



VERDE DESIGN

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June 9, 2023

Mr. John Wanger, PE  
City Engineer  
City of Piedmont  
Delivered via Electronic Mail

RE: Piedmont HS Track and Field Reconstruction Project  
Witter Field Drainage Analysis – Existing versus Proposed Conditions

Dear John:

Verde Design has been retained by Piedmont Unified School District to develop a design and construction documentation package that addresses the existing Witter Field drainage problems (as well as resurface the existing all-weather running track and provide accessibility improvements to the immediate surrounding paths of travel, accessible stadium seating, and accessible parking spaces). The project, with a construction contract already executed, is imminent.

The existing synthetic turf field has not been draining properly for over a decade, with the initial problems identified as far back as 2008, and steadily increasing in frequency and severity during seasonal storm events. A drainage report was commissioned by the District in 2017, and Verde Design was retained to redesign a new subsurface drainage system and permeable base section for a new Witter turf field.

The new field design will utilize a 9-inch deep section of permeable rock throughout the porous synthetic turf field. Along the field sides (i.e. low points of the field), a new perforated subdrain trench is capturing the infiltrated rainfall from the field and the permeable rock base. This water is ultimately making its way out to the existing manhole at the southern edge of the football field, which in turn is connected to the existing City box culvert.

Existing surfaces outside the track and field are not being changed (as noted above, pavement areas that are not in compliance with current Title 24 ADA provisions are being reconstructed to address the deficiencies). As such, there is no change to the existing conditions in terms of increase in project watershed area that is being directed to this manhole.

For the track and field renovation area, the existing footprint (which will not change as part of the project) is 144,204 square feet (approx. 3.31 acres). Utilizing the Rational Stormwater Runoff Calculation for a 25 year storm event in Piedmont (using a time of concentration of 15 minutes), the difference in the pre- (i.e. existing condition) and the post- (i.e. post-renovation) condition for the track and field footprint has been calculated to be a **net increase of 0.25 cfs** (existing flow rate for the track and field is 4.00 CFS, calculated proposed flow rate will be 4.24 CFS). The minor increase is due to the conversion of some of the synthetic turf in the D-zones (the event spaces for track between the running track oval and the turf football field) to all-weather track surfacing, which will have a slightly higher runoff concentration.

John, please feel free to get in touch with myself or the District if you have any further questions on the project. Thank you for your assistance in reviewing this matter collaboratively with the District.

Sincerely,  
**Verde Design, Inc.**



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Devin Conway, PE  
Principal

cc: Piedmont Unified School District Distribution  
Verde Design Distribution