Verona Environmental Commission
600 Bloomfield Avenue
Verona, New Jersey 07044
www.veronaec.org

November 16, 2023

Dear Mayor Tamburro, Town Council Members, Town Manager D'Arco, and Deputy Town Manager O'Sullivan, (Township of Verona Governing Body)

Re: Everett Park Site Improvements (Block 707, Lot 10),
Verona, New Jersey

The purpose of this letter is to provide the Governing Body of the Township of Verona with recommendations from the Verona Environmental Commission (VEC) regarding the redesign and reconstruction of Everett Field. Our recommendations pertain to the overall design, drainage, steep slopes, green infrastructure, and materials for use.

FACT-FINDING DATA

The Great Lawn
Everett Field, and the entire surrounding site was purchased by Fillmore Condit circa 1890. Seeking a more pastoral lifestyle for his family, he built their country home on Elmwood Road and began subdividing the lots surrounding this parkland for other families' homes. The Condit's son, Everett, suffered from tuberculosis and in an effort to improve his condition, Mrs. Condit created a health retreat on what they called, "The Great Lawn," where Everett, family members, and other children would camp for weeks at a time to escape the pollution from the growing industrial complex in more developed areas. This rehabilitation was thought to have helped Everett and even extend his life. He went on to study engineering at Stevens Institute and graduated in 1905. Unfortunately, in March of 1911, Everett suddenly succumbed to his illness. That same year, the Condit family donated The Great Lawn to Verona and the Borough Council renamed it Everett Park.

Everett Field's rich history of providing a healthy, safe, recreational respite for children should be maintained by our Township Council in perpetuity.

Proposal for Everett Field
On Monday, October 16, 2023, the Verona Town Council held a public presentation with a proposal for redesigning Verona's beloved Everett Field. The presentation was led by engineers from Neglia, who estimated the cost for their proposal at roughly $4.5 million dollars.

The preliminary plans propose the disturbance and regrading of steeply sloped areas as well as related tree removals on the west, north, and east sides of the playing field. Due to the slope encroachment, the plans call for the construction of retaining walls up to 14 feet high in certain areas. These walls are shown flanked by raised bleachers, paved walkways, and patios areas. The plan also proposes to add two bullpens on the outsides of each dugout and a 2-story announcement booth above a snack bar directly behind home plate. About 52 parking spaces are proposed on a permeable pavement material and an approximately 3,000-ft^2 playground area is proposed in the southeast corner of the property. The field itself is proposed to be a synthetic turf field.

See proposal plans here.

Verona Zoning Code Regulations

1) **Steep Slope Ordinance**

In April of 2016, the Verona Town Council adopted Article XXIII, Steep Slopes, to the Verona Zoning Code, §150. The regulation was long overdue, as it had been an established goal and objective of Verona's 2009 Master Plan. This ordinance restricts disturbance of a precautionary slope (15 percent or greater) to no more than 50 percent of an identified area and restricts disturbance to no more than 5 percent on prohibitive slopes, or slopes that are 25 percent or greater. Further, §150-23-9M clearly states that no exceptions shall be granted if the property owner can create or build upon the lot on which the prohibitive slope is located without the benefit of such exception. Clearly, Everett Field can be renovated without encroaching into the slopes.

Everett Field's existing conditions and intentional design support its current horseshoe-shaped steep slope surround. The wooded slopes, providing a 10- to 20-foot elevation increase, not only shield the surrounding neighborhood from field lights but also mute noise levels during the field's most active seasons of the year. This natural feature has lent to the harmonious balance between a charming, historic, residential neighborhood and a little league field for over a century. There are alternate design capabilities that have not been explored that eliminate the proposal to disturb the protective, natural slopes surrounding the field.

We estimate about 1,950 ft^2 of proposed disturbed area on prohibitive slopes (25 percent or greater slopes) north and west of the field and about 540 ft^2 of proposed disturbed area on prohibitive slopes east of the field.

2) **Retaining Walls**

§150- 7.12 prohibits retaining walls over 6 feet in height anywhere on a property. There are multiple safety reasons for these regulations, especially when installed on a park that hosts hundreds of families and young athletes throughout the year. The concept plan from Neglia promotes retaining walls that are as tall as 14 feet in height in certain areas and in excess of the 6-foot maximum height requirement in multiple other areas surrounding the field. The wall height, itself, crystallizes the steepness of the existing wooded slopes. The disturbance of the steep slope and the proposed wall height can both be avoided by simply shifting the field's position on the site.

The proposed plans do not indicate what type of wall is proposed to retain soil as high as 14 feet. However, if a reinforced segmental retaining wall (SRW) or gravity wall is chosen, there will be a more significant footprint needed to support this structure than the 1-foot-wide wall depicted on the plans. In general, the length of the reinforcement for a SRW is generally between 60 and 70 percent of the height of the wall. We estimate that a planned setback excavation to construct a reinforced SRW would need up to 10 feet of plan area, which would extend to the east sidewalk along Elmwood Road. There may be other wall approaches that could be installed to retain the slope, but there should be some additional thought put into this issue as the design for the field progress.

If encroachment into the slope is required for the project, in lieu of a vertical retaining wall we would recommend that a similar benching occur into the slope to create a more natural and less intrusive viewing area, similar to the block bleachers that currently exist at the site.

3) **Verona's Tree Ordinance**

Directly related to steep slopes, the Verona Tree Ordinance, §493, prohibits the removal of trees from steep slopes. This prohibition is clearly stated in Article II, section 23-A(10):

> "If any area of the property for which the tree removal permit is sought meets the definition of a "steep slope," as set forth in § 150-23.4 of this Code, then no mature trees shall be removed from such area unless certified by the Township Forester to pose a threat to the public health, safety, or welfare."

Trees lend a plenitude of benefits to our properties and lives, but in steeply sloped areas, they are even more critical. Trees reduce stormwater runoff not only by intercepting rain on leaf canopies, but by ground infiltration through their extensive root systems. These root systems hold the soil in place, preventing erosion. Trees more than grasses or other plants provide more effective erosion protection because their root systems grow much deeper and extend much further than other plant systems. And because tree roots, in many cases, can grow beyond the canopy of a tree, the root systems of many existing trees will likely be damaged by the disturbance of the steep slopes and the construction of the proposed retaining walls. Aside from removing trees in this prohibitive area, this proposal will have an injurious effect on the survival of the remaining trees in the newly walled steep slope areas.

4) **Stormwater Management**
The stormwater management proposed for the entire field appears to be dependent upon a permeable pavement system in a proposed parking area. This proposed structure includes an underdrain system that would pipe overflow to the municipal stormwater system. The engineers do not appear to have completed a survey of the existing drainage on the site (not shown on the proposed plans) and have not conducted soil borings that would confirm the soils' permeability or depth to the seasonal high water table (SHWT); the results of which would dictate whether a permeable system could work with or without underdrains, or whether such a system could even serve as a feasible utility on the site. Without surveys and soil testing, the data is incomplete and cannot guarantee the proposed design.

If the results of testing do support a permeable paver system, then there are other opportunities for green infrastructure installations on this site that have not been presented on the plans. For example, there is ample space for two or more bioretention basins; one to be situated "downstream" from the permeable system (between the ROW and the proposed parking or the field and the proposed parking) with curb cuts to provide for sheet flow, and another in the area proposed to include a playground. A properly re-graded grass field would be capable of infiltrating water infield, while draining over a gentle slope to the south and southeast towards these best management practices (BMPs). Depending on the SHWT, soil boring results, etc., these features may also be designed to perform on-site recharge.

Addressing the overall grading and performing aeration on Everett's grass playing field will successfully improve drainage and field conditions that will increase the hours of use by residents, while significantly reducing if not eliminating weather-caused use suspensions. Management of water and the proper drainage and underdrainage of any proposed field is paramount to the success of this project. Therefore, it is critical to understand the existing drainage conditions of the site and estimate the SHWT (direct observations would need to occur during the typical period of elevated groundwater seen in January through April).

Artificial Turf vs. Natural Grass Fields
Over the past 10 years, artificial turf fields have revealed a great many detriments to those that play on the fields, to our environmental wellness, and to burgeoning township debts for both maintenance and replacement. Recent data points to a notable increase in contact and non-contact injuries, whereas natural grass fields are safer, softer, and cooler. They avoid the environmental harm and long term health risks associated with the manufacturing process, installation, use, and eventual landfill disposals of the artificial turf.

1) **Surface Temperature Safety**
Research has proven that the temperature on artificial turf can become 40 to 70 degrees higher than surrounding air temperatures and can reach well above 160+ degrees on hot sunny days. Conversely, grass fields rarely measure above 100 degrees and due to transpiration, maintain a cooler, safer surface temperature. This extreme heat can create discomfort for players and increases the risk of heat related illnesses like dehydration and heatstroke. The effect on children, whose smaller stature brings them closer to the heated surface, is that much more substantial. Artificial turf also retains heat,

which means the turf remains hot, even impacting evening games and practices.

2) **Heat Islands**
A heat island study was recently conducted in the Township of Verona by Sustainable Verona's Green Team. Heat islands are defined as local hotspots in developed areas that experience increased temperatures when compared to neighboring natural areas. During their study, it was found that the Verona High School lower turf fields, when measured at the 50-foot yard line on a 92 degree August day measured 130 degrees at 2 p.m., versus 99 degrees measured at the perimeter of FN Brown's natural grass field, and only 3 feet away from a hot asphalt walkway. Turf fields have become associated with urban heat islands in multiple townships across New Jersey as the move away from turf field installations has taken hold in Maplewood, Westfield, Scotch Plains, Princeton, Ridgewood, and Montclair.

The heat island effect contributes to complex air quality problems, such as increases in ground level ozone, fine particulate matter, and reduced air quality. Everett Field's location, along a four-lane, major county thoroughfare can significantly impact air quality on a turf playing field lending to increased carbon dioxide, and other greenhouse gasses, microplastics, toxins and other heavy metals. All these chemicals end up in our soil, water, and air.

3) **PFAS and Environmental Impacts**
Verona has recently bonded approximately $9 Million dollars for PFAS remediation of our wells. This after bonding $500,000 earlier this year and other monies last year for the remediation and improvement of the same. It seems counterintuitive to endorse the installation of a product that undermines a multitude of safe environmental conditions and lends to PFAS runoff from both the turf and the infill products.

Turf fields, which have an approximate life expectancy of 8 to 10 years and are a source of PFAS, cannot be recycled, and eventuate in landfills after decommissioning of a turf field, where their chemicals will continue to leach into soil and groundwater for years afterwards.[1]

4) **Crumb Rubber (SBR) and TPE**
Approximately 85 to 90 percent of artificial turf, a plastic based product, is laid with crumb rubber infill and the balance is using thermoplastic elastomer products (TPE). Neither of these biodegrade and both contain chemical constituents found to have toxic effects. Crumb rubber, usually produced from recycled tires contents, and TPE are found in athletes' hair, ears, clothing, socks, shoes, in turf burns and abrasions. Exposure was also found to occur through incidental ingestion and breathing in small particles or vapors release from the heated fields. Among the many harmful chemicals, metals, and substances in each of these products, are phthalates. Studies have linked phthalates to hormone disruption, reproductive problems, and cancer.

RECOMMENDATIONS

The role of the VEC, in part, is propose conditions for maintenance, improvements, protection, and limits of future use of land within the municipality. Although we agree that Everett Field is undoubtedly in need of restoration, we question the reliance of the governing body on one proposal from one engineering firm whose extremely high-priced proposal does not appear to consider the following:

a) How existing site conditions currently harmonize with the surrounding residential area.
b) The site's existing, sensitive topographical conditions.
c) The disturbance in steep slope areas and the construction of monolithic retaining walls.
d) Regrading and deforestation of steeply sloped areas rather than shifting and regrading areas toward perimeter stormwater BMPs.

[1] https://dep.nj.gov/wp-content/uploads/dsr/pfas-artificial-turf-memo-2023.pdf

e) Increase of cacophonous noise (noise pollution) and increase in light spill (light pollution) from removal of slope and old-growth trees emanating from newly created elevated, pedestrian perimeter areas as well as from the elevated announcer's structure outfitted with a public announcement system.
f) The short and long term impacts on young athletes' well-being and our overall environmental health stemming from the proposed installation of artificial turf.
g) Installation of natural grass field over synthetic turf and related infill materials and long term costs for replacement turf and materials.
h) Green infrastructure installations (bioretention basin- rain garden) instead of impervious playground areas.
i) The challenging traffic flow of the area.
j) The lack of adherence to Verona Zoning and General Codes as referenced in this memorandum.

As Verona struggles to build and repair critical infrastructure for basic public safety; flood protection, upgrades to our water and sewer infrastructure, utilities infrastructure (water and sewer treatment plant), drinking water infrastructure, roadway repairs and reconstruction, public safety building infrastructure and replacement/maintenance of expensive worn turf on other recreational fields, we think that any development should be more sensitive to the numerous environmental issues indicated in the above text.

Therefore, we recommend alternative designs be solicited that integrate low-impact development and green practices, and that uphold environmental laws and related values, for an improved recreational field that all of Verona can enjoy and cherish in good health. Simultaneously, by respecting the existing topographical and natural conditions of the site, and relying on a natural grass surface, the Township can achieve a more acceptable and environmentally suitable result.

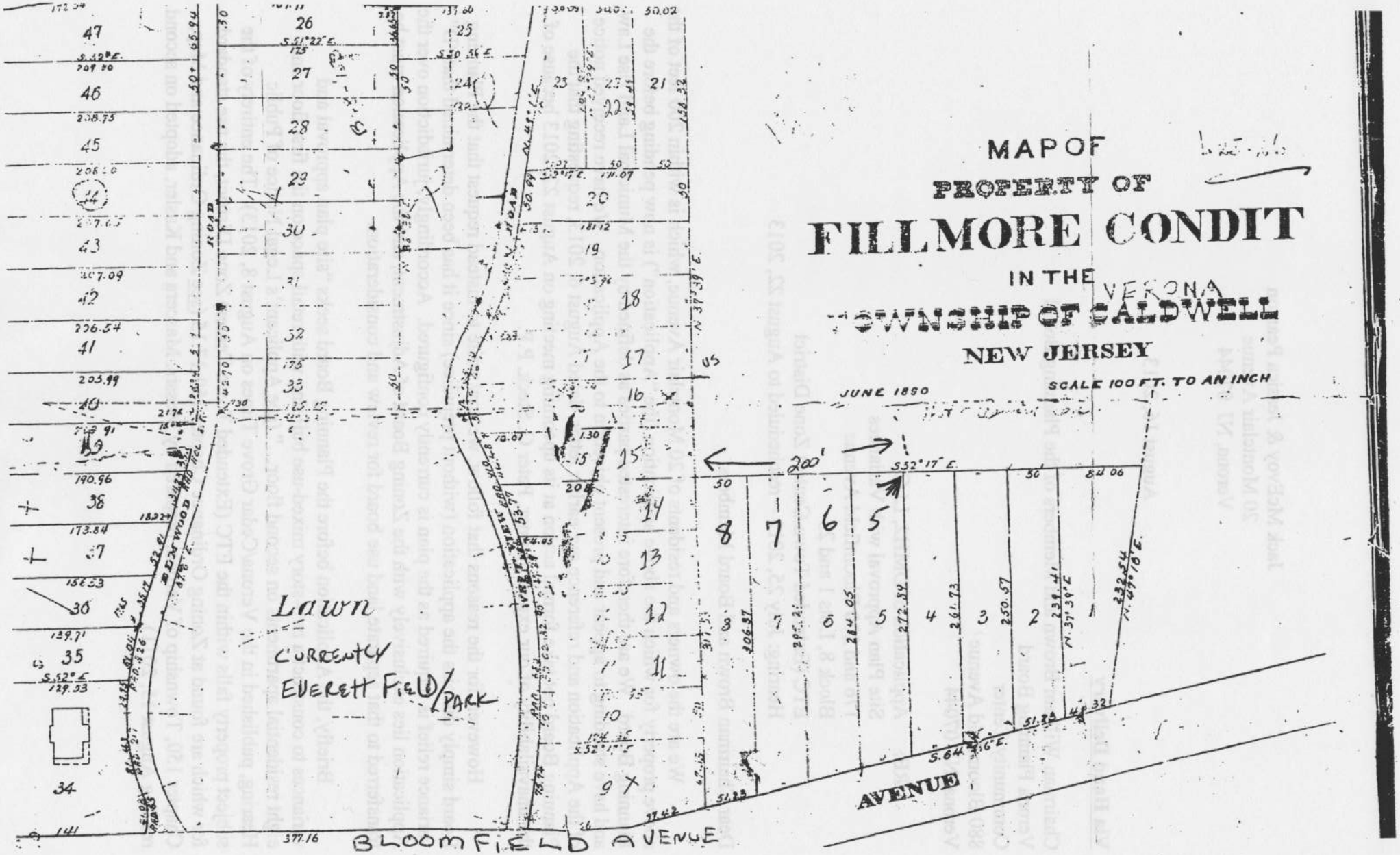
CLOSING

We thank the Verona Governing Body for their consideration of this recommendation and look forward to hearing your response.

Regards,

Jessica Pearson
Chair VEC

Sean DiBartolo
Vice Chair VEC


MAP OF
PROPERTY OF
FILLMORE CONDIT
IN THE
VERONA
TOWNSHIP OF CALDWELL
NEW JERSEY
JUNE 1890
SCALE 100 FT. TO AN INCH
200'
Lawn
CURRENTLY
EVERETT FIELD/PARK
BLOOMFIELD AVENUE
AVENUE
BEDFORD ROAD
ROAD