construction will be temporarily increased but are subject to regulatory constraints such as maximum noise levels and permissible construction times.

m. Energy Utilization

The proposed development is designed to include energy conservation fixtures and measures, as appropriate.

n. Wetland Impacts

Freshwater wetlands on the project site will not be impacted since no development activities are proposed within freshwater wetlands or the wetland transition area. No irreversible or significant adverse impacts to any wetlands or wetland buffers will occur as a result of this proposed development.

4.0 ENVIRONMENTAL PERFORMANCE CONTROLS

As discussed in the previous sections, various measures have been utilized throughout the design process to avoid or minimize potential adverse environmental impacts. These measures are specifically addressed for individual resource item. In general, the following steps have been taken in order to avoid or minimize adverse environmental impacts:

1. Design of stormwater management system in accordance with current regulations, including individual dry wells to promote groundwater recharge.
2. Installation and maintenance of soil erosion control measures during construction.
3. A significant investment in off-site potable water and sanitary sewage systems to provide public water and sewer service to the project, and to minimize any local impacts.
4. Installation of proposed off-site water main and sewer mains within existing paved areas to minimize any potential environmental impacts.

5.0 COMMITMENT OF RESOURCES AND UNAVOIDABLE IMPACTS

The applicant and its consultants have designed and planned this community in concert with the existing and surrounding natural resources. The project will require the following irreversible and irretrievable commitment of resources as well as produce the following unavoidable impacts:

1. Removal of 30 acres of forested vegetation.
2. Daily average of approximately 200,000 gallons per day of groundwater to be withdrawn from the Cohansey/Kirkwood aquifer.
3. Increased utilization of municipal services such as solid waste disposal, recycling and educational services by potential population increase.
4. Increased utilization of energy such as electricity and natural gas.
5. Decrease in air quality due to increased traffic.

Compliance with all state, local and municipal regulations shall be demonstrated by the necessity to obtain all required approvals prior to the commencement of construction.

6.0 ALTERNATIVES AND MITIGATING MEASURES

The alternatives to the proposed project are "no-build" which would deny the property owner their lawful use of the land as permitted by Jackson Township Zoning Regulations and the Pinelands Comprehensive Management Plan. The current zoning regulations were established to comply with the affordable housing settlement agreement with Fair Share Housing Council and the Regional Growth requirements in the Pinelands Comprehensive Management Plan.

The project serves to meet the objectives of the Pinelands Comprehensive Management Plan as residential development within a Regional Growth Zone that will construct affordable housing units and purchase Pineland Development Credits.

Several environmental factors limit the extent of development in certain areas of the subject property. These factors include freshwater wetlands and wetlands buffers. Layout of the proposed development features is based upon Township Ordinances and setback requirements as well as the Pinelands Comprehensive Management Plan. The site development layout reflects best management practices regarding avoidance and/or minimization of adverse impacts on the environmental resources within the project area.

The stormwater management system meets the criteria for water quality and flood control in the Jackson Township, Ocean County and Pinelands Commission regulations. Alternative designs were investigated in consideration of the existing site limitations (i.e. depth to groundwater, topography). The proposed design provides for water quality and flood control in accordance with applicable regulations.

The resulting design is consistent with applicable State and Local requirements. The proposed design, together with the protection of wetlands and wetlands buffer areas, use of native species in the landscaping plan, adherence to the Soil Erosion and Sediment Control Plan, and utilization of the public water and sewer facilities are the primary mitigating measures incorporated into the project design.

After reviewing a variety of alternatives permitted under the Land Use Ordinances, it was determined that the project, as proposed, will not have any significant impact upon the environment.

As proposed, the development is consistent with adopted regulations and standards of the Municipality, State and NJ Pinelands Commission. The mitigating measures included in the site design will offset any potential adverse impacts associated with the project.

7.0 OTHER REQUIRED APPROVALS

The following Table 7.0-5 lists all applicable licenses, permits and approvals required by Federal, State, County and Municipal law, to the best of our knowledge. Copies of each approval will be provided to Jackson Township when received.

TABLE 7.0-5
LIST OF ALL APPLICABLE APPROVALS AND PERMITS

<u>Permit/Approval</u>	<u>Required</u>
Federal	No
State -	
Pinelands Commission	Yes
NJDEP - CAFRA	No
Wetlands	No
Stream Encroachment	No
Sewer Extension	Yes
Water Quality Certification	No
Water Extension	Yes
Well Permits	No
NJDOT - Drainage	No
Access	No
Ocean County	
Preliminary Approval	Yes
Final Approval	Yes
OCUA (Sewerage Authority)	Yes
Soil Erosion (OCSCD)	Yes
Health Dept. (Well & Septic)	No
Health Dept. (Subdivision)	Yes
Jackson Township	
Preliminary Site Plan and Subdivision Approval	Yes
Final Site Plan and Subdivision Approval	Yes
Jackson MUA - Preliminary	Yes
- Tentative	Yes
- Final	Yes
Local Clearing Permit	Yes
Environmental Commission	Yes
Bureau of Fire Prevention	Yes
Manchester Township	
MTDOU for Sewer Extension	Yes

8.0 REFERENCES

Kummel, H.B. The Geology of New Jersey, 1940 N.J. Dept. Conserv. Del. Bull. 50, 203 pp.

McCormick, J. The Pine Barrens: A Preliminary Ecological Study (1970).

Munsell, Munsell Soil Color Chart, Baltimore, MD, 1975.

"New Jersey's Record Trees," New Jersey Outdoors, September/October 1984.

National Wetland Inventory Map, Lakehurst, NJ Quadrangle.

Shaw, Frank, 1990. Eastern Birds. W.H. Smith Publishers, Inc., New York.

United States Department of Agriculture, Soil Conservation Service, Soil Survey of Ocean County, New Jersey, 1980.

USGS Lakehurst, NJ Quadrangle.

Wolfe, Peter E., The Geology and Landscapes of New Jersey, 1977. Crane, Russak & Company, Inc. New York.

USGS Simulation of groundwater flow in the unconfined aquifer system of the Toms River, Metedeconk River, and Kettle Creek Basins, New Jersey; Water Resources Investigations Report 97-4066; 1997.

Cranberries, Coops and Courts: A History of Jackson Township; Jackson Memorial High School, 1999.

Traffic Impact Study prepared by McDonough & Rea Associates dated July 2004.

Pinelands Comprehensive Management Plan, NJAC 7:50-1.1 et seq.

A Regional Natural Resource Protection Plan for the Toms River Corridor, Jackson and Manchester Townships, Toms River Corridor Task Force February 2004

Joint Base McGuire-Dix-Lakehurst Joint Land Use Study for Counties of Ocean and Burlington, May, 2009.

FIGURES



FIGURE #1 LOCATION PLAN

FOR

TAX BLOCK 23001 – TAX LOTS 22, 23,
24, 25, 26, 27, 28 & 29

TOWNSHIP OF JACKSON
OCEAN COUNTY NEW JERSEY
PROJECT #17286

PDS

PROFESSIONAL DESIGN SERVICES, L.L.C.

CONSULTING ENGINEERS, PLANNERS, ENVIRONMENTAL
SCIENTISTS, CONSTRUCTION SERVICES
1245 AIRPORT ROAD, SUITE 1, LAKEWOOD, NEW JERSEY 08701
PHONE 732 363 0060 FAX 732 363 0073
ENGINEERING @ PDS-NJ.COM
NEW JERSEY STATE BOARD OF P.E. & L.S.

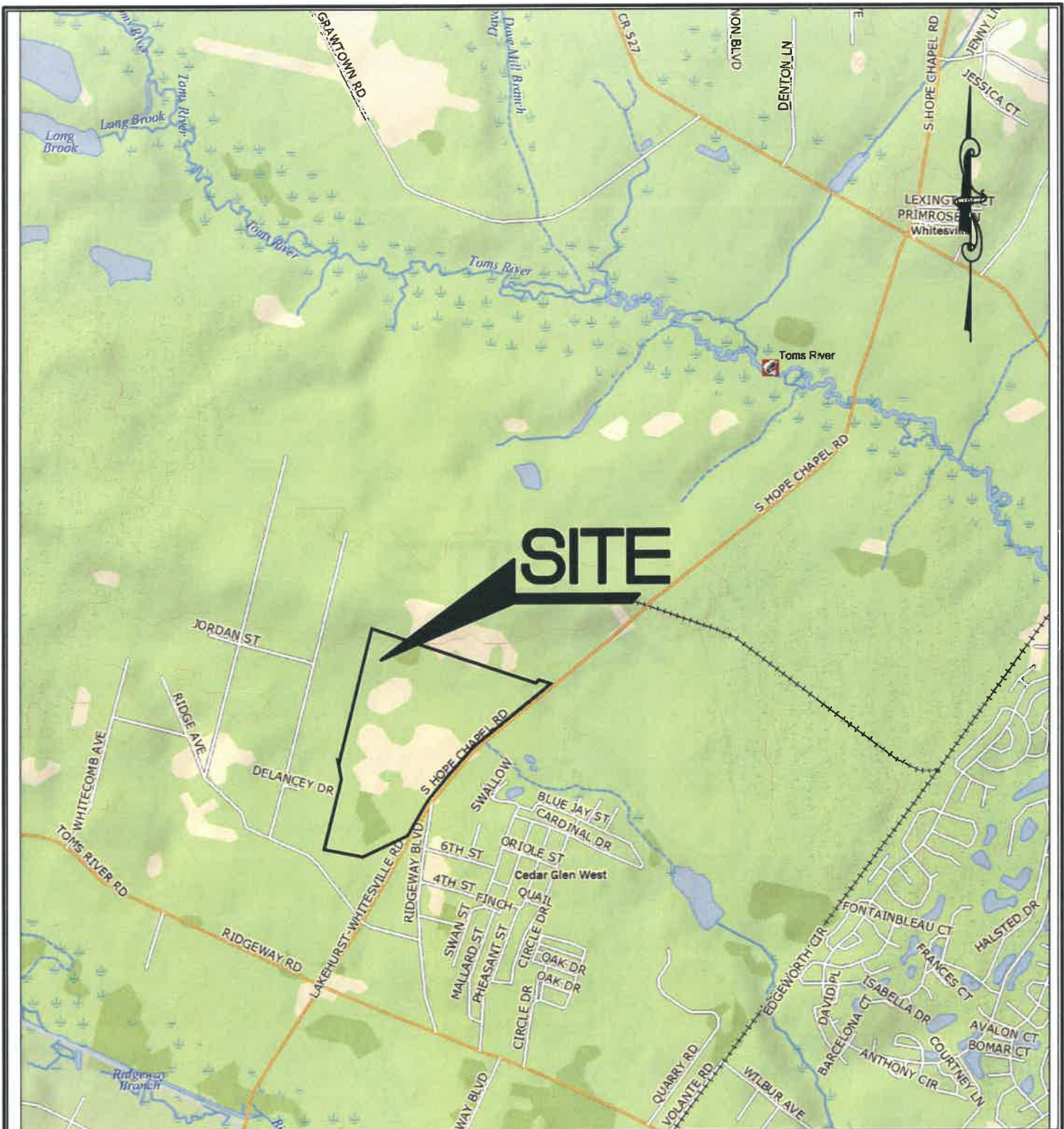


FIGURE #2

U.S.G.S. QUAD MAP

FOR

TAX BLOCK 23001 – TAX LOTS 22, 23,
24, 25, 26, 27, 28 & 29

TOWNSHIP OF JACKSON
OCEAN COUNTY NEW JERSEY
PROJECT #17286

PDS

PROFESSIONAL DESIGN SERVICES, L.L.C.

CONSULTING ENGINEERS, PLANNERS, ENVIRONMENTAL
SCIENTISTS, CONSTRUCTION SERVICES
1245 AIRPORT ROAD, SUITE 1, LAKEWOOD, NEW JERSEY 08701
PHONE 732 363 0060 FAX 732 363 0073
ENGINEERING @ PDS-NJ.COM
NEW JERSEY STATE BOARD OF P.E. & L.S.

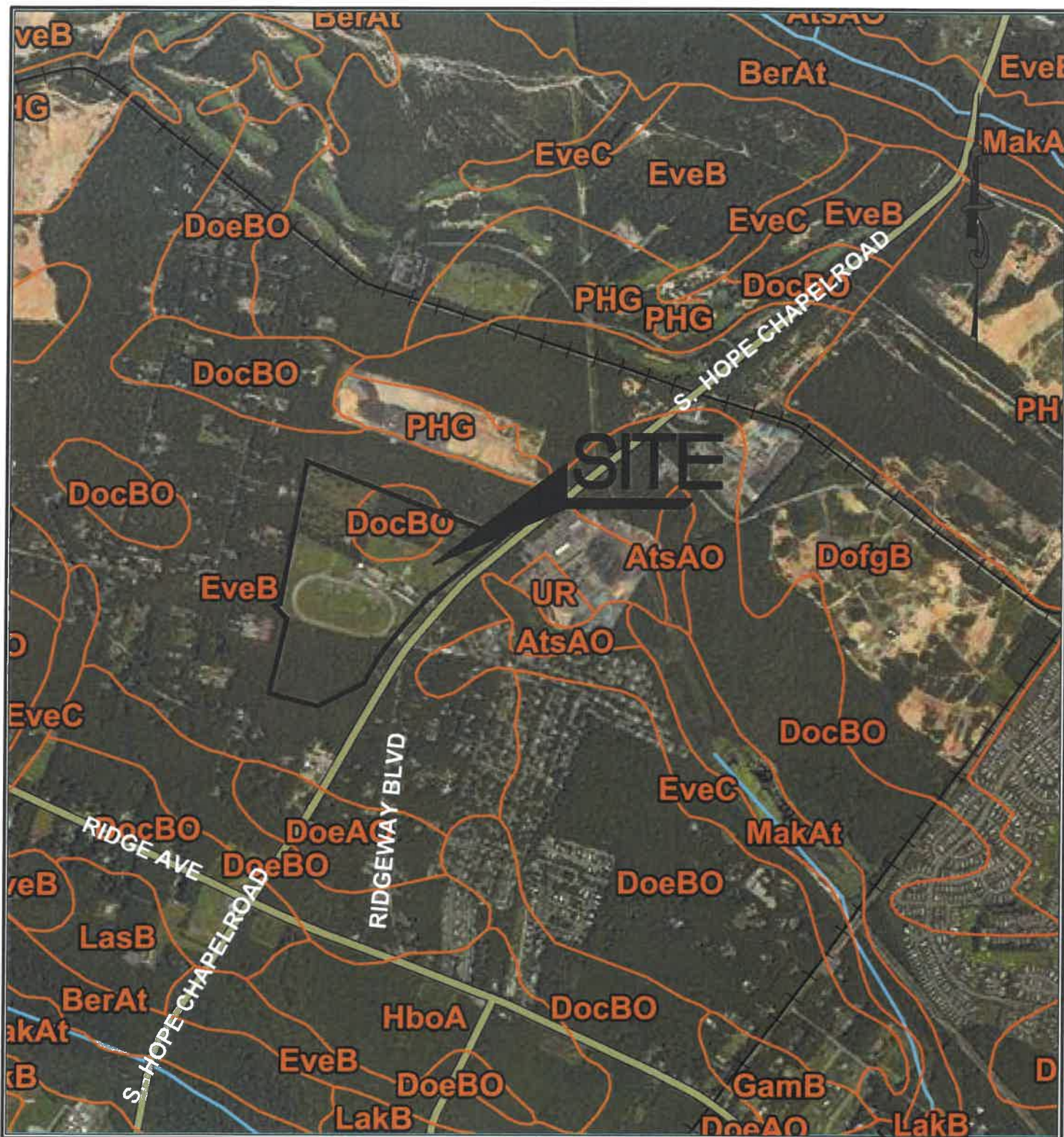


FIGURE #3

SOIL MAP

FOR

**TAX BLOCK 23001 – TAX LOTS 22, 23,
24, 25, 26, 27, 28 & 29**

**TOWNSHIP OF JACKSON
OCEAN COUNTY NEW JERSEY
PROJECT #17286**

PDS

PROFESSIONAL DESIGN SERVICES, L.L.C.

CONSULTING ENGINEERS, PLANNERS, ENVIRONMENTAL
SCIENTISTS, CONSTRUCTION SERVICES

1245 AIRPORT ROAD, SUITE 1, LAKEWOOD, NEW JERSEY 08701

PHONE 732 363 0060 FAX 732 363 0073

ENGINEERING @ PDS-NJ.COM

NEW JERSEY STATE BOARD OF P.E. & L.S.

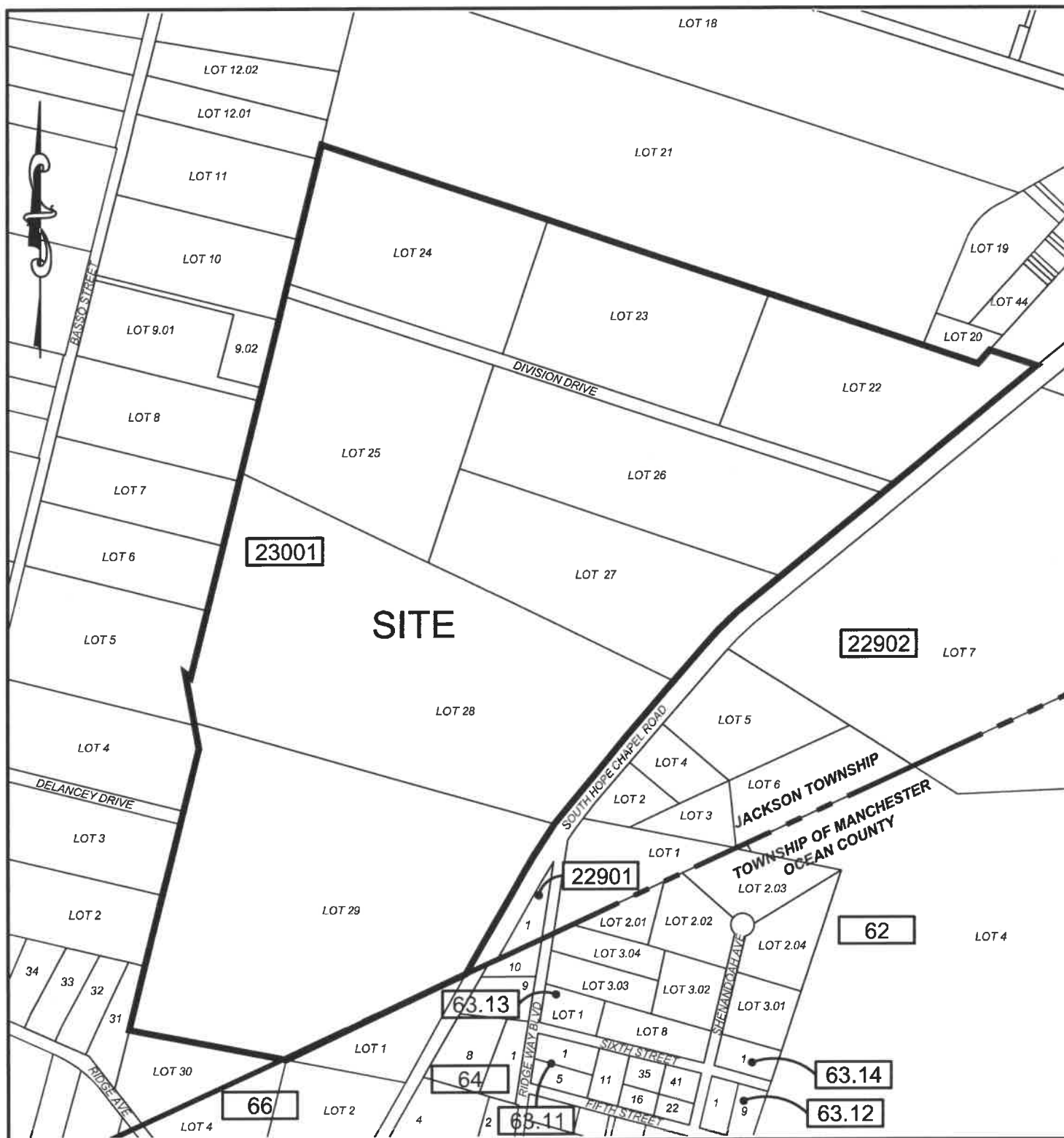


FIGURE #4 TAX MAP

FOR
TAX BLOCK 23001 – TAX LOTS 22, 23,
24, 25, 26, 27, 28 & 29
TOWNSHIP OF JACKSON
OCEAN COUNTY NEW JERSEY
PROJECT #17286

PDS
PROFESSIONAL DESIGN SERVICES, L.L.C.
CONSULTING ENGINEERS, PLANNERS, ENVIRONMENTAL
SCIENTISTS, CONSTRUCTION SERVICES
1245 AIRPORT ROAD, SUITE 1, LAKEWOOD, NEW JERSEY 08701
PHONE 732 363 0060 FAX 732 363 0073
ENGINEERING @ PDS-NJ.COM
NEW JERSEY STATE BOARD OF P.E. & L.S.

APPENDIX A
CERTIFICATES OF FILING



State of New Jersey

THE PINELANDS COMMISSION

PO Box 7

NEW LISBON NJ 08064

XX(609) 894-9342X

(609) 894-7300

RECEIVED
JAN 11 2000
ERNST, ERNST AND LISSENDEN

CHRISTINE TODD WHITMAN
Governor

CERTIFICATE OF FILING
(INCONSISTENT)

January 7, 2000

Capstone Residential Communities
19 Main Street
Robbinsville, NJ 08691

Please Always Refer To
This Application Number

Re: Application #90-1170.01
Block 12, Lot 4
Jackson Township
Block 66, Lot 1
Manchester Township

Dear Applicant:

This application for a 69 lot subdivision and the development of 68 single family dwellings on the above referenced 32.9 acre parcel is complete. Most of the parcel (28.6 acres) is located in Jackson Township. The remainder (4.3 acres) is located in Manchester Township. The entire parcel is located in a Pinelands Regional Growth Area.

The completion of this application has resulted in the issuance of this Certificate of Filing. This Certificate of Filing is required before any other agency can deem an application complete and take action on your proposed development. The agency may proceed to review and take action on the proposed development. The applicant must give notice to the Pinelands Commission of any modification of the proposed development and of any approval received for the proposed development within 5 days of receiving any approval.

The Subdivision Plan, consisting of 14 sheets, submitted to the Pinelands Commission was prepared by Ernst, Ernst and Lissenden and is dated as follows:

Cover sheet, and sheets 3 and 5-11- September 1, 1999
Sheet 1 and 4- September 1, 1999; revised October 28, 1999
Sheets 12 and 14- July 14, 1999



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E-mail: info@njpinelands.state.nj.us

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other agencies to review and act on your application. If either a municipal or county agency grants an approval or permit for the proposed development, that approval is subject to review by the Pinelands Commission. No local approval shall take effect and no construction or development shall occur unless written notice from the Pinelands Commission has been received, indicating either that the Commission will not review the local approval or that the Commission has approved the local approval.

This Certificate of Filing is transferable to future owners of this parcel.

If you have any questions, please contact the project review staff.

Sincerely,

Kathleen Swigo for

William F. Harrison, Esq.
Acting Executive Director

JM/DM/KS

cc: Secretary, Jackson Township Planning Board
Secretary, Manchester Township Planning Board
Jackson Township Construction Code Official
Manchester Township Construction Code Official
Jackson Township Environmental Commission
Manchester Township Environmental Commission
Ocean County Planning Board
Ernst, Ernst & Lissenden
Donna McBride

25043

*State of New Jersey*

THE PINELANDS COMMISSION

PO Box 7

New Lisbon NJ 08064

(609) 894-7300

JON S. CORZINE
GovernorJOHN C. STOKES
Executive Director**RE-AMENDED CERTIFICATE OF FILING**

January 28, 2009

Diamond Developers
811 16th Avenue
Belmar, NJ 07719**Please Always Refer To
This Application Number**Re: Application #1983-5386.002
New Block 23001, Lots 22-28
(old Block 12, Lots 1, 2.01, 2.02 and 3;
and old Block 16, Lots 2, 3 and 4)
Jackson Township

Dear Applicant:

This application for a 322 lot subdivision and the development of 313 single family dwellings on the above referenced 101.4 acre parcel is complete. There are two existing single family dwellings and associated accessory structures, greater than 50 years old, proposed to be demolished and reconstructed for a total of 315 single family dwellings on the parcel. One of the proposed lots will contain a clubhouse and associated recreational facilities. One of the proposed lots will contain stormwater management facilities and a public sanitary sewer pump station. Five of the proposed lots will be used for open space. This application also proposes installation of 15,038 linear feet of public sanitary sewer main and 15,181 linear feet of public water main within the internal roads of the subdivision and 11,885 linear feet of public sanitary sewer main and 2,093 linear feet of public water main within the South Hope Chapel Road right-of-way. The parcel is located in a Pinelands Regional Growth Area.

The completion of this application has resulted in the issuance of this Certificate of Filing. This Certificate of Filing is required before any other agency can deem an application complete and take action on your proposed development. The agency may proceed to review and take action on the proposed development. The applicant must give notice to the Pinelands Commission of any modification of the proposed development and of any approval received for the proposed development within five days of receiving any approval.

<http://www.nj.gov/pinelands/>
E-mail: info@njpines.state.nj.us

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The subdivision plan, consisting of fifty-five sheets, submitted to the Commission was prepared by Professional Design Services and dated as follows:

Sheets 1, 3-9, 16-51, 53 and 54 – August 22, 2008; revised December 10, 2008
Sheet 2 – June 8, 2005; revised September 24, 2006
Sheets 10-15, 52 and 55 – August 22, 2008; revised January 9, 2009

The Offsite Utility Extension Plan, consisting of 14 sheets, submitted to the Pinelands Commission was prepared by Property Development Services, Inc. and dated as follows:

Sheets 1-13 - October 20, 2005; revised February 27, 2006
Sheet 14 - October 25, 2005; revised February 27, 2006

On March 30, 2006, the Commission issued a Certificate of Filing for a 273 lot subdivision and development of a total of 266 single family dwellings on an 88.26 acre parcel consisting of old Block 12, Lots 1, 2.02 & 3 and old Block 16, Lots 2-4 in Jackson Township. Subsequently, the applicant included old Block 12, Lot 2.01 in the application and proposed to increase the number of single family dwellings to a total of 315, resulting in issuance of an Amended Certificate of Filing, dated September 21, 2006. That Amended Certificate of Filing indicated that the proposed development was inconsistent with the stormwater management standards. This Re-Amended Certificate of Filing is being issued because the applicant has revised the development plan to propose a reduced buffer to wetlands and to demonstrate that the proposed development is consistent with the stormwater management standards of the CMP.

An application for the development of one single family dwelling on old Block 12, Lot 1 was previously completed with the Pinelands Commission (App. No. 1983-5386.001). The Commission was not notified of any approvals or permits issued for the proposed single family dwelling.

An application for the development of a commercial use on old Block 12, Lot 2.02 was previously initiated with the Pinelands Commission but not completed (App. No. 1981-2253.001).

There are freshwater wetlands on and within 300 feet of the above referenced parcel. All development, including clearing and land disturbance, must be located at least 175 feet from all freshwater wetlands. The above referenced plan indicates that this requirement is being met.

The applicant's Pinelands application represents that the proposed development will be serviced by public sanitary sewer.

The above referenced parcel appears to be located in Jackson Township's RG-3 zoning district. When utilizing public sanitary sewer, this zoning district permits single family dwellings at a residential density of 2.5 dwelling units per acre. Therefore the "by-right" residential density on the 101.4 acre parcel is 253 dwelling units. This application proposes a total of 315 dwelling units. To maintain consistency with the residential density requirements of the Jackson Township land use ordinance and the Pinelands Comprehensive Management Plan (CMP), the applicant

must acquire and redeem 15.5 Pinelands Development Credits (PDCs) (1.0 PDCs = 4 dwelling units).

The concerned parcel is located in a high fire hazard area. To maintain consistency with the fire hazard mitigation standards of the Jackson Township land use ordinance and the CMP, a 200 foot wide fuel break, located offsite on adjacent Block 23001, Lot 29, is proposed between the proposed structures located on the southern portion of the parcel and the forest. Within this fuel break shrubs, understory trees, bushes and ground cover must be selectively removed, mowed or pruned and maintained on an annual basis and all dead plant material must be removed. The applicant proposes a program for these maintenance activities within the fuel break.

The stormwater management plan for this development proposes to maintain 19.8 acres as wetlands and wetland buffers and 5.3 acres as indigenous woods to meet the nonstructural design standards of the CMP. The CMP provides that proposed development be designed to meet the nonstructural stormwater management strategy standards of the New Jersey Department of Environmental Protection (N.J.A.C. 7:8-5.3). These standards require that any land area used as a nonstructural stormwater management measure be dedicated to a government agency, subjected to a conservation restriction filed with the appropriate County Clerk's office, or subject to an approved or equivalent restriction which ensures that such measure is maintained in perpetuity.

The stormwater management regulations of the CMP (N.J.A.C. 7:50-6.84(a)6vii) require that any proposed stormwater management facilities be regularly maintained. The applicant proposes a stormwater maintenance plan. Any approval granted by Jackson Township must address the stormwater maintenance responsibilities of the applicant.

A copy of any county and municipal permit or approval for the proposed development must be submitted to the Pinelands Commission. Prior to Commission issuance of a letter advising that any submitted permit or approval may take effect, the applicant shall provide information demonstrating that the area to remain wooded will be protected by one of the above specified methods.

Prior to Commission issuance of a letter advising that any submitted final municipal approval may take effect, the Commission must receive a letter from the PDC bank indicating that the requisite 15.5 PDCs have been acquired and submitted to the PDC bank for redemption. Additionally, a recorded copy of an easement for the proposed 200 foot fuel break on Block 23001, Lot 29 must be submitted to the Commission.

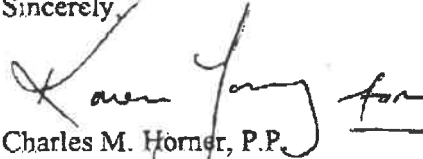
THIS CERTIFICATE OF FILING IS NOT AN APPROVAL. It is the letter necessary for other agencies to review and act on your application. If either a municipal or county agency grants an approval or permit for the proposed development, that approval is subject to review by the Pinelands Commission. No local approval shall take effect and no construction or development shall occur unless written notice from the Pinelands Commission has been received, indicating either that the Commission will not review the local approval or that the Commission has approved the local approval.

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This Certificate of Filing is transferable to future owners of this parcel.

If you have any questions, please contact the Regulatory Programs staff.

Sincerely,

A handwritten signature in black ink, appearing to read "Charles M. Horner", is written over the printed name.

Charles M. Horner, P.P.
Director of Regulatory Programs

JR:ED:KY

c: Secretary, Jackson Township Planning Board
Jackson Township Construction Code Official
Jackson Township Zoning Officer
Jackson Township Environmental Commission
Ocean County Planning Board
Pinelands Development Credit Bank
Professional Design Services, Inc.
Betsy Piner

