



**Township of Verona
Planning Board
600 Bloomfield Avenue
Verona, New Jersey 07044**

August 20, 2020

**Attn: Ms. Jennifer Kiernan, RMC
Municipal Clerk**

**Re: Tennis Court Renovation
Montclair Golf Club
Site Plan Review - Engineering
25 Prospect Avenue
Bl 601 Lot 1
West Orange, New Jersey 07044**

Dear Ms. Kiernan,

I have reviewed the following Site Plan Drawings for the above referenced project:

Site Plans			Revisions
1)	LA-000	Cover Page	Rev. #3 10/09/2019
2)	LA-100	Existing Conditions/Demolition Plan	Rev. #4 12/17/2019
3)	LA-101	Overall Site Plan	Rev. #4 12/17/2019
4)	LA-102	Site Plan and Materials Plan: Courts 1-4	Rev. #3 10/09/2019
5)	LA-103	Site Plan and Materials Plan: Courts 5-6	Rev. #3 10/09/2019
6)	LA-104	Dimension Plan: Courts: 1-4	Rev. #3 10/09/2019
7)	LA-105	Dimension Plan: Courts: 5-6	Rev. #3 10/09/2019
8)	LA-106	Grading and Drainage Plan: Courts 1-4	Rev. #4 12/17/2019
9)	LA-107	Grading and Drainage Plan: Courts 5-6	Rev. #4 12/17/2019
10)	LA-109	Tennis Court Lighting: Courts 1-4 Schematic Lighting Conduit Plan	Rev. #3 10/09/2019
11)	LA-110	Tennis Court Lighting: Courts 5-6 Schematic Lighting Conduit Plan	Rev. #3 10/09/2019
12)	LA-500	Site Details	Rev. #4 12/17/2019
13)	LA-501	Hydro Court Details	Rev. #3 10/09/2019
14)	ME1.0	Mechanical Electrical Site New Work Plan- Roxbury Engineering Associates, L.L.C.	Rev. #3 10/09/2019

All above Site Plans, were prepared by James P. Gilday, RLA License # NJ AS00545, of Moss Gilday Group 64 Grant Place Little Silver, NJ 07739.

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Reports	
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| 1) | Cover Letter & Application Dated December 20,2019 |
| 2) | Stormwater Calculations Summary |

Stormwater calculations, dated July 15, 2020 as prepared by Timothy Derrick P.E. NJ Lic. #4678200 and Michael Fowler, P.E. NJ Lic. # 3239800 of Langan Engineering and Environmental 300 Kimball Drive Parsippany, NJ 07054.

I) General Information

- A) Applicant: Montclair Golf Club
25 Prospect Ave
Bl 601 Lot 1
West Orange, New Jersey 07052
- B) Owner: Same
- C) Property: Montclair Golf Club
25 Prospect Ave
Bl 601 Lot 1
West Orange, New Jersey 07052
- D) Proposal: The applicant is proposing to completely refurbish tennis courts #s 1-6 while eliminating tennis court #7 and the practice court. As part of the work the existing clay will be removed and a new Hydro Court system will be installed. The existing stabilized base will remain as the base for the new court surfacing. The fences will be replaced and will include California corners (45 degrees) in lieu of the existing 90 degree corners. Additionally, the existing tennis court lighting will be replaced with new energy efficient LED light fixtures and poles. The new lights will have a lower mount height from the current fixtures.

II) Zoning Requirements

- A) Zoning:
- a. Block 601, Lot 1: R-100 (Very Low Density Single Family) Zone District.
Note: The proposed Use is an Existing Non-Conforming Use within the District it is located.
- B) Use:
- a. A golf course is an Existing Non-Conforming use within the R-100 Zone District.
 - b. Lit tennis courts are an Existing Non-Conformance within the R-100 Zone District.

Area and Bulk Requirements:

Block 601, Lot 1: R-100(Very Low Density Single Family) Zone District				
Description	Required By R-100 Code	Existing	Proposed (Per Plans)	Compliance
Use	N/A	Golf Course With Tennis Courts	Golf Course With Tennis Courts	N (See Notes 1&2)
Minimum Lot Size	12,000 Sq.Ft.	*	*	U (See Note #3)
Minimum Lot Width	100 Ft.	*	*	U (See Note #3)
Maximum Lot Coverage	20%	*	*	U (See Note #3)
Maximum Improved Lot Coverage	35%	*	*	U (See Note #3)
Minimum Front Yard Setback	35 Ft.	*	*	U (See Notes #3&4)
Minimum Side Yard Setback -One	9 Ft.	*	*	U (See Note #3)
Minimum Side Yard Setback - Both	20 Ft.	*	*	U (See Note #3)
Minimum Side Yard Setback – Both (% of Lot Width)	25%	*	*	U (See Note #3)
Minimum Rear Yard Setback	30 Ft.	*	*	U (See Note #3)
Maximum Height for Principal Building (Stories/Feet)	2.5Stories 30 Ft.	*	*	U (See Note #3)
Minimum Side Yard Setback-One	9 Ft.	*	*	U (See Note #3)
Minimum Rear Yard Setback	10 Ft.	*	*	U (See Note #3)
Minimum Distance between Accessory and principal structures	10 Ft.	*	*	U (See Note #3)
Maximum aggregate area covered by accessory structures in the yard it is located in	15%	*	*	U (See Note #3)

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Maximum Height (Stories/Feet)	1 ½ Stories 15 Ft.	*	*	U (See Note #3)
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C- Conforms, V- Variance, N – Existing Non-conformance, U- Unknown and requires additional information or testimony

Notes:

- 1) A golf course is not an Existing Non-Conforming Use in the R-100 (Very Low Density Single Family) Zone District.
- 2) Tennis courts must be unlit as per Zoning Code 150-7.7 E. An Existing Non-Conformance
- 3) Waiver from supplying “Area and Bulk Requirements” requested by applicant.
- 4) Tennis courts are not permitted in front yards as per Zoning Code 150-7.7A. This may be an Existing Non-Conformance depending on the distance from the R.O.W. line. The Applicant shall also testify concerning the Note on the Plan referring to the proposed R.O.W. line of Prospect Avenue.

Variances and Waivers Required/Requested for Block 601, Lot 1			
	Zone Requirement	Description	Status
1)	Zone Use	Golf Course is a Not Conforming Use, however it is existing	Variance Required
2)	Tennis Courts	Tennis courts must be unlit, however it is existing	Variance Required
3)	Area and Bulk Requirements	Waiver from supplying “Area and Bulk Requirements” requested by applicant.	Waiver Request
4)	Tennis Courts	Tennis courts are not permitted in front yards, however it they are existing	Variance Required

III) Engineering Plan Review

I reviewed the Plans under the Zoning Ordinance and Map, Chapter 150, Township of Verona for Engineering compliance and Safety. The following is the list of my findings, **new comments are in bold:**

General

- 1) The plans shall dimension the corner of tennis courts fence to the R.O.W. line of Prospect Avenue.
- 2) The plans shall include the zoning information including front yard setback form the proposed Prospect Avenue R.O.W. line. **A Waiver was requested.**

Fences

- 1) No fencing shall be installed within ten feet of a front lot line as per Ordinance 150-7.3D.
- 2) Fencing from the front façade of the building to minimum of ten feet from the front lot line shall be limited to three feet in height as per Ordinance 150-7.3I.
- 3) As provided under Section 150-7.7 a fence with a maximum height of ten feet shall be permitted incidental to a tennis or basketball court as per Ordinance 150-7.3O.

Landscaping

- 1) The landscaping plan shall explicitly show which trees and bushes are to remain and which are to be removed. As well as existing tree diamonds. The plan shall also show all and label all proposed trees and bushes: types, sizes and quantities.

Tennis and Basketball Courts

- 1) Tennis and full court basketball courts shall be permitted in the rear yard as an accessory use. No portion of the court or fence shall be located within ten feet to any property line as per Ordinance 150-7.7A.
- 2) Tennis and basketball courts must be unlit as per Ordinance 150-7.7E. The plans shall include a lighting plan for the existing lighting as well as the proposed lighting including lighting Iso lines.

Drainage

- 1) Existing tennis courts drainage piping (**labeled**) to be shown on Plan **CG101**, while **proposed tennis court drainage piping (labeled) to be shown on plan CG102.**
- 2) The existing discharge from the inlet in the drainage "B" area (**elevation, pipe size, etc.**) shall be shown on the plans.
- 3) The Elevations of the Trench Drain Grates along the edge of the tennis courts shall be added to the plans. The Applicant to show where the run-off between trench drains terminate.
- 4) On the Soil Survey Maps, the Tennis courts are in a URBON B soil type, while drainage area "B" is a UdbonB soil type. The two series have different "Cn" numbers. The corresponding "Cn" numbers should be used in the calculations. The existing shall use "Good Cover" for woods Cn=30 for .06 acres.
Testimony shall be given on the use of "Poor Cover" and not "Good Cover" for the wooded areas.
- 5) The path for the existing and proposed "tc" shall be added to the existing plan CG 101 and the proposed plan CG102. The length and slope of each segment of the "tc" path shall be labeled.
Testimony on why the initial point of the "tc" path does not extend into the area added to the watershed "A": both existing and proposed.
- 6) The tennis courts will be installing a "Hydro Court" system underneath the new courts. This system adds water through a series of cells to the under surface of the clay courts to keep an optimum moisture cover in the clay. Therefore, the clay will never dry out and since the clay will have a higher moisture content limit the absorption properties of the clay. This should increase the runoff from the courts since the pre-moistened clay at the start of a rain fall event will not absorb any initial runoff into the clay.
Testimony shall be given on the winterization of proposed hydro court irrigation system and how it simulates the existing system.

- 7) The Cn for the existing clay courts within the should not be 98 but reduced. Clay, although extremely impervious, when having a high moisture content, does initially absorb runoff when dry. Therefore it is my opinion that dry clay to be in the range of "densely gravel road" within its HSG class. However, the proposed tennis courts are installing a water system to keep the clay surfaces at a higher moisture content which will increase the runoff from the clay surface. Therefore, I am in agreement with the use of Cn=98 for the proposed clay tennis courts runoff.
- Testimony shall be given on the winterization of proposed hydro court irrigation system and how it simulates the existing system.**
- 8) The Applicant is overstating the current runoff calculations by improperly classifying the soil classification. The surfaces of the tennis courts are not a natural soil that should be taken out of the Soil Inventory simply due to their location. If the existing soils properties are unknown than soil testing and soil percolation testing to obtain a soil permeability rate should be performed to determine the exact nature of the clay surface. The Applicant's Engineer could have also utilized the protocol from the "NJDEP Stormwater Management Rules -- Best Management Practices" which would require a soil type "B" instead of a soil type "D" which was used within the Calculations. The use of Type "D" soils within the existing conditions calculations lessens the difference between the existing conditions and proposed conditions and minimizing or eliminates the amount of storm water detention required. If the existing conditions are maximized with Type "D" soils, instead of Type "B" soils, then the actual drainage system is not designed to the capacity required by the standards set by the NJDEP and the Township Stormwater Ordinances.
- The "NJDEP Stormwater Management Rules -- Best Management Practices" which states: "... , a soil's response to rainfall, measured by its ability to absorb and infiltrate some of that rainfall, is a required input parameter when computing both pre- and post-developed site runoff and recharge rates." If soil testing is not desirable or not an option to the applicant, the applicant's engineer should follow Section 1 which states: "demonstrates how to identify an appropriate Hydrologic Soil Group (HSG) for a soil with an unknown or questionable HSG including a method to identify an appropriate soil series name for an unknown or questionable soil. **Section 1. Methods for Identifying HSGs** states: "The soil type and HSG impact the computations to establish the existing groundwater recharge and existing runoff conditions necessary to evaluate compliance with the recharge and quantity control criteria of the Stormwater Management Rules." It continues "However in many areas in the State, surface soil conditions have been altered through cuts, fills or other disturbances and the soil surveys do not provide sufficient information with which to determine the hydrologic soil group and the associated hydrologic response."
- Therefore, the State instituted to remediate this issue **Section 1a. Default Hydrologic Soil Groups. Section 1a states:** "Where HSG information from a published or online NRCS Soil Survey is either unavailable or inconsistent with conditions in the field, Option 1 allows runoff computations for pre- and post-developed drainage area conditions to be based upon default HSGs. These default HSGs are shown in Table 1 below for drainage areas within and outside New Jersey's coastal plain shown in Figure E-1. If the designer engineer does not wish to utilize these assumed hydrologic soil groups, a process is outlined below to establish the HSG based on site-specific investigation." Since there is a lack of information on the existing soil and specific to its properties, the State does have an option where there is a "Default" soil type that can be utilized as an alternative to the testing. Therefore, the applicant's Engineer should use Table "1" once it is declared that

testing is not an option. This is a very conservative approach; however, the use of the Type "D" soils does not fully define the existing soil type and that somewhere in the middle of these soil classifications a suitable soil classification can be developed for this design.

Table 1: Default Hydrologic Soil Groups for Runoff Computations		
	Site Location within New Jersey	
Site Condition	In Coastal Plain	Outside Coastal Plain
Pre-Developed	HSG A	HSG B
Post-Developed	HSG D	HSG D

Further, with respect to the existing conditions actual percentage of impervious to pervious, the existing tennis courts site should not be considered 100% impervious, as represented in the Calculations, such as pavement, and in its existing dry condition is less than 100% impervious. The Applicant's Engineer should revise the existing condition runoff and revise the Stormwater Management Calculation accordingly. This would help establish the coverage areas for use within the calculations.

The Applicant's Engineer also shall either perform soil test analyses of the existing soils or prescribe to the following: "For the purpose of calculating runoff coefficients and groundwater recharge, there is a presumption that the preconstruction condition of a site or portion thereof is a wooded land use with good hydrologic condition. The term "runoff coefficient" applies to both the NRCS methodology and the Rational and Modified Rational Methods. A runoff coefficient of a groundwater recharge land cover for an existing condition may be used on all or a portion of the site if the design engineer verifies that the hydrologic condition has existed on the site or portion of the site for at least five years without interruption prior to the time of application. If more than one land cover has existed on the site during the five years immediately prior to the time of application, the land cover with the lowest runoff potential shall be used for the computations. In addition, there is the presumption that the site is in good hydrologic condition (if the land use type is pasture, lawn or park), with good cover (if the land use type is woods), or with good hydrologic conditions and conservation treatment (if the land use type is cultivation).

In addition, the Applicant's Engineer shall contact Mr. Edwin Muniz from the NCRS to discuss the HSG class for each soil listed on the soil Survey Maps. It appears that the Hydrologic Soil Group listed within the WSS portal for one or both are incorrect. The WSS portal classification of HSG class D is in error and should be HSG class A instead. If it is indeed a class "A" soil, than the Cn from HSG "A" must be utilized instead of the protocol as listed above and in used in item #7. The storm drainage report shall be revised to reflect this information.

Testimony shall be given on the use of CNs from the four hydrologic soil group (A,B,C,D) and the storm flow differences in each HSG as well as the use of the "Worst Case Scenario" from all four calculations. Also, any discussions with Mr. Edwin Muniz from the NCRS shall be put on record.

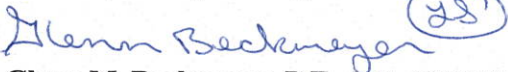
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- 9) **Testimony on why "Woods" of 0.09 acres was removed from "Present" existing practice range and added to the existing tennis courts (This is following through to the Developed CN calculations as well). This also changes the total acres within each "Watershed"**
- 10) **Testimony shall be given on why the small strip on wooded area between the road and the practice area, 0.09 acres, was added to watershed "A"(tennis courts) and removed from watershed "B" on existing watershed map CG101 dated July 15, 2020. The existing topographic appears to dictate that this area presently flows to watershed "B".**
- 11) **Testimony on the selection of "Fort Mott" shall be given.**

The above results are intended to point out the sections that are not in compliance (open) with the Ordinance along with my comments. I will finish the technical review on the open items when the applicant resubmits a site plan that covers (or answers) the non-compliance's or is granted the requested variances. It shall also be the intent of the applicant to follow all rules and regulations in accordance with New Jersey Department of Environmental Protection. Review and Approval by the Essex County Planning Board is required, with a copy of the Approval and correspondence submitted to the Township. Should you have any questions regarding this matter, please do not hesitate to contact me.

**Yours Truly,
Beckmeyer Engineering, P.C.**



**Glenn M. Beckmeyer, P.E., P.P., CME, CFM
Township Engineer**

**Cc: Tim Derrick P.E.
Michael DeCarlo, Engineering Manager**