

DORAN

ENGINEERING, PA ENGINEERS • PLANNERS • SURVEYORS

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MEMO TO: Northfield Planning Board/Zoning Board

FROM: Matthew F. Doran, Board Engineer

DATE: November 21, 2024

RE: Nicholas and Katherine Drobiniku
Doran # 9739

LOCATION: 1611 Shore Road
BLOCK: 102 LOTS: 9, 10, 14 & 15

STATUS: Minor Subdivision

BASIS FOR REVIEW: Plans Prepared by Schaeffer, Nassar, Scheidegg

Sheet 1 of 9	dated 9-16-24
Sheet 2 of 9	dated 7-03-24
Sheet 3 of 9	dated 9-16-24
Sheet 4 of 9	dated 9-16-24
Sheet 5 of 9	dated 9-16-24
Sheet 6 of 9	dated 9-16-24
Sheet 7 of 9	dated 9-16-24
Sheet 8 of 9	dated 9-16-24
Sheet 9 of 9	dated 9-16-24

Storm Water Drainage Calculations, by Andrew Schaeffer, dated 9-13-24
Storm Water Management Plan, by Andrew Schaeffer, dated 9-13-24
Cover Letter from Lieberman Blecher & Sinkevich, P.C., dated 6-14-24

USE: Residential- Major Subdivision- Preliminary and Final Approval

ZONING REQUIREMENTS: This property is located in the R-1 Residential Zone, which allows primarily for residential uses. The following is a review of the bulk requirements for the proposed project:

ITEM	Required	Lot 9	Lot 10.01	Lot 10.02	Lot 10.03	Conformity
LOT AREA	10,000 SF	13,270 SF	11,810 SF	11,236 SF	10,086 SF	C
LOT WIDTH	100' SF	74.02'	39.45'	95.45'	96.88'	DNC
SETBACKS:						
FRONT (Shore Road)	25'	35.8'	25'	-	-	C
FRONT (A)	25'	17.5' (EX)	25'	25'	25'	DNC (L-9)
SIDE	10'	>10'	12.5'	12.5'	12.5'	C
SIDE	25' (combined)	>25'	12.5'	12.5'	12.5'	C
REAR	25'	-	-	25'	25'	C
HEIGHT	2 ½ STY, 30'	2 ½ STY	<30'	<30'	<30'	C

ITEM	Required	Lot 9	Lot 10.01	Lot 10.02	Lot 10.03	Conformity
MIN.GROSS FLOOR AREA:						
ONE STORY	1,200 SF	>2	M/C	M/C	M/C	-
TWO STORY	1,350 SF	>1,350 SF	M/C	M/C	M/C	-
BLDG COVERAGE	25%	<25%	M/C	M/C	M/C	-
TOTAL COVERAGE	40%	<40%	M/C	M/C	M/C	-

ITEM	Required	Lot 10.04	Lot 10.05	Lot 10.06	Conformity
LOT AREA	10,000 SF	12,384 SF	19,708 SF	2,127 SF**	DNC
LOT WIDTH	100'	50' *	50.01' *	32.71'	DNC
SETBACKS:					
FRONT (Shore Road)	25'	-	-	-	C
FRONT (A)	25'	25'	25'	-	DNC (L-9)
SIDE	10'	12.5'	12.5	-	C
SIDE	25' both	12.5'	12.5	-	C
REAR	25'	25'	25'	-	C
HEIGHT	2 ½ STY, 30'	<30	<30'	-	C
MIN.GROSS FLOOR AREA:					
ONE STORY					
TWO STORY	1,200 SF	M/C	M/C	-	-
BLDG COVERAGE	1,350 SF	M/C	M/C	-	-
TOTAL COVERAGE	25%	M/C	M/C	-	-
	40%	M/C	M/C	-	-

* §215-34 (F) Each street needs to comply to lot width.

** Lot 10.06, the small corner lot on Shore Road, will be dedicated to the existing adjoining lot, Lot 16.

A large area of Lot 10.05 (9,611 SF) is to be utilized for drainage facilities for the project. An easement to the proposed on Lot 10.05. This is acceptable. Proper legal documents are required in order to ensure that this lot is unbuildable and remains as a drainage basin.

The following is a list of definitions utilized as per §215-5 of the ordinance:

* Lot Width- The shorter distance between the side lot lines, measured at the street line, or if no setback line is established, the mean width of the lot measured at right angles to its depth. The minimum lot width, as required by this chapter, shall be maintained for at least 75% of the minimum depth as measured continuously from the front line except for lots, which front the turn-around of a cul-de-sac, in which case lot width at the street line may be reduced to 50% of the required width.

Setback:

- 1) Lot 9- Front setback on Northfield Avenue, 25' is required; 17.5' is existing.

Project Description:

The Applicant, Nicholas and Katherine Droboniku, have made an application to the Planning Board for a major subdivision of a property located on Shore Road, being Block 102, Lots 9, 10, 14 & 15. The application will create six (6) new lots, with five (5) lots to be buildable lots and the sixth lot at the corner of the new street and Shore Road, to be dedicated and combined with the adjoining Lot 16.

The Applicant is proposing to service the lots with domestic water and sanitary sewer, that will connect to the utilities located on Shore Road.

The Applicant is proposed to construct a new cul-de-sac, approximately 450 feet in length, which will connect to Shore Road. All design requirements for all improvements proposed for this development will be installed, as required by the Residential Site Improvement Standards.

PLANNING REVIEW:

1. The Applicant will require “C” variance relief for various items.

A) Lot Width

- a. Lot 9- 100’ is required; 74.02’ is proposed.
- b. Lot 10.01- 100’ is required; 39.45’ is proposed.
- c. Lot 10.02- 100’ is required; 95.45’ is proposed.
- d. Lot 10.03- 100’ is required; 96.88’ is proposed.
- e. Lot 10.06- 100’ is required; 32.71’ is proposed.
(This lot will be combined with adjoining Lot 16.)

B) Setback

- a. Lot 9- Front setback 25’ is required to Northfield Avenue; 17.5’ is existing.

2. Since it is determined that “C” variance relief is needed for the project, the applicant should supply testimony, as outlined in the following criteria, as appropriate.

a. “C” (1) Variance Criteria

By reason of exceptional narrowness, shallowness, or shape of a specific piece of property, or (b) by reason of exceptional topographic conditions or physical features uniquely affecting a specific piece of property or (c) by reason of extraordinary and exceptional situation uniquely affecting a specific piece of property or the structures lawfully existing thereon, the strict application of the zoning regulations would result in the peculiar and exceptional practical difficulties to or exceptional and undue hardship upon the development of the property. This is known as the C (1) Criteria.

b. "C" (2) Criteria

The applicant shall provide testimony regarding the variance that, relates to a specific piece of property; the purpose of the Municipal Land Use Law would be advanced by a deviation from the zoning ordinance requirements; the variance can be granted without detriment to the public good the benefit of the deviation would substantially outweigh detriment, and the variance will not substantially impair the intent and purpose of the zone plan and zoning ordinance.

c. It should be noted:

No variance or other relief may be granted under the term of this section, without showing that such variance or other relief can be granted without substantial detriment to the public good and will not substantially impair the intent and purpose of the zone plan and zone ordinance.

This is known as Negative Criteria.

ENGINEERING REVIEW:

1. All engineering designs will be reviewed for compliance with the standards outlined in the Residential Site Improvement Standards. (RSIS)
2. The Applicant is proposing to construct a cul-de-sac approximately 450 feet in length, which will service five (5) new buildings lots. The remaining lot contains an existing dwelling that is accessed by Northfield Plaza.

All new lots are to be serviced by domestic water, sewer, natural gas, electric and other available utilities.

3. **§5:21-4.5** of the RSIS sets the design criteria for street and parking requirements. The Applicant has designed a cul-de-sac, as defined by Table 4.2, where the maximum number of vehicular trips is 250 per day.

The five (5) lots proposed generate 10.1 trips per day, per dwelling, or 50.5 vehicular trips per day, which complies.

4. **§5:21-4.2**, outline the required cartway width. The cartway and right-of-way width shall conform to the criteria of residential access, parallel parking, and low density.

The following is a breakdown of the design criteria:

- a) Travel Way- 21' is required; 21' is proposed.
- b) Parking Lane- one (1) 7' lane is required; one (1) 7' lane is proposed.

- c) Cartway Width- 28' is required; 28' is proposed.
- d) Curing, should, none are required; curbing is proposed for both adjacent streets.
- e) Sidewalk or graded area, one (1) sidewalk and one (1) graded area are required. One (1) sidewalk and no graded areas are proposed. A waiver is required.
- f) Right-of-way- 50' is required; 39' minimum is proposed. A waiver is required.

*Note: As required by **§5:21-4.5 (b)** sidewalks shall be provided where graded areas are specified in Table 4.3, where the conditions described in (b) 1 or 2 exists.

- 1) The minimum lot size in the development is smaller than one (1) acre; and
 - i. The development or project is located within 2,500 feet of a public bus route. Shore Road is a public road and bus line route.
 - ii. The development or project is located within 2,500 feet of an existing recreation, business or retail use, or a site where such use is permitted by existing zone, or
- 2) The minimum lot size in the development is smaller than two (2) acres and the development is located within two (2) miles of a school.

The Northfield Community School is located less than two (2) miles from the site.

In my opinion, sidewalks are required on both sides of the street, however, it should be noted that no homes are proposed along the Southerly side of the street where the storm water basin is proposed.

A waiver would be required if the Board inclined to not include sidewalks along one side of the street.

A cross section of the right-of-way consistent with the RSIS should be provided on the plan.

Additional dimensions should be provided on the plan view on Sheet 4 of 9, including cartway width, sidewalk width, parking line width, etc.

- 5. The Applicant has shown concrete sidewalk on the plan. A detail consistent with **§ 5:21-4.18**, of the RSIS should be provided. The sidewalk shall be increased to 6" thickness where vehicular access is provided at all driveways. The width of the sidewalk shall be provided on the plan view.
- 6. ADA access ramps shall be provided along Shore Road at the roadway entrance to the site. Grading and details shall be provided on the plan view. All improvements on Shore Road are subject to review and approval from Atlantic County.

7. Plan view of the street should show all curblines radii, and length in order to determine compliance with the RSIS.
8. The plan should be revised to show sight triangles at the intersection of New Road and Shore Road.

All improvements on Shore Road will be under the jurisdiction of Atlantic County.

9. A note should be added to the plan that all utilities will be located underground in the right-of-way of the street, or in an appropriate easement.
10. The Applicant proposes to pave the new road with an asphalt surface. The plan proposes a 6" I-5 gravel sub-base, 4" 12MA 19 M64 asphalt base course and 2" HMA 12.5 M64.

This paving cross section is acceptable.

11. The plan proposes a cross slope across the roadway in order to drain the street. No centerline crown is shown. I would recommend a standard roadway cross section, which provides for a raised centerline and a cross slope in both directions. This will require the installation of an inlet and pipe system to provide proper drainage for the street.
12. The plan should be revised to a street name sign, together with the required "STOP" sign. The details for the signs should be provided on the plans. All street signage must comply to the "Manual on Uniform Traffic Control Services for Streets and Highways." No Parking signs should be installed on one side of the street. The appropriate ordinance should be required from City Council in order to limit parking on one side.
13. The plan should be revised in order to provide a parking requirements for the homes. The chart shall be consistent with **§5:21-4.14** of the RSIS. Each parking space size shall be a minimum of 9' x 18'.
14. The profile shown for the proposed road shall provide centerline grades and gutter grades at 50 foot stations. I recommend that a typical cross section for the roadway be provided where there is a crowned centerline, and flow lines along the gutter or curbs.
15. As per **§4.6**, the curb radii on Shore Road is required to 25'. The plan should be appropriately marked. Additional dimensions should be added to the plan for the curbing location, street widths, distance between curbing and sidewalk, etc.
16. The Applicant is proposing to install a domestic water system, supplied by the New Jersey American Water Company, which will connect to the existing watermain located in Shore Road. The details for the installation of the watermain shall be added to the

plan. The details shall be consistent with **§5:21-5.3 (J)** of the RSIS. The details for the water service have been supplied and are accessible.

17. The plans should be submitted to the Fire Chief for review. If the Fire Department requires a fire hydrant, the appropriate details and pipe size should be shown on the plan.

A letter of availability of water service from the New Jersey American Water Company should be supplied for the file.

18. The location of all water control valves shall be shown on the plan, as required by **§5:21-5.3** of the RSIS.

19. The Applicant proposes installing a domestic sanitary sewer system for the project. The plan should be submitted to the City of Northfield Sewer Department for review, and approval from the city.

20. The Applicant is proposing to install an 8" diameter PVC pipe and sewer lateral system in order to collect and dispose of the proposed sewer flow. The new pipe is proposed to connect to any existing sewer manhole located in front of the property in Shore Road.

The details for the sewer manholes and laterals have been supplied, additional details for the improvements shown in **§5:26-6.2 (6)** shall be provided on the plan, including the sewer trench detail.

21. The plan provides a light detail for a 250-watt High Pressure Sodium Unit to be mounted 25' in height. The plan shows a 150-watt LED light pole to be constructed at the end of the cul-de-sac. This should be clarified for the Board, and the details should reflect the light to be used at the site. A full detail of the light and pole design should be provided on the plan.

22. The Applicant has supplied a storm water design plan and calculations for review.

The proposed system, as designed, includes a small swale (forebay) located along a portion of the newly proposed roadway towards the rear of the property. The storm water flows through the swale and into a small scale bio-retention basin.

The bio-retention basin is utilized as a pre-treatment method, as required. The discharge from the bio-retention swales to discharge into the sub-surface (36" diameter perforated pipe) located along the rear of lots 10.04 and 10.05. The storm water enters the 36" pipe through a "E" inlet located at the end of the bio-retention swale.

23. Due to the site grading proposed along the forebay area, no required graded area can be constructed next to the roadway.

I would recommend a post and rail fence be installed along the forebay (basin area).

24. The Applicant should clarify in the storm water drainage calculations which method was used for the runoff. The acceptable methods are outlined in §5:21-7.2 of the RSIS.

The Delmarva unit hydrograph is the most acceptable for the coastal plain region of New Jersey.

25. The Drainage Report provides a copy of the soil maps. The Design Engineer should check the maps for accuracy. It does not seem to represent the site for this project.

26. The pre and post development plan has been supplied showing storm water flow path and time of concentration for each condition of the site.

The discharge points for the bioretention swale and infiltration basin is shown on the plan, and is in same location for the pre and post condition, which is acceptable.

27. The results for Infiltration Basin 1 provide a column for or 2 ½" orifice. The location of the inlet, which utilized the orifice, should be shown on the plan.

28. The Design Engineer has provided an infiltration basin, which provides 80% removal of all suspended solids, which complies to the water quality standards of the BMP Manual.

29. The RSIS, §7:8-5.4 (2) i (2) requires that the increase of storm water runoff volume from pre-construction to post-construction for the 2-year storm is infiltrated.

The provided Annual Ground Water Recharge Analysis shows the difference between the pre and post construction volume is 7,743 CF; the chart shows that 4,265 CF is proposed. This should be clarified.

30. The RSIS requires that the following design criteria is met.

- [1] Demonstrate that for storm water leaving the site, post-construction runoff hydrographs for two, ten, and 100-year storm events do not exceed, at any point in time the pre-construction runoff hydrographs for the same storm events.

When reviewing the hydrographs, reference is made to Poplar Avenue. The project does not adjoin Poplar Avenue. The report should be revised.

Hydrographs for the pre and post storm events have been supplied showing compliance.

- [2] Demonstrate that the site runoff after development, does not increase flood damage at or downstream of the site. The location of the emerging spillway is in the same location as pre-development.

A detail of the spillway should be provided on the plan showing elevations thru the area of the spillway.

- [3] Storm water management measures should be implemented that post-construction peak runoff rates for the 2, 10, and 100-year storm events are 50%, 75% and 80% respectively.

The discharge point performance summary on Page 10 of the report, references that the site complies with this requirement.

31. As-built plans and certifications are required to be submitted at the completion of the project. This shall include a topographic survey, together with soil testing for the as-built permeability rates.
32. The Design Engineer has provided a Ground Water Mounding Calculation on Pages 17 & 18 of the report. The calculations reveal that the mounding that will occur is below the bottom of the basins, as required.
33. The RSIS requires that all water shall infiltrate into the ground within 72-hours after the maximum storm event. The calculations have been provided that BI0-1 basin will be dry 36.7 hours after the storm, Basin 1 will be dry 20.9 hours after the storm even.

Both basins comply.

34. The plan provides for an extension of the infiltration basin to be constructed with a 36" perforated pipe to be installed long the rear property lines of Lots 10.04 & 10.05. The pipe is proposed to be installed in an easement. The Northfield ordinance requires a minimum easement width of 25' in order to allow access for pipe maintenance, or replacement of the pipe.

The pipe is designed with "E" inlets at every corner and the end of the pipe. The inlets will allow for the pipe to be periodically cleaned.

35. The Applicant has provided a separate maintenance manual that is consistent with the requirements of the Best Practices Manual.

The report has included the following information:

- a) All maintenance tasks, including time frame for completion. This shall include the person responsible and telephone numbers of the person.

- b) The owner of the property, or the Homeowners Association, shall be identified as the entity responsible for the maintenance.
 - c) Descriptive details for the maintenance, including equipment types and quantities, schedules, methodology, entity responsible, life expectancy of the storm water facility.
 - d) Itemized cost associated with each task.
 - e) Provide a 20-year maintenance guarantee for the entire storm water management system.
36. The Applicant should discuss with the Board who will be responsible for owning and maintenance of the storm water system. It is assumed, due to the location and complexity of the system, that a Homeowners Association will need to be formed and maintained for the life of the storm system.
- Discussion should also be had regarding ownership and maintenance of the street. Should the homeowners own the street, and all drainage system as opposed to the City.
37. The applicant will be required to post performance guarantees for improvements proposed at the site. An inspection escrow, equal to 5% of the costs of the improvements, shall also be posted with the City Clerk.
38. The Applicant will be required to provide a Final Major Subdivision Map in compliance with the New Jersey Map Filing Law, prior to Final Approval.
39. Prior to signing the Final Plat, the applicant shall obtain all other approvals:
- a) Cape Atlantic Soil Conservation District
 - b) City of Northfield
 - 1) Tax Assessor for lot number
 - 2) Sewer Department
 - 3) Fire Department
 - c) Atlantic County
 - d) Utility letters of availability services.

November 21, 2024
Nicholas and Katherine Droboniku
1611 Shore Road
Doran #9739
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If you have any questions or require further information, please do not hesitate to contact me.

Very truly yours,

A handwritten signature in black ink, appearing to read 'Matthew F. Doran', written in a cursive style.

Matthew F. Doran, P.E., P.P., P.L.S, C.M.E.
Board Engineer