



Berkeley Heights Environmental Commission

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MEMO

June 19, 2023

TO: Planning Board

Subject: **Connell North Grove and West Sports Courts: Block 4301, Lots 1.03, 1.04, 1.05, & 1.012**

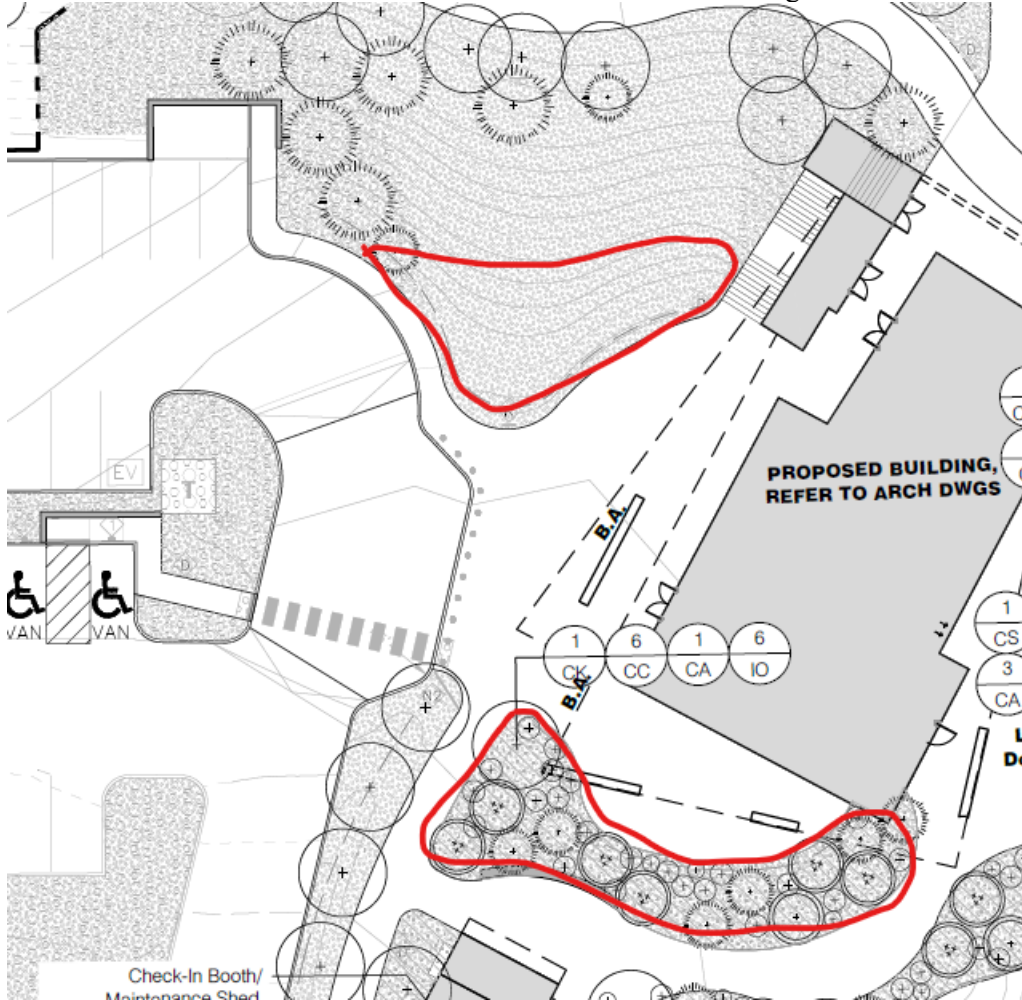
Findings of Fact:

- Applicant proposes mixed use development for the subject.
- Groundwater recharge apparently ranges from less than 6 inches to as much as 12 inches a year.
- Slope apparently ranges from 3 to 25 percent.
- Plan for tree removal and replacement is included as is a planting schedule noting 82% native trees, shrubs and ground cover (Preliminary and Final Site Plan drawing L420).
- Lighting plan designates downward-facing LED lighting.
- On March 2, 2020 the New Jersey Department of Environmental Protection published amendments to the Stormwater Management Rules, N.J.A.C. 7:8, for purposes of replacing the existing requirements.
- DEP's new rules require green infrastructure to reduce pollution and flooding from stormwater runoff.
- Stormwater management report indicates the soils in the project area consist of Amwell-Urban land complex, which form a hydrologic soil group "C" and cites NJAC 7:8 2.4(g).
- The application documents show two bioretention basins on Langan drawing CG202, but the plantings on the MVVA Landscape documents do not seem suitable for bioretention basins .
- Two members of the Environmental Commission walked the site with representatives from Connell.
- Connell acknowledged that run off from route 78 comes onto the property. Riprap to slow the flow was visible at various points at the north side of the property.
- An Intergovernmental Panel on Climate Change report notes that green infrastructure (rain gardens, bioswales, wetlands) can have benefits for ecosystems and sustainable development goals.
- The NJ Climate Resilience Strategy prioritizes green infrastructure to augment stormwater management.
- Green Infrastructure that includes trees promotes carbon sequestration.
- Connell also addresses stormwater runoff with stone trenches, swales and underground infiltration basins. It is not clear what vegetation may be planted in the swales.
- Bioretention basins (rain gardens) may be not only less expensive to install, it is easy to see if they are functioning, and the vegetation in these basins promote beneficial insects (pollinators) and food for birds.

Recommendations:

- The Commission strongly recommends table 5-1 *Green Infrastructure BMPs for Groundwater Recharge, Stormwater Runoff Quality, and/or Stormwater Runoff Quantity* and table 5-2 of NJAC 7:8. Bioretention basins or rain gardens are suitable in hydrologic soil group "C". Bioretention basins with native plants can achieve the goal of retaining stormwater recharge. They can easily be incorporated into the landscape design and indeed can enhance the landscape.
- The applicant should revise the plantings for the bioretention basins. For the bioretention areas the Commission recommends that the applicant comply with Stormwater Best Management Practices Manual 9.7, SMALL-SCALE BIORETENTION SYSTEMS, and Stormwater Best Management Practices Manual 7, LANDSCAPING.

- The Rutgers Green Infrastructure Guidance Manual is available at [Water Resources Program at Rutgers NJAES](#)
- The Commission also recommends the applicant consider a Pervious Paving System for some areas.
- The applicant might also consider a large cistern to collect stormwater runoff and use it to irrigate the landscape plantings.
- *Symphoricarpos orbiculatus*, coralberry, and *Rhus aromatica* 'Gro-low' are listed under Ground cover M2. These plants would seem to be suitable for the north slope between the highway and the walking path. Please consider them for this area.
- The Commission recommends the areas circled in the drawing below for additional bioretention.



Drawing from L401 Tree Planting Plant from MVVA Plans

- The Commission also recommends the applicant reduce post construction runoff of stormwater, not just peak rate

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