

Ortega Park Preliminary Design

RRM Design Group

November 11, 2020

The following is in response to Heal the Ocean Letter, dated November 8, 2020:

Drainage & Stormwater, See below

III. ISSUE: STORMWATER

Heal the Ocean has reviewed Attachment 13 Stormwater Quality Report prepared Feb. 27, 2020 by RRM Design Group – which includes infiltration rates, bioretention, and other aspects of stormwater requirements. We note that the subcatchment analyses is included for **grass cover** (p. 11-13 of the RRM report). This report, as well as additional stormwater infiltration testing BMP report done by Earth System Pacific Ventura (May 31, 2019) **do not include tests for artificial**, which is now part of the plan for the Ortega Park ballfield and playing grounds. Since artificial turf is composed of plastic, it would greatly influence bioretention and stormwater runoff calculations. These should be redone to fulfill requirements regulating stormwater.

Section three, page seven discusses stormwater and infiltration considerations of artificial turf compared with natural turf. RRM Design Group prepared a Preliminary Stormwater Quality Report, dated February 27, 2020 which addresses the proposed change from natural to artificial turf at the sports field. The proposed synthetic turf section provided in the report (Detail B, Exhibit 3) shows 8.5" of drain rock and amended native soil that will allow for greater infiltration rates than the existing natural turf. The addition of drain rock will allow for greater retention and infiltration of stormwater by providing void space to retain stormwater while allowing it more time to infiltrate into the soil below. The increase in available retention lowers both the volume and peak flow of runoff from the site as compared to existing natural turf. Calculations are provided on page three of the report to explain how the Curve Number for the synthetic turf was determined. The proposed synthetic turf area is included as a separate coverage in all calculations and is not regarded the same as landscape or natural turf areas in any section of the analysis.

Infiltration testing on the existing soil was performed by Earth Systems Pacific in May of 2019. The testing was done to determine whether the infiltration rates of the existing soil were suitable for infiltration BMPs. The tested infiltration rates were not and should not be used to determine infiltration rates of the proposed synthetic turf. Hydrologic characteristics of the proposed synthetic turf were determined through calculations as described above, and additional infiltration testing of synthetic turf is not necessary to account for the effect its use will have on stormwater runoff at the project.

Artificial Turf & Design, See below (P. 2-3)

IV. ISSUE: ARTIFICIAL TURF

The plan to replace natural grass with artificial turf needs full study, and new stormwater calculations should be made for runoff. There are numerous studies of artificial turf that need to be examined for the Ortega Park project. From Maya K. van Rossum/Delaware Riverkeeper in Huffington Post: “...while typical lawn grass provides a limited degree of pollution filtering and opportunity for rainfall to saturate the soil before letting it run off into local creeks and streams, **artificial turf provides no such benefits.**” (*Attachment 7*)

But further, the composition of artificial turf also has to be considered for its potential polluting effects. It is basically plastic grass made up of three major parts: 1. Backing material that will serve to hold the individual blades of artificial grass. 2. The plastic blades themselves. 3. The infill, those tiny black crumbs, that helps support the blades. Various pigments are used to provide the green color of the blades. These can include lead or titanium. The little black crumbs (infill) are made from tires, which can be toxic. Modern tires are a mixture of natural and synthetic rubber, carbon black – a material made from petroleum.

The above-referenced article by Maya K. van Rossum is certainly not the first and last reference to the environmental pitfalls of artificial turf, but such issues as she raises need thorough examination. She cites studies have found that artificial turf is: leaching toxins into our environment – **like polycyclic aromatic hydrocarbons, phthalates, arsenic, cadmium, chromium and lead, and “...runoff from an artificial turf field that drains to a local creek can pose a risk of toxic effects.”**

In addition, van Rossum cites **sports injury severity**, because of hard surface quality, and also that heat islands created by artificial turf can get up 140 degrees, increasing the potential for skin burns and infections.

The author adds her own subjective opinion about the use of plastic grass. Though not pertinent to environmental review, Heal the Ocean believes these thoughts should be considered in light of the purpose of the Ortega Park plan: to create a welcoming place where kids and family can play. She says:

talking to friends, and that will cool their backs as they lay back to watch the clouds blow by, or cushion a fall during a sports game, is a small but significant quality we should protect in their lives.”

If quality of life is a serious consideration for City planners, the cost of water, or recycled water, pumped to the park for genuine, cooling grass, should be calculated.

Community Outreach & Master Plan Process

The Master Planning process for Ortega Park began in 2018. A variety of community outreach efforts were conducted early on and throughout the initial conceptual design phase that included public workshops, on-line surveys, and stakeholder meetings. During these events, the community weighed-in on the option to have an athletic field comprised of natural grass or artificial turf and participants exhibited strong support for a soccer field with synthetic surfacing and sports lighting in the Community. (Reference Master Plan Report 01/18/2019 P. 24, 22, 13.)

RRM also received feedback from park users on various amenities and the desire to have an open, natural lawn area with the goal of providing informal space for picnicking, relaxation, and to observe adjacent playground activity and sporting events. This was incorporated into the preferred design concept alternative for the Master Plan, approved by City Council in 2019 and further developed in the Preliminary Park Plans prepared by the City of Santa Barbara Parks and Recreation Department and reviewed by the Architectural Board of Review in 2020. Key to the design of the synthetic athletic field proposed in the plans was to include a request by City residents to have a youth baseball field *and* a soccer field in the same resilient surface within the Park. The flexibility to have a multi-use facility that offers both soccer and youth baseball makes for an efficient configuration of recreational area with limited space available that benefits multiple user groups through-out the year. (Reference current Master Plan & Preliminary Design Package 07/15/2020.)

Maintenance and Hours of Available for Play

A primary consideration for the proposed implementation of synthetic athletic fields included the evident need for a facility to be open for use throughout all 4 seasons, 12 months of the year, and during the evenings by permit. The increase of playing time and significant reduction of required water use, maintenance, and associated costs to be incurred by the City for the upkeep of fields was an additional factor generating support for the City to proceed with the integration of a multi-use synthetic sports field into the Preliminary Design Plans. Reduced sports field maintenance, avoidance of field closures for upkeep, and increased savings in water use budgets continues to be a priority among recreational facilities being offered throughout the City.

Product Reliability and Safety

Synthetic grass athletic fields are widely used throughout California schools and community parks, including many on the Central Coast such as San Marcos High School, UCSB, and Santa Maria High Schools. Alternative, eco-friendly infill material is available from many manufacturers and more commonly used on synthetic fields today. However, crumb rubber infill is still used in community parks and school athletic facilities in California. Ortega Park will also include a wah-down sprinkler system, allowing the City to periodically spray the field and remove substances from the surfaces of the blades.

There are a number of other factors to consider when comparing natural grass to synthetic turf:

- No heavy irrigation, pesticides or fertilizers needed
- No contaminated stormwater runoff from pesticides and fertilizers
- Endures high traffic from every sport and easy to maintain
- At the end of its lifecycle, all components of certain turf systems can be recycled
- Synthetic turf grass undergoes stringent testing from the Synthetic Turf Council for chemicals, pesticides, and metals
- Currently, synthetic turf is designed with multiple components for safety and with sustainability in mind, including eco-friendly infill and alternative materials for shock pads for attenuation from select product manufacturers.