TOWN OF PORTOLA VALLEY
REGULAR PLANNING COMMISSION MEETING
765 Portola Road, Portola Valley, CA 94028
Wednesday, March 20, 2013 – 7:30 p.m.
Council Chambers (Historic Schoolhouse)

AGENDA

Call to Order, Roll Call

Commissioners McIntosh, McKitterick, Targ, Chairperson Von Feldt, and Vice-Chairperson Gilbert

Oral Communications

Persons wishing to address the Commission on any subject, not on the agenda, may do so now. Please note, however, the Commission is not able to undertake extended discussion or action tonight on items not on the agenda.

Regular Agenda

1. *Continued Public Hearing:* Application for amendment to Conditional Use Permit (CUP) X7D-30 for parcel merger and expansion of athletic fields with new track and artificial turf infill at 302 Portola Road, Woodside Priory School, Initial Study/Mitigated Negative Declaration

Commission, Staff, Committee Reports and Recommendations

Approval of Minutes: March 6, 2013

Adjournment:

ASSISTANCE FOR PERSONS WITH DISABILITIES

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the Planning Technician at 650-851-1700 ext. 211. Notification 48 hours prior to the meeting will enable the Town to make reasonable arrangements to ensure accessibility to this meeting.

AVAILABILITY OF INFORMATION

Any writing or documents provided to a majority of the Town Council or Commissions regarding any item on this agenda will be made available for public inspection at Town Hall located 765 Portola Road, Portola Valley, CA during normal business hours.

Copies of all agenda reports and supporting data are available for viewing and inspection at Town Hall and at the Portola Valley branch of the San Mateo County Library located at Town Center.

PUBLIC HEARINGS

Public Hearings provide the general public and interested parties an opportunity to provide testimony on these items. If you challenge a proposed action(s) in court, you may be limited to raising only those issues you or someone else raised at the Public

Hearing(s) described later in this agenda, or in written correspondence delivered to the Planning Commission at, or prior to, the Public Hearing(s).

This Notice is posted in compliance with the Government Code of the State of California.

Date: March 15, 2013

CheyAnne Brown
Planning Technician

MEMORANDUM

TOWN OF PORTOLA VALLEY

TO: Planning Commission

FROM: Tom Vlasic, Town Planner
Karen Kristiansson, Principal Planner

DATE: March 15, 2013

RE: Continued Public Hearing, Application for amendment to CUP X7D-30 for parcel merger and expansion of athletic fields with new track and artificial turf infill at 302 Portola Road, Priory School, Initial Study/Mitigated Negative Declaration

Introduction & Recommendation

On March 20, 2013, the planning commission will continue the public hearing on this application. The public hearing was first opened at the commission's December 5, 2013 meeting and continued to the March 6, 2013 meeting to permit time for comments on the proposed project and CEQA document to be considered and formulated into final staff recommendations. At the March 6 meeting, the commission considered the DATE staff report, input from the applicant, and comments from the public. After discussion, the public hearing was further continued to March 20 so that commissioners could visit examples of the proposed Field Turf Revolution fiber that have been installed in nearby locations. In addition, several refinements and clarifications were requested for the Initial Study for the project.

At the March 20 continued hearing, the commission should receive the staff report, take additional input from the applicant and the public, and formally close the hearing. Based on commission discussion at the March 6 meeting, we understand that the objective for the March 20 meeting is to consider the additional information from field checks and the clarifications presented herein and to complete action on the application. To do this, the following actions would be needed:

1. Approval of the Initial Study/Mitigated Negative Declaration;
2. Approval of the project with the attached conditions and any other conditions which the planning commission feels are necessary.

The information below has been developed to support these actions. The data and possible actions have been shared with the applicant and have been reviewed with the

town attorney. The town attorney will be present on March 20 to provide input and answer questions as may be necessary.

Proposed Project and Previous Consideration

As a reminder and for reference, the proposed project would merge the 1.3 acres former Rutherford/Gambetta ("Rutherford") parcel, now owned by the Priory, with the existing Priory land, remove the berm between the Rutherford parcel and the softball field, relocate the sewer line that is currently located within that berm, underground the utility lines that run along that berm, and install a regulation-sized track facility with 2.39 acres of artificial turf on the interior. With the parcel merger, the total Priory land covered by the Conditional Use Permit (CUP) would be 50.4 acres. More information about the project was provided in the staff reports for the December 5 and March 6 planning commission meetings, which are attached.

The project has been considered at eleven previous meetings of the planning commission and/or the architectural and site control commission (ASCC). Information about these meetings is provided in the attached staff reports, and minutes for each of the meeting can be accessed through the town's website.

Issues for Discussion

At the March 6 planning commission meeting, the commission determined that the one issue that needed more consideration was the aesthetics of the artificial turf. In addition, a number of refinements and clarifications were requested relating to the Initial Study for the project. These are reviewed below. In addition, after the meeting Commissioner Targ requested additional information about the drainage of the field, specifically related to whether or not the field should be considered pervious. That information is also provided below.

Aesthetics of the Artificial Turf

To be able to fully assess the aesthetics of the proposed project, commissioners agreed to individually visit a nearby site where the Revolution turf fiber has been installed. The attached memo dated March 12 lists these sites and was sent to the planning commission on March 12 and also made available on the town website. As is stated in the memo, these fields do not have the same infill material that is proposed for the Priory. The visual impact of a field, however, especially from a distance is determined primarily by the fiber and not the infill. As a result, these examples should provide a reasonable sense of what the turf fiber would look like.

Another difference between the Priory field and the local examples is that all of the other examples have permanent striping, and many have logos painted onto the fields as well. The field at the Priory will not have any permanent markings, but will be temporarily striped just as the current natural grass field is. For perspective, it is also recommended that views of existing grass fields in town, including those at the Priory, Rossotti field and the town center be considered. It is important to consider the grass material with temporary lines, as is the case with the grass fields in town. The dominant visual element with the artificial turf fields is the permanent markings, particularly on the football fields.

Also, in viewing the example fields, commissioners and members of the public should bear in mind that most views of the field will be from Portola Road and the trail along Portola Road. The proposed Priory field would be 42 feet from the trail and 65 feet from Portola Road. In terms of elevation, the trail and the road are about 10 -14 feet higher than the proposed track and field at the points with the greatest elevation differences. In addition, there will be some landscaping between the trail/road and the field.

On March 20, members of the commission will need to discuss the aesthetics of the proposed turf in light of what the commissioners found on their visits to the various example fields. Aesthetics are considered both in the IS/MND and for finding #6 of the conditional use permit (consistency with the general purposes of the general plan and zoning ordinance). At the March 6 meeting, Commissioner Gilbert suggested that additional vegetative screening could be appropriate if the artificial turf is proposed. The commission should discuss this possibility.

For the IS/MND, the three key questions to consider are:

1. Will the proposed project have a substantial adverse effect on a scenic vista?
2. Will the proposed project substantially degrade the existing visual character or quality of the site and its surroundings?
3. Will the proposed project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

Determining whether the project is consistent with the general purposes of the general plan and zoning ordinance is different from and independent from determining whether there is a significant environmental impact under CEQA.

Refinements and Clarifications Relating to the IS/MND

A number of refinements and clarifications were made to the IS/MND based on comments from commissioners at the March 6 planning commission meeting. These changes are summarized below and shown on the attached excerpted pages from the MND, IS and Appendices, as well as the Mitigation Monitoring and Reporting Plan. Because none of the changes would introduce new mitigation measures needed to reduce impacts to less than significant, these changes can be made without recirculation of the IS/MND.

Aesthetics

The analysis of light and glare for item d in section 3.1 of the IS/MND has been revised to incorporate the language on this issue from the response to comments. In addition, the impact level was changed from “No Impact” to “Less than Significant Impact.”

Toxic Air Contaminants (TACs)

Additional analysis has been added to the IS/MND to be certain that there would be no significant impacts from TACs due to the project. To summarize the conclusions, because of the short time period for construction and the distance between the project and the locations of sensitive receptors (over 328 feet), there would be no significant impacts from TACs.

Mitigation of Heat Impacts
At the meeting, commissioners expressed continued concerns about whether the mitigation measure 3.3-2c, which was intended to help mitigate heat impacts of artificial turf, was really practical and would be followed. Additional online research turned up a mitigation measure from Montgomery County, Maryland, where heat impacts are avoided by restricting use of artificial turf fields when temperatures are high. Based on that measure, we developed the following revised mitigation measure:

MM 3.3-2c The applicant shall install an accurate, easy-to-read thermometer on the shed near the proposed track and synthetic turf field. The thermometer shall be read by the field manager, referee, coach or other responsible party prior to any use of the field. When ambient air temperatures, as shown on the thermometer on the shed, are in excess of 80 degrees Fahrenheit, the field manager, referee, coach or other responsible party shall exercise caution in conducting activities on artificial turf fields. When temperatures exceed 90 degrees Fahrenheit, use of the artificial turf field shall be prohibited. To implement this measure, the Priory shall install a sign on the shed explaining this mitigation measure. The design of the sign shall be subject to the approval of the ASCC, and the wording on the sign shall be subject to the approval of the Town Planner. Written instructions for how to comply with this mitigation measure shall be distributed to all Priory athletic staff and all community organizations that are party to the Joint Use Agreement between the town and the Priory.

This version of the mitigation measure is much less complicated than the previous version and does away with the need for a portable thermometer or watering the field. As a result, the mitigation measure may be more likely to be followed.

San Francisco Garter Snake
The section of the IS/MND on special status species and Appendix C were revised to explain the analysis for the San Francisco Garter Snake. Although the snake has been identified within one mile of the project, the biologist who visited the site found that there is no suitable habitat for the snake within the project site. Appendix C explains that the snake's habitat is grasslands/wetlands near ponds, marshes and sloughs. This conclusion is also consistent with the data contained in the Portola Valley Sensitive Biological Resources Assessment which was prepared for the town in 2008 by TRA Environmental.

Revision to Mitigation Measure 3.7-1
Based on discussion at the March 6 meeting, the last sentence of this mitigation measure has been deleted. The measure now reads as follows:

MM 3.7-1 Prior to issuance of any permit, measures to reduce GHG emissions during construction shall be identified and specified on the final project plans. Recycling and diversion of construction waste and demolition materials, as required by Chapter 8.09 of the Portola Valley Municipal Code, shall be one of the measures. In addition, at least one of the following two measures recommended by the BAAQMD shall be

identified:

1. Alternative-fueled (e.g., biodiesel, electric) construction vehicles/equipment of at least 15 percent of the fleet, and/or
2. Local construction materials (within 100 miles) of at least 10 percent

Phthalates
The question was raised at the March 6 meeting as to whether there could be water quality or dermal contact impacts from phthalates from the artificial turf. A letter from Field Turf dated March 12, 2013 is attached to this staff report which states that all components of the artificial turf are phthalate free. As a result, no additional analysis is needed.

Revisions to Table 3.10-1
A few changes were made to the text in Table 3.10-1 to make the analysis more accurate.

Field Drainage
During a rainstorm, the existing grass field absorbs some water and the remainder sheet flows off of the field and makes its way into Corte Madera Creek. The proposed project contains detention and retention features underneath the turf which would have the net effect of increasing the amount of water that percolates into the ground and decreasing the amount that flows to Corte Madera Creek. According to the drainage report and the engineers at BKF who prepared the drainage report, the runoff volume will be reduced by 80 percent. In other words, the amount of water that will go into groundwater will increase by 80%.

This change is because of two things. First, the project includes an 8 inch gravel layer below the artificial turf, which acts as a detention basin to hold water and allow it eventually to percolate into the ground below the gravel. The ground underneath the gravel will be compacted with the construction of the field, and as a result, water will be absorbed more slowly than current conditions. As is set forth in the drainage report (attached), the soil will change from Hydrology Soils Group B to Hydrology Soils Group C/D. As a result, the percolation rate would change from 0.2 inches/hour to 0.05 inches/hour. The gravel layer partially compensates for that reduced percolation rate by holding the water so that it can move into the soil more slowly. Second, there is a perimeter drain around the field. The perimeter drain includes a 3.25 feet wide by 3.0 feet deep retention layer underneath a perforated pipe. If the retention layer also fills up, the water will then go into the perforated pipe and leave the field as runoff, which will go into the existing 36” CMP which flows to Corte Madera Creek.

Because the design of these drainage features decreases runoff from the field and improves percolation into groundwater, the artificial turf is treated as a pervious surface. The town’s public works director has reviewed the plans and concurs with BKF’s analysis.

Additional Conditions of Approval

Two sets of recommended conditions of approval are attached to this memo. One set would be recommended if the commission were to approve the project as proposed with the artificial turf. The other set would be recommended if the commission were to approve the project but prohibit the artificial turf. In addition to the recommended conditions that were attached to the staff report for the March 6 meeting, four other conditions have been added to one or both lists:

1. The condition related to the Fromhertz House that was discussed at the March 6 meeting has been added to both sets of recommended conditions of approval.
2. A condition prohibiting fencing around the track and/or field has been added to both sets of conditions of approval. This condition was suggested by Commissioner Targ after the March 6 meeting.
3. A condition requiring ASCC approval of any signs that may be added to the project area has been added to both sets of conditions. This condition was suggested by Commissioner Targ after the March 6 meeting.
4. A condition calling for water quality monitoring has been added to the conditions for approval for the project with the artificial turf only. This condition was suggested by Commissioner Gilbert at the March 6 meeting. After the March 6 meeting, Commissioner Targ also provided recommendations for this condition. The condition would read as follows:

   > Water quality shall be tested for zinc, nickel, chromium, and total suspended solids prior to issuance of a site development permit for the project in order to collect a baseline sample. Approximately one year after installation of the artificial turf, water quality shall be re-tested at the first storm event that produces significant water discharge that is preceded by at least three (3) working days of dry weather. The sample will be taken in the first hour of the discharge. If this is impracticable, the grab sample will be taken as soon as possible, thereafter. Effluent samples should be collected directly from the outfall discharge point.
   >
   > Sample results should be compared against baseline conditions, as measured prior to the installation of the turf, and the United States Environmental Protection Agency's Water Quality Benchmarks for Aquatic Life and the San Francisco Regional Water Quality Control Board's Basin Plan Water Quality Objectives. These results, together with information on the water quality testing procedures and locations, shall be provided to the town and presented to the planning commission.
   >
   > If water quality standards are met, the water quality shall be tested again two years after installation of the artificial turf and then five years after installation. If any water quality standards are exceeded, the Priory will need to immediately take action to implement recommended best management practices and re-test water quality after the next storm event.

In addition, Commissioner Targ requested that condition #10 of the recommended conditions for the project with artificial turf be amended as follows:

10. No chemicals or pesticides shall be used to maintain the artificial turf.

Planning Commission Consideration

Before it can take action on the project, the planning commission needs to approve the IS/MND. While additional information could be added to the document, the revised IS/MND meets the requirements of CEQA. Staff therefore recommends that the planning commission approve the IS/MND using the attached resolution. This approval would occur prior to considering the findings necessary to act on the project itself.

There are seven findings which are required for action on the project and an amendment to the CUP:

1. The proposed use or facility is properly located in relation to the community as a whole and to land uses and transportation and services facilities in the vicinity.
2. The site for the proposed use is adequate in size and shape to accommodate the proposed use and all yards, open spaces, walls and fences, parking, loading, landscaping and such other features as may be required by this title or in the opinion of the commission be needed to assure that the proposed use will be reasonably compatible with land uses normally permitted in the surrounding area and will insure the privacy and rural outlook of neighboring residences.
3. The site for the proposed use will be served by streets and highways of adequate width and pavement type to carry the quantity and kind of traffic generated by the proposed use.
4. The proposed use will not adversely affect the abutting property or the permitted use thereof.
5. The site for the proposed use is demonstrated to be reasonably safe from or can be made reasonably safe from hazards of storm water runoff, soil erosion, earth movement, earthquake and other geologic hazards.
6. The proposed use will be in harmony with the general purpose and intent of this title and the general plan.
7. When this title or the town general plan specifies that a proposed use shall serve primarily the town and its spheres of influence, the approving authority must find that it is reasonable to conclude, based on the evidence before it, that the proposed use will meet a need in the town and that a majority of the clientele of the proposed use will come from the town and its spheres of influence within the near future, normally no more than two years. In general, in making such finding, the approving authority shall, in addition to other information, explicitly take into consideration all similar uses in the town and its spheres of influence.

These findings were discussed in the staff report for the December 5 and March 6 planning commission meetings. As was stated in those staff reports, it appears that most of these findings can be made, and the additional data developed since does not change these conclusions.

The main question under discussion concerning the findings is whether the artificial turf portion of the project is consistent with finding #6, that "the proposed use will be in harmony with the general purpose and intent of this title and the general plan." Although the commission has agreed that the rest of the project is consistent with this finding, opinions differ on the artificial turf.

If the planning commission cannot make finding #6 for the artificial turf portion of the proposed project, the commission could instead require that a condition of approval be added for the project prohibiting artificial turf. The Priory would then be able to construct the project using natural grass in the inside of the track instead of the proposed artificial turf. As was stated previously, a version of the recommended conditions of approval which would include this prohibition is also attached.

Recommended Actions
At the conclusion of the public hearing, the planning commission should close the hearing and consider the project. Based on the discussion, it is recommended that the commission act to approve the IS/MND and then reach consensus on the conditional use permit application. This would include a final position relative to use of artificial turf or natural grass for the track infield area. A resolution is attached which the commission could use to approve the project with either set of recommended conditions (with or without the artificial turf).

Attach./Encl.

Cc: Nick Pegueros, Town Manager
Steve Padovan, Interim Planning Manager
Carol Borck, Planning Technician
Sandy Sloan/Leigh Prince, Town Attorney

Recommended Conditions of Approval for the Project with Artificial Turf

(Note: These conditions would be for this requested amendment and would be in addition to the master plan conditions required with the 2005 CUP amendment.)

1. Prior to removal of any vegetation, a detailed plan for vegetation thinning along Portola Road shall be submitted to the town. The plan should be consistent with landscape concept plan and will be subject to the review and approval of the ASCC.
2. The tall redwood trees along the Portola Road frontage shall be preserved in order to provide shade relief areas for the proposed field. If these trees become diseased or need to be removed for safety reasons, as confirmed by a certified arborist, the Priory shall submit a plan for providing sufficient shade to the town for review and approval by the ASCC.
3. Detailed grading and drainage plans shall be submitted for ASCC review and approval prior to issuance of site development permit. These detailed plans shall be consistent with the Priory's master drainage plan, and verification of consistency shall be to the satisfaction of the town public works director.
4. The final design of the shed, including its size, shall be subject to review and approval by the ASCC prior to issuance of a building permit. The shed shall not be larger than 2,000 square feet in area. As part of this review, the ASCC shall also examine the proposed locations and design of the required drinking fountains.
5. The final color of the track shall be subject to the review and approval of the ASCC priory to installation of the track.
6. Prior to issuance of a site development permit for the project, a final landscaping plan shall be submitted to the ASCC for review and approval. The final landscaping plan shall show all existing and proposed vegetation along the Portola Road frontage and in the berm area, as well as all proposed fencing in those areas.
7. Approximately 18-24 months after the new landscaping is complete, there shall be a follow-up meeting to review the landscaping with the ASCC. Additional plantings or other landscaping adjustments may be required by the ASCC as a result of the follow-up meeting.
8. The Priory shall follow a maintenance plan for the artificial turf based on the manufacturer's recommendations. One year after the installation of the artificial turf, and every two years thereafter, the Priory shall submit information to the town summarizing the number and type of maintenance activities that were undertaken for the artificial turf.
9. Equipment used for field maintenance shall be energy-efficient and should be electric if possible.
10. No chemicals or pesticides shall be used to maintain the artificial turf.
11. The project shall comply with the mitigation measures set forth in the Initial Study/Mitigated Negative Declaration for the project.

12. Within four months of the effective date of the CUP amendment, the Priory shall complete an analysis of the structural condition of the Fromhertz House and provide recommendations for protecting it from failure due to deferred maintenance or structural failure. The analysis and recommendations shall be provided to the town and reviewed by the Town Planner and the Building Official, who shall work with the Priory to develop an appropriate schedule for carrying out the recommendations.
13. Fencing around the track and/or field shall be prohibited.
14. Any signs that are erected in the project area must be reviewed and approved by the ASCC.
15. Water quality shall be tested for zinc, nickel, chromium, and total suspended solids prior to issuance of a site development permit for the project in order to collect a baseline sample. Approximately one year after installation of the artificial turf, water quality shall be re-tested at the first storm event that produces significant water discharge that is preceded by at least three (3) working days of dry weather. The sample will be taken in the first hour of the discharge. If this is impracticable, the grab sample will be taken as soon as possible, thereafter. Effluent samples should be collected directly from the outfall discharge point.

    Sample results should be compared against baseline conditions, as measured prior to the installation of the turf, and the United States Environmental Protection Agency's Water Quality Benchmarks for Aquatic Life and the San Francisco Regional Water Quality Control Board's Basin Plan Water Quality Objectives. These results, together with information on the water quality testing procedures and locations, shall be provided to the town and presented to the planning commission.

    If water quality standards are met, the water quality shall be tested again two years after installation of the artificial turf and then five years after installation. If any water quality standards are exceeded, the Priory will need to immediately take action to implement recommended best management practices and re-test water quality after the next storm event.

Recommended Conditions of Approval for the Project with NO Artificial Turf

(Note: These conditions would be for this requested amendment and would be in addition to the master plan conditions required with the 2005 CUP amendment.)

1. Synthetic or artificial turf shall not be used as part of this project.
2. Prior to removal of any vegetation, a detailed plan for vegetation thinning along Portola Road shall be submitted to the town. The plan should be consistent with landscape concept plan and will be subject to the review and approval of the ASCC.
3. Detailed grading and drainage plans shall be submitted for ASCC review and approval prior to issuance of site development permit. These detailed plans shall be consistent with the Priory's master drainage plan, and verification of consistency shall be to the satisfaction of the town public works director.
4. The final design of the shed, including its size, shall be subject to review and approval by the ASCC prior to issuance of a building permit. The shed shall not be larger than 2,000 square feet in area.
5. The final color of the track shall be subject to the review and approval of the ASCC priory to installation of the track.
6. Prior to issuance of a site development permit for the project, a final landscaping plan shall be submitted to the ASCC for review and approval. The final landscaping plan shall show all existing and proposed vegetation along the Portola Road frontage and in the berm area, as well as all proposed fencing in those areas.
7. Approximately 18-24 months after the new landscaping is complete, there shall be a follow-up meeting to review the landscaping with the ASCC. Additional plantings or other landscaping adjustments may be required by the ASCC as a result of the follow-up meeting.
8. Equipment used for field maintenance shall be energy-efficient and should be electric if possible.
9. The project shall comply with the mitigation measures set forth in the Initial Study/Mitigated Negative Declaration for the project.
10. Within four months of the effective date of the CUP amendment, the Priory shall complete an analysis of the structural condition of the Fromhertz House and provide recommendations for protecting it from failure due to deferred maintenance or structural failure. The analysis and recommendations shall be provided to the town and reviewed by the Town Planner and the Building Official, who shall work with the Priory to develop an appropriate schedule for carrying out the recommendations.
11. Fencing around the track and/or field shall be prohibited.
12. Any signs that are erected in the project area must be reviewed and approved by the ASCC.

RESOLUTION NO. _____-2013

RESOLUTION OF THE PLANNING COMMISSION OF THE TOWN OF PORTOLA VALLEY ADOPTING A MITIGATED NEGATIVE DECLARATION FOR THE FIELD REPLACEMENT PROJECT AT THE WOODSIDE PRIORY SCHOOL

WHEREAS, the Woodside Priory School has proposed to replace an existing athletic field at the school with a 400 m track and field ("Project"); and

WHEREAS, an Initial Study, Notice of Preparation and Mitigated Negative Declaration ("CEQA Documents") were prepared based on substantial evidence analyzing the potential environmental impacts of the Project; and

WHEREAS, the CEQA Documents were released for public comment n November 21, 2012 and the public comment period on the CEQA documents extended until January 4, 2013; and

WHEREAS, although not required by California law, a response to comments documents was prepared and was released on February 26, 2013; and

WHEREAS, the CEQA Documents, public comments, response to comments and all other materials that constitute the record of proceedings upon which the Planning Commission's decision is based are on file with the Town of Portola Valley Town Clerk; and

WHEREAS, the Planning Commission held three duly noticed public hearings on December 5, 2012, March 6, 2013 and March 20, 2013 on the CEQA Documents and the Project, and considered all information presented at those hearings; and

WHEREAS, the Planning Commission finds on the basis of the whole record before it that there is no substantial evidence that the Project will have a significant effect on the environment and that the Mitigated Negative Declaration reflects the Town's independent judgment and analysis; and

WHEREAS, the Town adopts a program for reporting on or monitoring the changes which it has either required in the project or made a condition of approval to mitigate or avoid significant environmental effects.

NOW, THEREFORE, be it resolved that the Planning Commission approves the Mitigated Negative Declaration for the project.

PASSED AND ADOPTED at the regular meeting of the Planning Commission of the Town of Portola Valley on March 20, 2013.

By: _____
Alexandra Von Feldt, Chairperson

Attest:_____
Steve Padovan, Secretary

RESOLUTION NO. _____-2013

RESOLUTION OF THE PLANNING COMMISSION OF THE TOWN OF PORTOLA VALLEY APPROVING AN AMENDMENT TO CONDITIONAL USE PERMIT X7D-30 FOR THE FIELD REPLACEMENT PROJECT AT THE WOODSIDE PRIORY SCHOOL

WHEREAS, the Woodside Priory School has proposed to replace an existing athletic field at the school with a 400 m track and field ("Project"); and

WHEREAS, on March 20, 2013 the Planning Commission approved the Mitigated Negative Declaration analyzing the potential environmental impacts of the Project and adopted the Mitigation Monitoring Plan for the Project; and

WHEREAS, nine study sessions were held on the Project during 2011, 2012 and 2013, and in addition the Planning Commission held duly noticed public hearings on December 5, 2012, March 6, 2013, and March 20, 2013 on the Project, and considered all information presented at those study sessions and hearings; and

WHEREAS, Section 18.72.130 of the Portola Valley Municipal Code sets forth the required findings for granting or amending a Conditional Use Permit, as follows:

1. The proposed use or facility is properly located in relation to the community as a whole and to land uses and transportation and services facilities in the vicinity.
2. The site for the proposed use is adequate in size and shape to accommodate the proposed use and all yards, open spaces, walls and fences, parking, loading, landscaping and such other features as may be required by this title or in the opinion of the commission be needed to assure that the proposed use will be reasonably compatible with land uses normally permitted in the surrounding area and will insure the privacy and rural outlook of neighboring residences.
3. The site for the proposed use will be served by streets and highways of adequate width and pavement type to carry the quantity and kind of traffic generated by the proposed use.
4. The proposed use will not adversely affect the abutting property or the permitted use thereof.
5. The site for the proposed use is demonstrated to be reasonably safe from or can be made reasonably safe from hazards of storm water runoff, soil erosion, earth movement, earthquake and other geologic hazards.
6. The proposed use will be in harmony with the general purpose and intent of this title and the general plan.

7. When this title or the town general plan specifies that a proposed use shall serve primarily the town and its spheres of influence, the approving authority must find that it is reasonable to conclude, based on the evidence before it, that the proposed use will meet a need in the town and that a majority of the clientele of the proposed use will come from the town and its spheres of influence within the near future, normally no more than two years. In general, in making such finding, the approving authority shall, in addition to other information, explicitly take into consideration all similar uses in the town and its spheres of influence; and

WHEREAS, the Planning Commission has reviewed these findings and determined that, with the attached conditions of approval and the adopted Mitigation Monitoring Plan, all of these findings can be made;

NOW, THEREFORE, be it resolved that the Planning Commission approves the amendment to Conditional Use Permit X7D-30 for the field replacement project at the Woodside Priory School.

PASSED AND ADOPTED at the regular meeting of the Planning Commission of the Town of Portola Valley on March 20, 2013.

By: _____
Alexandra Von Feldt, Chairperson

Attest:_____
Steve Padovan, Secretary

Proposed Changes to the Mitigation Monitoring and Reporting Plan

shade protection. Final project plans shall call out "shade relief areas" and drinking fountain locations.

MM 3.3-2c The applicant shall install an accurate, easy-to-read thermometer on the shed near the proposed track and synthetic turf field. The thermometer shall be read by the field manager, referee, coach or other responsible party prior to any use of the field. When ambient air temperatures, as shown on the thermometer on the shed, are in excess of 80 degrees Fahrenheit, the field manager, referee, coach or other responsible party shall exercise caution in conducting activities on artificial turf fields. When temperatures exceed 90 degrees Fahrenheit, use of the artificial turf field shall be prohibited. To implement this measure, the Priory shall install a sign on the shed explaining this mitigation measure. The design of the sign shall be subject to the approval of the ASCC, and the wording on the sign shall be subject to the approval of the Town Planner. Written instructions for how to comply with this mitigation measure shall be distributed to all Priory athletic staff and all community organizations that are party to the Joint Use Agreement between the town and the Priory.

~~**MM 3.3-2c** The applicant shall install an accurate, easy to read thermometer on the shed near the proposed track and synthetic turf field along with a sign that explains this mitigation measure. The design of the sign shall be subject to the approval of the ASCC, and the wording on the sign shall be subject to the approval of the Town Planner. The thermometer shall be read by the field manager, referee, coach or other responsible party at 20 minute intervals starting before use of the field through the conclusion of field usage. The Priory shall also provide access to an accurate, functioning portable thermometer for any group who will be using the field from June through September; the system for providing this access shall be subject to the approval of the Town Planner. When ambient air temperatures, as shown on the thermometer on the shed, are in excess of 85 degrees Fahrenheit, the field manager, referee, coach or other responsible party shall use the portable thermometer to measure the temperature at three feet above the field surface every 20 minutes during usage of the field. If the field surface temperature (at three feet) exceeds 95 degrees Fahrenheit, use of the field shall be suspended and the entire artificial turf infield shall be watered to lower the field temperature. If field surface temperatures measured at three feet above the surface can not be sustained below 95 degrees Fahrenheit for one hour, play and use of the field by children under the age of 18 years old shall be suspended. The field manager, referee, coach or other responsible party shall keep a record of the date, time, temperature reading and actions taken, if any. Such log book shall be available to the Town for inspection, upon request.~~

Cultural Resources

MM 3.5-1a Prior to issuance of building/grading permits, the Town of Portola Valley Planning Department shall require the project applicant to include on all final construction documents (plans and specifications) the following wording:

"If any archaeological (i.e. arrowheads), and/or paleontological (i.e. fossils) resources are discovered during construction activities, all work in the immediate vicinity must stop and the Town of Portola Valley Planning Department (Planning Department) shall be immediately notified.
An archaeologist meeting the Secretary of Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, shall be retained to evaluate the finds and recommend appropriate mitigation measures for the inadvertently discovered archaeological resources. A qualified paleontologist shall be retained to evaluate the finds and recommend appropriate mitigation for the inadvertently discovered paleontological resources.

The Planning Department will consider the mitigation recommendations of the qualified archaeologist/paleontologist and shall consult and agree upon implementation of a measure or measures that are deemed feasible and appropriate. Site specific mitigation shall be designed in accordance with guidelines of the State Office of Historic Preservation and the State of California Native American Heritage Commission. Such measures may include avoidance, preservation in place, excavation, documentation, curation, data recovery or other appropriate measures."

MM 3.5-1b Prior to issuance of building/grading permits the Town of Portola Valley Planning Department shall require the project applicant to include on all final construction documents (plans and specifications) the following wording:

"If human remains are discovered during construction activities, all work must stop in the immediate vicinity of the find, the Town of Portola Valley Planning Department and the County Coroner must be notified pursuant to Section 7050.5 of the California Health and Safety Code. If the remains are determined to be Native American, the coroner shall notify the Native American Heritage Commission, and the procedures outlined in CEQA Guidelines Section 15064.5(d) and (e) shall be followed."

Greenhouse Gas Emissions

MM 3.7-1 Prior to issuance of any permit, measures to reduce GHG emissions during construction shall be identified and specified on the final project plans. Recycling and diversion of construction waste and demolition materials, as required by Chapter 8.09 of the Portola Valley Municipal Code, shall be one of the measures. In addition, at least one of the following two measures recommended by the BAAQMD shall be identified:

1. Alternative-fueled (e.g., biodiesel, electric) construction vehicles/equipment of at least 15 percent of the fleet; and/or,
2. Local construction materials (within 100 miles) of at least 10 percent.

~~In lieu of either of these measures, an alternative measure at least equivalent to these may be identified subject to the review and approval of the Town Planner.~~

Hydrology and Water Quality

MM 3.9-1 The project applicant shall design the sub surface drainage system consistent with the recommendations provided in the *Drainage Report for Woodside Prior Multi-Purpose Field Improvements, Portola Valley, California* prepared by BKF Engineers in November 2012 (**Appendix D**). Recommendations include providing a retention layer that is 1,300 feet long by 3.25 feet wide and 3.0 feet deep and contains ¾-inch course angular drain rock below the invert of the perforated pipe and providing detention layer that is 1,300 feet long by 3.25 wide by 2.25 feet deep and contains ¾-inch drain rock around a 12-inch perforated pipe. A 1.5-inch diameter orifice opening shall restrict the flow line of the perforated pipe with another 1.5-inch diameter orifice opening one foot higher. At the downstream end, an inlet with a side opening as the overflow weir 4-inches deep and 12-inches wide shall be provided.

Noise

MM 3.12-1 During construction activities associated with berm removal, the project applicant shall retain the services of a qualified on-site building professional to monitor the vibration levels and effects of construction at the Fromhertz House located on the Rutherford parcel at 210 Portola Road. If vibration is observed to result in negative impacts to the integrity of the structure, vibration generating activities shall cease and alternate construction equipment and methods shall be employed to mitigate vibration to levels that will not comprise the structural integrity of the historic resource.

Utilities and Service Systems

MM 3.17-1 Prior to final design approval, the project applicant shall contract with a professional engineer to prepare a detailed sewer survey prior to the final design approval. The detailed sewer survey will confirm the diameter and material of the existing and proposed sewer pipelines and lift station located downstream from the proposed pipeline. If existing sewer pipelines or the pump lift station are found to have insufficient capacity for ultimate CUP

Proposed Changes to the Initial Study

3.1 AESTHETICS

Would the project:	Potentially Significant Impact	Less Than Significant With Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista? (Source: 1,2,6)	☐	☐	■	☐
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? (Source: 1,2,6)	☐	☐	■	☐
c) Substantially degrade the existing visual character or quality of the site and its surroundings? (Source: 1,2,6)	☐	☐	■	☐
d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area? (Source: 1,2,4,6)	☐	☐	■	■

ENVIRONMENTAL SETTING

The project site is located east of Portola Road. Portola Road is a two lane roadway running through the town and the floor of Portola Valley. Views from the road near the project site include extensive stands of redwoods, residential areas, The Sequoias retirement community, meadow, orchards, stables and other rural properties. The visual and aesthetic setting of Woodside Priory School reflects the surrounding rural land use pattern, characterized by split rail fences, adjacent trail systems, large redwood trees, and understated signage. The school and its structures are set back several hundred feet from Portola Road and can be described as architecturally modern, with an appearance similar to a small college campus. Between the existing field and Portola Road there is a path and native landscaping that screen much of the view of the school from the roadway. The Fromhertz House is located in the northeastern portion of the project site closer to Portola Road but is somewhat screened by existing trees. This is a single family residential structure that is older and different in appearance than the rest of the campus buildings.

REGULATORY SETTING

According to Section 3309 of the General Plan, Portola Road is a locally designated scenic roadway (Town of Portola Valley, 2010a). Sections 3111 and 3315 of the General Plan requires buildings to be well set back from the roadway in order to preserve the open qualities essential to the present rural quality of the valley. The General Plan also requires that special consideration be given to building size, design and setbacks (50 feet) along Portola Road (Town of Portola Valley, 2010a). According to Section 3316 of the General Plan, land abutting scenic routes should be zoned to maintain the maximum possible open space and scenic quality (Town of Portola Valley, 2010a).

Although the proposed project may slightly change the existing visual appearance of the project site, the overall visual character and visual quality of the site will remain essentially the same: a recreation field. The proposed project includes restoration of existing landscaping located between Portola Road and the field area. This would include the removal of non-native vegetation, which would be replanted with native plantings. Although the proposed project would result in the removal of clusters of acacias and western red cedars, plums, privets, and pyracantha trees/shrubs, major views near the abandoned driveway and Gambetta Lane would be screened by existing plantings. For these reasons implementation of the proposed project would not result in substantial degradation of the existing site characteristics or damage scenic resources within the locally designated scenic corridor.

d) Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?

~~No~~ **Less than Significant Impact.** ~~Consistent with the existing Conditional Use Permit, the proposed project does not include lighting, and therefore, would not introduce new sources of light or glare.~~ Glare is typically generated from glass and from metal building materials on structures. Glare can be reduced by coating and/or treating glass and by painting metal. The proposed Revolution fiber material is green in color and made of a polymer material with ridges and valleys. This fiber was specifically designed to reduce the shininess of the turf and potential for glare from previous versions of the synthetic turf fiber. With proper maintenance, the fiber would be unlikely to generate significant glare. The infill material would be light green or tan in color, consisting of round polymer pellets that would also not be conducive to generating glare. Since the synthetic turf materials are not conducive to creating glare, they would not result in substantial glare that would adversely affect daytime or nighttime views in the area **and the impact would be less than significant**.

Construction of the shed would be subject to the conditions of the CUP and design review, which requires the following: compliance with the design requirements of the "Description of Architectural Vocabulary Woodside Priory School" as approved by the ASCC; that all site lighting shall be of an intensity that is compatible with surrounding residential uses and subject to ASCC approval; that buildings be designed to minimize sound and light intrusion toward neighbors; that a 50-foot setback from property lines be observed; and that all new construction include incorporation of green building provisions to the extent reasonably possible. These requirements would ensure that the proposed shed structure does not result in a substantial source of light or glare. Although the project does include the use of portable bleachers, which may be made from aluminum, there are already portable bleachers in use at the existing field. This feature would not be considered a new source of substantial glare that would adversely affect daytime or nighttime views in the area and this would be considered a **less than significant impact.**

sensitive receptor class. According to the Google Earth files for San Mateo County, within 1,000 feet of the project site there are no stationary sources permitted by BAAQMD, no highway links, and no roadways with 10,000 annual average daily trips (AADT) or more, which could generate significant $PM_{2.5}$ emissions. Furthermore, the proposed project would generate a maximum of 1.95 pounds per day of $PM_{2.5}$ emissions during construction activities, which would not exceed BAAQMD's thresholds of significance of 54 pounds per day. In addition, implementation of all basic construction mitigation measures per mitigation measure **MM 3.3-1**, as a condition of approval, would ensure exposure to $PM_{2.5}$ emissions generated by construction activities remains **less than significant**.

Toxic Air Contaminants (TAC) - TACs are certain airborne pollutants that may pose a hazard to human health. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis or genetic damage; or short-term acute affects such as eye watering, respiratory irritation (a cough), running nose, throat pain, and headaches (BAAQMD, 2011). TACs are separated into two categories: carcinogens and non-carcinogens. A wide range of sources, from industrial plants to motor vehicles, emit TACs.

Construction activities would involve the use of ~~a variety of~~ gasoline- or diesel-powered equipment ~~(pick up trucks)~~ that emit~~s~~ exhaust fumes (diesel PM) and generate~~s~~ dust during soil disturbance. Since construction activities would occur over a period of two months, the generation of TAC emissions would be temporary. ~~Construction activities would result a total of 134 truck trips, (See **Table 3.3-3**) and renovation activities would result in a total of 34 truck trips (**Table 3.3-5**).~~ As shown in **Table 3.3-4**~~, Total~~ and **Table 3.3-6**, total $PM_{2.5}$ emissions were estimated not exceed more than ~~2~~9 pounds per day during any one phase of construction or renovation, with only three phases of construction involving emissions of more than 2 pounds per day ~~(**Tables 3.3-4** and **3.3-6**)~~.

Exposure at the project site would be limited and temporary due to the short amount of time TAC emitting equipment would be operating within an influential distance to sensitive receptors~~.is typically located within an influential distance that would result in the exposure of sensitive receptors to substantial concentrations.~~ ~~These temporary air quality impacts could negatively affect nearby sensitive receptors, which would be considered a **potentially significant short-term impact**. However, i~~Implementation ~~of m~~Mitigation measure **MM 3.3-1** requires implementation of BAAQMD's basic construction mitigation measures from Table 8-1 of the BAAQMD's CEQA Guidelines. Specifically, implementation of measures 6 and 7 under **MM 3.3-1** would require idling times be limited to a maximum of five minutes and that all construction equipment be maintained and properly tuned, which would reduce the emissions of toxic pollutants generated by heavy-duty diesel-powered equipment during construction. ~~Construction would occur during the summer so there would be no students living within 1,000 feet of the construction activities.~~ Construction activities would occur over a two month period and would be limited to the hours of 8:00 A.M. to 5:30 P.M., Monday through Friday. ~~In addition, the prevailing wind direction in the area is west to northwest; therefore, any potential TACs would be blowing away from the nearby residential land uses.~~ Implementation

Current models and ~~methodologies~~methods for conducting health risk assessments are based on longer-term exposure periods of 9, 40, and 70 years, which do not correlate well with the temporary and highly variable nature of construction emissions. The BAAQMD prepared the

Screening Tables for Air Toxics Evaluation During Construction, which was published in May 2010. This document presents a screening approach to conduct initial evaluations of potential health risks from exposure to TACs, including diesel PM and $PM_{2.5}$, from construction activities. This BAAQMD protocol sets a screening threshold in meters of distance between construction and sensitive receptors, beyond which potential health risk impacts are not anticipated. The screening threshold was selected by BAAQMD as that level of increased individual risk corresponding to a 70 percent reduction from the highest risk calculated at distances from the edge of the nearest construction site "fenceline" to the nearest sensitive receptor during construction. The nearest sensitive receptors to the field site include: off-site residential land uses, which are located within 350 feet (106 meters); student/faculty residences, which are located within 400 feet (137 meters); and classrooms, which are located within 350 feet (106 meters).

Table 3.3-7
Screening Evaluation of Potential Health Risk to Sensitive Receptors from Construction

3.3 Acre-Construction Area[2]	Minimum Offset Distance (Meters) from the Construction Site Fence Line to Ensure Less than Significant Impacts to Sensitive Receptors[1]					
	Diesel PM		PM2.5	Acrolein		Offset Required for Combined Risk
	Cancer Risk	Chronic Hazard Index	Annual Average Concentration	Acute Hazard Index	Chronic Hazard Index	
Offset Distance (Meters)	100	7	75	55	1	95

Source: BAAQMD 2010b. Notes: [1]Offset distance is based on the conservative BAAQMD assumption that all on-road haul truck activity will occur on the fence line of the project site and all off-road construction activity will be concentrated on a ¼ acre area at the project fence line. The actual risk associated with a more realistic distribution of emissions will likely predict substantially lower risk than those listed above (BAAQMD 2010b). [2]The "*Residential 3.3 Project Site Acres*" category of the BAAQMD screen protocol was chosen for the purposes of this project. While this amount of acreage is greater that the anticipated area of impact and substantially greater than the amount of acreage that would be disturbed on a single day of construction, this category provides a conservative estimate of screening distances.

As shown in **Table 3.3-7**, an offset distance of 100 meters (328 feet) between the construction site and sensitive receptors is required to avoid health risks from diesel PM, and an offset distance of 95 meters (311 feet) between the construction site and sensitive receptors is required to avoid combined health risks from the TACs, diesel PM, $PM_{2.5}$, and acrolein. As previously stated, the nearest sensitive receptors are located beyond~~within~~ 350 feet (106 meters) of the project construction site. Therefore, sensitive receptors would not be exposed to substantial concentrations of TACs and this would be considered a **less than significant impact**. Furthermore, implementation of mitigation measure **MM 3.3-1** would further reduce TACs and TAC-related impacts, the limited two month duration of construction activities, and limited duration and quantity of TAC emitting equipment during any one phase of construction that would be located near sensitive receptors would ensure that sensitive receptors are not exposed to substantial concentrations of TACs. For these reasons, TACs are~~, and this would be~~ considered a **less than significant impact**.

There are three primary types of infill material used in synthetic turf systems: styrene-butadiene rubber (SBR), ethylene propylene diene monomer (EPDM), and thermoplastic elastomers (TPE). SBR infill materials are vulcanized rubber pellets made from recycled tires. EPDM infill materials are a

Potential Risk of Exposure to High Surface Temperature

The interaction between sunlight and black crumb rubber infill material has been the primary source of blame for hot field surface temperatures; however, according to Sports Turf (official publication of the Sports Turf Managers Association), the fibers also significantly contribute to a field's temperature. Natural grass fibers transpire or release water vapor, and evaporation of that water vapor causes cooling. Synthetic fibers cannot transpire. The Center for Sports Surface Research (CSSR) at Penn State University conducted a series of experiments to evaluate the effects of various synthetic turf components on surface temperatures. Surface temperatures of infill materials and fibers were tested independently and as a system. The evaluation included a variety of infill materials including various colors of crumb rubber, Ecofill (polyolefin granules made by Mondo), TPE and various fiber materials (FieldTurf Duraspine, FieldTurf Revolution, and AstroTurf AstroFlect) and colors (white, gold, silver, black, and green). The materials studied included specific materials proposed for this project, as noted in bold in the tables below.

As for the fiber materials, the darker colors produced hotter surfaces and lighter colors produced cooler surfaces (approximately 10 degrees cooler than green fibers) as shown in **Table 3.3-~~7~~8**. When comparing the three different manufacturer's green fiber materials, FieldTurf's Duraspine Pro and Revolution fibers did not statistically differ from AstroTurf's AstroFlect. Both the proposed Ecofill infill material and TPE infill material resulted in cooler temperatures than all crumb rubber infill materials as shown in **Table 3.3-~~8~~9**.

Table 3.3-~~7~~8
Surface Temperatures of Various Fibers Materials

Fiber Material		Surface Temperature (F)	Significance†
Manufacturer/Product	**Color**		
FieldTurf Duraspine Pro	Silver	149.4	a
FieldTurf Duraspine Pro	Black	144.3	b
FieldTurf Duraspine ProGreen	Green	140.5	bc
FieldTurf Duraspine ProGold	Gold	139.8	bc
FieldTurf Revolution	**Green**	**138.6**	**c**
AstroTurf Astroflect	Green	137.9	c
FieldTurf Duraspine Pro	White	128.7	d

*Notes: **BOLD** = Proposed Product. Temperatures were taken after 1hour under heat lamp. F = Fahrenheit*
†Temperatures that do not share the same letter are significantly (statistically) different

Source: Sports Turf, 2011

Table 3.3-~~8~~9
Surface Temperatures of Various Infill Materials

Infill Material	Surface Temperature (F)	Significance†
Black Crumb Rubber (SBR)	156.0	a
Tan Crumb Rubber (SBR)	153.4	a
Green Crumb Rubber (SBR)	147.9	b
Ecofill (type of TPE made by Mondo)	141.6	c
TPE	**136.4**	**d**

Notes: Temperatures were taken after 1hour under heat lamp. F = Fahrenheit

†Temperatures that do not share the same letter are significantly (statistically) different

Source: Sports Turf, 2011

The CSSR study concluded that none of the fiber-infill combinations tested resulted in substantially lower in surface temperatures than the standard green fibers and black crumb rubber infill systems, as shown in **Table 3.3-10~~9~~**. However, it was found that combinations of certain infill types and fiber material can slightly lower surface temperatures.

Table 3.3-~~9~~10
Surface Temperatures of Various Fiber-Infill Combinations

Fiber Material		Infill Color/Material	Surface Temperature (F)	Significance†
Manufacturer/Product	**Color**			
FieldTurf Duraspine Pro	Gold	Black Rubber	171.1	a
FieldTurf Duraspine Pro	White	Black Rubber	170.4	ab
FieldTurf Duraspine Pro	Silver	Black Rubber	169.2	ab
FieldTurf Duraspine Pro	Black	Black Rubber	169.2	ab
FieldTurf Duraspine Pro	Green	Ecofill	167.3	abc
FieldTurf Revolution	Green	Black Rubber	165.6	abcd
FieldTurf Duraspine Pro	Green	Black Rubber	165.5	abcd
FieldTurf Duraspine Pro	Green	Green Rubber	163.8	bcde
FieldTurf Duraspine Pro	Green	Tan Rubber	161.1	cde
FieldTurf Duraspine Pro	Green	**TPE**	160.5	de
AstroTurf AstroFlect	Green	Black Rubber	158.9	e

*Notes: **BOLD** = Proposed Product. All fibers were FieldTurf Duraspine Pro unless otherwise noted. Temperatures were taken after 3 hours under heat lamp. F = Fahrenheit*
†Temperatures that do not share the same letter are significantly (statistically) different

Source: Sports Turf, 2011

According to the CSSR study results, any cooling effect associated with a fiber material was offset with the addition of black crumb rubber infill (**Table 3.3-~~9~~10**). The surface temperature of the AstroFlect (Astro Turf) was not statistically different from the surface temperatures of the green Duraspine Pro fiber materials (FieldTurf) (green) that contained either TPE, green rubber, or tan rubber, even though it trended about four degrees cooler. Although the combination of FieldTurf's Revolution and the TPE infill were not tested as a combined system it is likely that the combined system surface temperature would be less than the 165.6º F observed for the Revolution fiber material with black rubber because the green TPE was approximately 19.6º F cooler than the black rubber when independently analyzed (see **Table 3.3-~~8~~9**).

Reducing Surface Temperatures

Attempts to reduce surface temperatures have including irrigation, use of calcined clay, and covering with a tarp. The most common method used to reduce the surface temperature of synthetic fields is irrigation, which can rapidly cool the surface of the field but usually only lasts for short durations (Sports Turf, 2011). Research has showed that temperatures may rebound 20 minutes after irrigating and that the temperature of an irrigated synthetic field three hours after watering is only slightly cooler (less than 10 degree difference) than a non-irrigated synthetic field (Sports Turf, 2011). In addition, the irrigation may increase humidity which when combined with high temperatures may expose athletes to even more heat stress. The use of calcined clay (similar to kitty litter) as a proportion of the infill material was used to trap and hold water; however, over time the clay material would break down and lose its cooling effect. Watering during the early morning and covering with a tarp until just prior to use has also been attempted but that had no effect on field surface temperatures.

Conclusion

Review of literature has identified heat build up on synthetic turf fields as a potential health and safety hazard. As mentioned above, exposure to heat can result in heat illnesses including dehydration, heat cramps, heat exhaustion and heat stroke. Although Portola Valley does not typically have the weather conditions that would generate great differences between ambient air and surface temperatures, on sunny days and when ambient temperatures are high there may be increased risk of exposing athletes or students to burns, dehydration and heat exhaustion. This is considered a **potentially significant impact**. Drinking fountains are proposed at the new shed and the surrounding vegetation would provide shade; however, implementation of the following mitigation measures would ensure that this impact is reduced to a **less than significant** level.

Mitigation Measures

MM 3.3-2a Following field installation, the school shall educate field management staff, coaches, athletic staff, field users, and parents of the potential for heat-related illness, and how to recognize and prevent heat-related symptoms and illness. Education may include but not be limited to: training, handouts, postings, and signage.

MM 3.3-2b As part of the final project design, the school shall identify accessible shade areas and drinking water fountains near the field. Given the density of trees along Portola Road that provide relief from the afternoon sun to the west, this area is ideal for shade protection. Final project plans shall call out "shade relief areas" and drinking fountain locations.

MM 3.3-2c The applicant shall install an accurate, easy-to-read thermometer on the shed near the proposed track and synthetic turf field. The thermometer shall be read by the field manager, referee, coach or other responsible party prior to any use of the field. When ambient air temperatures, as shown on the thermometer on the shed, are in excess of 80 degrees Fahrenheit, the field manager, referee, coach or other responsible party shall exercise caution in conducting activities on artificial turf fields. When temperatures exceed 90 degrees Fahrenheit, use of the artificial turf field shall be prohibited. To implement this measure, the Priory shall install a sign on the shed explaining this mitigation measure. The design of the sign shall be subject to the approval of the ASCC, and the wording on the sign shall be subject to the approval of the Town Planner. Written instructions for how to comply with this mitigation measure shall be distributed to all Priory athletic staff and all community organizations that are party to the Joint Use Agreement between the town and the Priory.~~The applicant shall install an accurate, easy to read thermometer on the shed near the proposed track and synthetic turf field along with a sign that explains this mitigation measure. The design of the sign shall be subject to the approval of the ASCC, and the wording on the sign shall be subject to the approval of the Town Planner. The thermometer shall be read by the field manager, referee, coach or other responsible party at 20 minute intervals starting before use of the field through the conclusion of field usage. The Priory shall also provide access to an accurate,~~

~~functioning portable thermometer for any group who will be using the field from June through September; the system for providing this access shall be subject to the approval of the Town Planner. When ambient air temperatures, as shown on the thermometer on the shed, are in excess of 85 degrees Fahrenheit, the field manager, referee, coach or other responsible party shall use the portable thermometer to measure field surface temperature at three feet above the field surface every 20 minutes during usage of the field. If the field surface temperature (at three feet) exceeds 95 degrees Fahrenheit, use of the field shall be suspended and the entire synthetic turf infield shall be watered to lower the field temperature. If field surface temperatures measured at three feet above the surface cannot be sustained below 95 degrees Fahrenheit for one hour, play and use of the field by children under the age of 18 years old shall be suspended. The field manager, referee, coach or other responsible party shall keep a record of the date, time, temperature reading and actions taken, if any. Such log book shall be available to the Town for inspection, upon request.~~

Implementation of mitigation measures **MM 3.3-2a, b and c** would reduce risks associated with any potential exposure to high surface temperatures through education of heat-related illnesses and symptoms, providing access to shade and drinking water, and application of water to cool field temperatures to a **less than significant** level. According to field studies, the application of 2 centimeters of water to the synthetic turf initially reduced field temperatures by approximately 50 percent, depending on weather conditions; however, field surface temperatures increased approximately 25 percent above the reduced field surface temperature within 20 minutes of watering and then remained relatively stable for up to 200 minutes after irrigation (McNitt et. al. 2008). Approximately 88 percent of the volume of water used to rinse the field could detained.

e) Create objectionable odors affecting a substantial number of people?

No Impact. According to Table 3-3 of the BAAQMD CEQA Guidelines, the proposed project does not include a land use that meets odor screening criteria. The proposed project would not generate objectionable odors. In addition, the proposed project is not located downwind from any significant odor sources (e.g., landfills, sewage treatment plants) that could affect persons within the project site. No impacts would occur.

- CDFG's Species of Special Concern and California Fully Protected Species;
- Listed as species of concern (List 1B or 2 plants) by CNPS; or
- Species that receive consideration during environmental review under CEQA.

The potential for special-status species to occur within the PSA was assessed based on California Natural Diversity Database (CNDDB) occurrence data within one- and five- miles of the PSA, suitability of habitat, and professional expertise. **Figure 8** shows previously recorded occurrences of special-status species within one-mile of the Project Area. Five special-status species have been ~~were identified to have previous occurrences~~previously identified within one-mile of the project site, and 27 additional special-status species were ~~were identified to have previous occurrences~~recorded to occur within five miles of the project site. However, all special-status plant species, - and all except ~~for~~ two special-status wildlife ~~Based on these data three species were identified as having the potential to occur within the PSA. Additionally,~~ species~~,~~ (discussed below), were excluded from further analysis or discussion. Species were excluded from further analysis or discussion if their ~~based on~~ specific habitat requirements were not supported by the conditions at and immediately adjacent to the area proposed for disturbance~~within the PSA~~ (**Appendix C**~~).~~). ~~**Figure 8** shows previously recorded occurrences of special-status species within one-mile of the Project Area.~~

The **pallid bat** (*Antrozous pallidus*) is a California species of special concern. The pallid bat may forage for large nocturnal insects and small vertebrates in the urban /ruderal portion of the PSA. In addition, the pallid bat may roost within crevices in the buildings adjacent to the urban park/ruderal portion of the PSA (Reid, 2006).

The **long-eared owl** (*Asio otus*) is a California species of special concern. Long-eared owls forage primarily at night by flying low over open ground, including grasslands, meadows, active or fallow agricultural lands, sagebrush scrub, and desert scrub. They feed almost exclusively on small mammals, but opportunistically take other prey, such as small birds and rabbits, when rodents are limited. While potential nesting habitat for the long-eared owl does not occur within the PSA, the long-eared owl may forage for its mammalian prey in the urban/ruderal portion of the PSA (Shuford and Gardali, 2008).

-The biological resource impact anal~~s~~ysis conducted for the project, including data base searches and field surveys, ~~are~~used a methodology appropriate for the purposes of CEQA and reflect common practice recognized by the California Department of Fish and Wildlife and the U.S. Fish and Wildlife Service.

addition, at least one of the following two measures recommended by the BAAQMD shall be identified:

1. Alternative-fueled (e.g., biodiesel, electric) construction vehicles/equipment of at least 15 percent of the fleet, and/or
2. Local construction materials (within 100 miles) of at least 10 percent.

~~In lieu of either of these measures, an alternative measure at least equivalent to these may be identified subject to the review and approval of the Town Planner.~~

Although GHG emissions will not be significant, this measure will further reduce the incremental emissions from project construction.

Operational Emissions

The "threshold of significance" for the proposed project's operational-related GHG emissions would be 1,100 metric tons per year (MT/year) of CO_2e (BAAQMD, 2011).

As previously mentioned, the new synthetic field would generate minimal vehicle trips. The field would be located on a private school campus, which limits/manages use by approved community groups/leagues pursuant to their conditional use permit and joint use agreement with the Town, resulting in no net increase in daily vehicle trips beyond what is currently allowed. Routine maintenance (brushing, aerating, raking and sweeping) of the synthetic field would require the use of equipment that may generate emissions. The maintenance equipment used may consist of a tractor dragging a maintenance apparatus across the field approximately twice per month. However, the emissions generated by a small tractor running twice a month would be less than the emissions generated by lawn mowing equipment cutting the natural turf field on a weekly basis, as is the current practice.

The operation of the proposed synthetic field would require renovation/replacement every eight to 12 years, depending on wear. The renovation/replacement would generate approximately 34 truck trips every eight to 12 years as summarized in **Table 3.3-5** in the Air Quality subsection above. The projected GHG emissions resulting from periodic renovation activities are summarized in **Table 3.7-3**. The manufacturer removes the entire synthetic turf system together (backing, fiber and infill).

Table 3.7-3
Estimated Operational Related Greenhouse Gas Emissions (Metric Tons per Year)

Renovation Phase	Carbon Dioxide (CO_2)	Methane (CH_4)	Nitrous Oxide (N_2O)	CO_2e
Renovation Mobilization	1.46	0	0	1.46
Removal of Synthetic Turf system (including infill)	5.74	0	0	5.75
Synthetic Turf Reinstallation	1.43	0	0	1.43
Infill Reinstallation	3.48	0	0	3.48

been found to remove from 90% to 100% of the soluble zinc over a two year period. Even though zinc concentrations would be below the Basin Plan standards, the project as designed – with subsurface gravel and retentions systems – would further reduce any concentrations of residual zinc.

The concentrations of zinc within the proposed infill material would not exceed the Basin Plan's freshwater objectives. Based on the findings of the previous studies, there is the potential for small amounts zinc to leach from the proposed entire synthetic turf field system (including infill, fiber and backing materials) and infill material under laboratory conditions, but considerably less so under natural environmental conditions. In addition, the implementation of urban stormwater treatment measures incorporated in the project design would further reduce any concentrations of zinc leached from the synthetic turf system. Microbes within the retention and detention area would naturally consume zinc, removing it from stormwater runoff. Therefore, the proposed project would not result in the release of acute concentrations of zinc and this would be considered a **less than significant impact**.

Phthalates

Phthalates, also known as plasticizers, are chemicals used to make certain types of plastics (polyvinyl chloride (PVC)) flexible, and allow them to hold color and scent. Phthalates may be used in perfumes, nail polish, vinyl floors, detergents, lubricants, food packaging, soap, paint, shampoo, toys, air fresheners, plastic bags, intravenous bags, blood bags and medical tubing. Phthalates commonly used include: dibutyl phthalate (DBP), diisononyl phthalate (DINP), diethyl phthalate (DEP), di 2-ethylhexl phthalate (DEHP), dimethyl phthalate (DMP), benzyl butyl phthalate (BBP), di-n-octyl phthalate (DNOP), and diisodecyl phthalate (DIDP).

Phthalates are not chemically bound to PVC so they can leach, migrate or evaporate into indoor air and atmosphere, foodstuff, other materials, etc. Human exposure can occur through direct contact and use, indirectly through leaching into other products, or general environmental contamination. Humans are exposed during their whole lifetime, including intrauterine development. The health hazards associated with phthalates are still relatively unknown. Some research has found evidence that some phthalates are reproductive and developmental toxicants in animals and suspected endocrine disruptors in humans (Public Health Department of the City of Frankfurt, Germany, 2007); may affect quality of semen (Hauser et al 2007; Duty SM et al, 2003; Hauser et al, 2006); and may be directly linked with abdominal obesity and insulin resistance in men (Stahlhut RW et al, 2007).

According to the manufacturer, the proposed synthetic turf system (fiber, infill and backing) material) is phthalates free (Field Turf 2013). Users of the field would therefore have no exposure to phthalates from the project.

Bacteria/Pathogens

The threat of bacterial infection is a common concern with all turf fields. Natural grass has a microbial system that is self-cleaning. Bacteria naturally occur in soil and are present in natural turf fields. *Staphylococcus aureus (S. aureus)* is a soil born bacteria that can cause infections ranging from skin to severe blood infections depending on a persons immune system. Methicillin-resistant

Table 3.10-1
Consistency Analysis with Sustainability Element Goals, Objectives and Policies

Water Resources Goal: "Protect and conserve water resources in the town including imported water."

Objectives:

1. To protect the watershed from pollution, debris, excess sediment and invasive plants.
2. To reduce consumption of water through conservation and more efficient appliances and fixtures.
3. To use drought resistant native plants in developments.
4. To maximize the collection and recycling of natural-sourced and public water.
5. To protect and preserve ground water resources and aquifer recharge areas.

Applicable Policies	Consistency Analysis
1. Consider measures to prevent the pollution of all sources of water. 4. Limit the scope of new impervious surfaces and encourage reduction of existing impervious surfaces for all new developments in order to reduce runoff.	**Consistent.** The Initial Study focuses on water quality as a primary issue associated with this project. Water quality was reviewed with respect to sedimentation, runoff quality, and downstream effects such as the aquatic environment. All potential impacts were either found to be less than significant, or effectively mitigated by project design. ~~Sources of pollution have therefore been prevented.~~ The proposed project will replace the existing natural field with surface that is less pervious. Through design of the drainage system, however, post-project runoff volume will actually be reduced through the use of drain rock and subsurface detention and retention systems. As designed, the new impervious surfaces of the project have been limited in scope and runoff volumes have been mitigated. In addition, those areas not receiving synthetic turf will retain existing vegetation.

Living Environment Goal: "Protect the natural environments for plants, animals and humans."

Objectives:

1. To protect the interdependent plants and animals that together comprise a balanced ecosystem in our forests, grasslands, chaparral areas, and creek systems.
2. To protect extensive areas of native vegetation that support wildlife.
3. To protect forests and forms of vegetation that help contribute to air quality by absorbing carbon dioxide.
4. To protect the creek systems in the town.
5. To promote rehabilitation of ecosystems.
6. To control, reduce and eliminate invasive species.

Applicable Policies	Consistency Analysis
7. To conserve water, replace lawns with draught tolerant plants, update irrigation systems and hydro-zone planting areas.	**Consistent.** The proposed project would replace an existing natural turf athletic field with a synthetic turf surface. Although the proposed project would remove existing vegetation (grass) that absorbs carbon dioxide, the reduction in absorbed (sequestered) carbon dioxide would be partially offset by: a) reductions in emissions associated with scaled back maintenance schedules; and b) additional landscape plantings around the field perimeter. Grass turf is not the most efficient sink for carbon dioxide, and the measurable change in carbon equivalents (Section 3.7) was not significant. In addition, the proposed subsurface drainage system and reduced use of pesticides and fertilizers ~~would~~ may improve water quality of the Corte Madera Creek~~, which would aid in the rehabilitation of the ecosystem~~. Additionally, the amount of water required to maintain the synthetic turf would be substantially less than the irrigation demands necessary to maintain a natural turf field. Therefore, the proposed project would conserve water consistent with Policy 7. The proposed project would still be subject to the requirements of Chapter 15.32 of the Portola Valley Municipal Code, which requires the use of native plants that require little to no irrigation.

As summarized in **Table 3.10-1**, the proposed project would be consistent with the goals, objectives and policies of the Sustainability Element, which was adopted for the purpose of avoiding or mitigating environmental effects and therefore represents the most relevant section of the General Plan. The Land Use Element also includes several policies related to environmental preservation, including use of renewable materials, safety, water and energy conservation, grading, erosion control, and habitat protection. Similarly, the Open Space Element contains specific policies regarding the Portola Road Scenic Corridor (see Section 3.1). In addition, the existing Conditional Use Permit for the Woodside Priory, requires the implementation of campus specific mitigation measures for all development proposed on the campus. This ensures that development is consistent with various Master Plans prepared to ensure impacts to the environment are minimized to a less than significant level. The project as designed or conditioned, is either avoiding or mitigating for potential impacts, and therefore can be considered consistent – and not in conflict with - other elements with the General Plan.

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Proposed Changes to Initial Study Appendices

FieldTurf
A Tarkett Sports Company

THE ULTIMATE
SURFACE EXPERIENCE

March 12, 2013

To Whom It May Concern:

Re: Phthalate free

Please let this letter serve as verification that all components of FieldTurf's synthetic turf system - fiber, backing and TPE infill - are phthalate free.

Regards,

Darren Gill
Vice-President, Global Marketing

FieldTurf – 8088 Montview Road – Montreal, QC H4P 2L7 – Tel 1-800-724-2969 - Fax (514) 340-9374
www.fieldturf.com
Sender's Address: 15129 Kimberly Court Houston, TX 77079 (281) 531-4720 (281) 596-0127 - FAX

POTENTIAL SPECIAL STATUS SPECIES EXCLUDED FROM FURTHER ANALYSIS

Scientific Name	Common Name	Rationale for Exclusion
PLANTS		
Acanthomintha duttonii	San Mateo thorn-mint	Habitat (chaparral and valley and foothill grassland) not present within the PSA.
Allium peninsulare var. *franciscanum*	Franciscan onion	Habitat (cismontane woodland, valley and foothill grassland) not present within the PSA.
Arctostaphylos andersonii	Anderson's manzanita	Habitat (broadleafed upland forest, chaparral, North Coast coniferous forest) not present within the PSA.
Arctostaphylos regismontana	King's Mountain manzanita	Habitat (granitic or sandstone; broadleafed upland forest; chaparral; North Coast coniferous forest) not present within the PSA.
Cirsium fontinale var. *fontinale*	fountain thistle	Habitat (chaparral , cismontane woodland, and valley and foothill grassland serpentinite seeps) not present within the PSA.
Cirsium praeteriens	lost thistle	Presumed extinct in California.
Collinsia multicolor	San Francisco collinsia	Habitat (closed cone coniferous forest; coastal scrub; sometimes serpentine) not present within PSA.
Dirca occidentalis	Western leatherwood	Habitat (broadleafed upland forest; closed-cone coniferous forest; chaparral; cismontane woodland; North Coast coniferous forest; riparian forest; riparian woodland) not present within the PSA.
Eriophyllum latilobum	San Mateo woolly sunflower	Habitat (cismontane woodland) not present within the PSA.
Eryngium aristulatum var. *hooveri*	Hoover's button-celery	Habitat (vernal pools) not present within the PSA.
Fritillaria liliacea	fragrant fritillary	Habitat (Cismontane woodland, Coastal prairie, Coastal scrub, and valley and foothill grassland) not present within the PSA.
Legenere limosa	legenere	Habitat (vernal pools) not present within the PSA.
Malacothamnus arcuatus	Arcuate bush-mallow	Habitat (chaparral, cismontane woodland) not present within the PSA.
Malacothamnus davidsonii	Davidson's bush-mallow	Habitat (chaparral, cismontane woodland, coastal scrub, riparian woodland) not present within the PSA.
Monardella villosa ssp. *globosa*	Robust monardella	Habitat (Chaparral, Foothill Woodland) not present within the PSA.
Monolopia gracilens	woodland woolythreads	Habitat (Broadleafed upland forest, Chaparral, Cismontane woodland, North Coast coniferous forest, and valley and foothill grassland) not present within the PSA.
Piperia candida	white-flowered rein orchid	Habitat (broadleafed upland forest, lower montane coniferous forest, North Coast coniferous forest) not present within the PSA.
Stuckenia filiformis	slender-leaved pondweed	Habitat (marshes and swamps) not present within the PSA.

Scientific Name	Common Name	Rationale for Exclusion
WILDLIFE		
Ambystoma californiense	California tiger	Habitat (ponds and wetlands with requisite hydrology) not present within the PSA.
Brachyramphus marmoratus	marbled murrelet	Habitat (old-growth coastal redwood stands) not present within the PSA.
Charadrius alexandrinus nivosus	western snowy plover	Habitat (coastal beaches) not present within the PSA.
Dipodomys venustus venustus	Santa Cruz kangaroo rat	Habitat (chaparral and mixed chaparral and oak or pine on sandy soils) not present within PSA.
Emys marmorata	western pond turtle	Habitat (ponds, wetlands, and riparian systems with requisite hydrology) not present within the PSA.
Eucyclogobius newberryi	tidewater goby	Habitat (coastal lagoons and the uppermost brackish zone of larger estuaries) not present within the PSA.
Euphydryas editha bayensis	Bay checkerspot butterfly	Habitat of larval host plants (serpentine grasslands) not present within the PSA.
Geothlypis trichas sinuosa	saltmarsh common yellowthroat	Habitat (coastal riparian and wetland areas, as well as salt marshes) not present within the PSA.
Hypomesus transpacificus	Delta smelt	Habitat (California Bay Delta waters) not present within the PSA.
Melospiza melodia pusillula	Alameda song-sparrow	Habitat (tidal salt marshes) not present within the PSA.
Neotoma fuscipes annectens	San Francisco dusky-footed woodrat	Habitat (dense chaparral, mixed deciduous forest with thick understory, coniferous forest, and coastal sage scrub) not present within the PSA.
Oncorhynchus kisutch	coho salmon - central CA coast	No coho salmon habitat in or hydrologically connected to the PSA.
Oncorhynchus tshawytscha	Central Valley spring-run chinook salmon	No chinook salmon habitat in or hydrologically connected to the PSA.
Rallus longirostris obsoletus	California clapper rail	Habitat (tidal marshes) not present within the PSA.
Rana draytonii	California red-legged frog	Habitat (ponds, wetlands, and riparian systems with requisite hydrology) not present within the PSA.
Reithrodontomys raviventris	salt marsh harvest mouse	Habitat (middle and upper zones of salt marshes) not present within the PSA.
Sternula antillarum (=Sterna, =albifrons) browni	California least tern	Habitat (open beaches) not present within the PSA.
Taxidea taxus	American badger	Habitat (annual grassland) not present within the PSA.
Thamnophis sirtalis tetrataenia	San Francisco garter snake	Excluded due to the developed character of the existing athletic fields within the PSA. Habitat (grasslands/wetlands near ponds, marshes, and sloughs) is not present within the PSA.

Sources: CNPS, 2011; Reid 2006; Shuford and Gardali, 2008; Stebbins, 2003.

Proposed Changes to the Mitigation Monitoring and Reporting Plan

Mitigation Number	Mitigation Measure	Responsible Party	Monitoring/ Reporting Done By	Timing/ Frequency	Final Clearance Date	Comments
	certified mechanic and determined to be running in proper condition prior to operation. 8. Post a publicly visible sign with the telephone number and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District's phone number shall also be visible to ensure compliance with applicable regulations.					
MM 3.3-2a	Following field installation, the school shall educate field management staff, coaches, athletic staff, field users, and parents of the potential for heat-related illness, and how to recognize and prevent heat-related symptoms and illness. Education may include but not be limited to: training, handouts, postings, and signage.	Applicant/ Field Manager	Town Building, Planning and Engineering Department	Prior to and during field use during the life of the project. Training materials to be provided to Town.		
MM 3.3-2b	As part of the final project design, the school shall identify accessible shade areas and drinking water fountains near the field. Given the density of trees along Portola Road that provide relief from the afternoon sun to the west, this area is ideal for shade protection. Final project plans shall call out "shade relief areas" and drinking fountain locations.	Applicant/ Architect	Town Building, Planning and Engineering Department	Prior to issuance of building permit.		
MM 3.3-2c	The applicant shall install an accurate, easy-to-read thermometer on the shed near the proposed track and synthetic turf field. The thermometer shall be read by the field manager, referee, coach or other responsible party prior to any use of the field. When ambient air temperatures, as shown on the thermometer on the shed, are in excess of 80 degrees Fahrenheit, the field manager, referee, coach or other responsible party shall	Applicant/ Field Manager	Town Building, Planning and Engineering Department	Installation of thermometer prior to building final inspection. Reading of		

Mitigation Number	Mitigation Measure	Responsible Party	Monitoring/ Reporting Done By	Timing/ Frequency	Final Clearance Date	Comments
	exercise caution in conducting activities on artificial turf fields. When temperatures exceed 90 degrees Fahrenheit, use of the artificial turf field shall be prohibited. To implement this measure, the Priory shall install a sign on the shed explaining this mitigation measure. The design of the sign shall be subject to the approval of the ASCC, and the wording on the sign shall be subject to the approval of the Town Planner. Written instructions for how to comply with this mitigation measure shall be distributed to all Priory athletic staff and all community organizations that are party to the Joint Use Agreement between the town and the Priory. ~~The applicant shall install an accurate, easy to read thermometer on the shed near the proposed track and synthetic turf field along with a sign that explains this mitigation measure. The design of the sign shall be subject to the approval of the ASCC, and the wording on the sign shall be subject to the approval of the Town Planner. The thermometer shall be read by the field manager, referee, coach or other responsible party at 20 minute intervals starting before use of the field through the conclusion of field usage. The Priory shall also provide access to an accurate, functioning portable thermometer for any group who will be using the field from June through September; the system for providing this access shall be subject to the approval of the Town Planner. When ambient air temperatures, as shown on the thermometer on the shed, are in excess of 85 degrees Fahrenheit, the field manager, referee, coach or other responsible party shall use the portable thermometer to measure the temperature at three feet above the field surface every 20 minutes during usage of the field. If the field surface temperature (at three feet) exceeds 95~~			thermometer prior to each game during the life of the project in warm weather. Submit records upon request by the Town.		

Mitigation Number	Mitigation Measure	Responsible Party	Monitoring/ Reporting Done By	Timing/ Frequency	Final Clearance Date	Comments
	~~degrees Fahrenheit, use of the field shall be suspended and the entire artificial turf infield shall be watered to lower the field temperature. If field surface temperatures measured at three feet above the surface can not be sustained below 95 degrees Fahrenheit for one hour, play and use of the field by children under the age of 18 years old shall be suspended. The field manager, referee, coach or other responsible party shall keep a record of the date, time, temperature reading and actions taken, if any. Such log book shall be available to the Town for inspection, upon request.~~					
CULTURAL RESOURCES						
MM 3.5-1a	Prior to issuance of building/grading permits, the Town of Portola Valley Planning Department shall require the project applicant to include on all final construction documents (plans and specifications) the following wording: *"If any archaeological (i.e. arrowheads), and/or paleontological (i.e. fossils) resources are discovered during construction activities, all work in the immediate vicinity must stop and the Town of Portola Valley Planning Department (Planning Department) shall be immediately notified.* *An archaeologist meeting the Secretary of Interior's Professional Qualifications Standards in prehistoric or historical archaeology, as appropriate, shall be retained to evaluate the finds and recommend appropriate mitigation measures for the inadvertently discovered archaeological resources. A qualified paleontologist shall be retained to evaluate the finds and recommend appropriate mitigation for the*	Applicant/ Architect Contractor	Town Building, Planning and Engineering Department	Wording on plans prior to issuance of building and grading permit. Follow instructions of the wording during construction.		

Mitigation Number	Mitigation Measure	Responsible Party	Monitoring/ Reporting Done By	Timing/ Frequency	Final Clearance Date	Comments
MM 3.7-1	Prior to issuance of any permit, measures to reduce GHG emissions during construction shall be identified and specified on the final project plans. Recycling and diversion of construction waste and demolition materials, as required by Chapter 8.09 of the Portola Valley Municipal Code, shall be one of the measures. In addition, at least one of the following two measures recommended by the BAAQMD shall be identified: 1. Alternative-fueled (e.g., biodiesel, electric) construction vehicles/equipment of at least 15 percent of the fleet; and/or, 2. Local construction materials (within 100 miles) of at least 10 percent. ~~In lieu of either of these measures, an alternative measure at least equivalent to these may be identified subject to the review and approval of the Town Planner.~~	Applicant/ Architect/ Contractor	Town Building, Planning and Engineering Department	Wording on plans prior to the issuance of any permit. Implement measures during construction.		

MEMORANDUM

TOWN OF PORTOLA VALLEY

TO: Planning Commission

FROM: Tom Vlasic, Town Planner
Karen Kristiansson, Principal Planner

DATE: December 5, 2012

RE: Application for amendment to CUP X7D-30 for parcel merger and expansion of athletic fields with new track and artificial turf infill at 302 Portola Road, Woodside Priory School, and draft Initial Study/Mitigated Negative Declaration

Planning Commission Public Hearing Process

The December 5 planning commission meeting will be the first formal public hearing before the planning commission on the Priory School's application for a parcel merger and an amendment to their use permit to allow installation of a new track with artificial turf infill. The hearing will also include consideration of the draft Initial Study/Mitigated Negative Declaration (IS/MND) that has been prepared for the project.

At this meeting, the planning commission should hear comments from members of the public on both the project and the draft IS/MND, and commissioners should also offer comments. The planning commission cannot take action on either the draft IS/MND or the project at this meeting as the noticed public review period on the IS/MND extends to January 4, 2013. Therefore, after presentation of public and planning commission comments, the public hearing should be continued to the regular January 16, 2013 planning commission meeting.

Ultimately, after the close of the public hearing on or after January 16, the planning commission would need to take two separate actions: 1) adoption of the IS/MND and 2) action on the proposed parcel merger and use permit amendment. Adoption of the IS/MND is required before the commission could approve, conditionally approve or deny the project.

Previous Consideration and Discussion

Both the planning commission and the ASCC have considered this project at a number of previous meetings, including:

- a joint field meeting at the Priory on February 1, 2011 to consider the original proposed project;
- discussion of the original project on February 15, 2011 at the ASCC;
- discussion of the original project on February 16, 2011 at the Planning Commission;
- informal consideration on June 6, 2012 by the Planning Commission of a revised project with a larger track and less artificial turf;
- a joint field meeting at the Priory on September 10, 2012 to consider site issues related to the revised project;
- discussion of site issues at the regular ASCC meeting on September 10, 2012;
- discussion of site issues at the regular Planning Commission meeting on September 19, 2012; and
- a joint field meeting with the ASCC on September 24 at Woodside Elementary School to view their natural and artificial turf fields.

The staff reports and minutes from all of those meetings are available online.

Proposed Project

The proposed project would merge the 1.3-acre former Rutherford/Gambetta ("Rutherford") parcel, now owned by the Priory, with the existing Priory land, remove the berm between the Rutherford parcel and the softball field, relocate the sewer line that is currently located within that berm, underground the utility lines that run along that berm, and install a regulation-sized track facility with 2.39 acres of artificial turf on the interior. With the parcel merger, the total Priory land covered by the CUP would be 50.4 acres.

Cut from the removal of the berm would be placed on the field and used to raise the track and field area by approximately 10 inches. None of the cut from the berm will be removed from the site. An additional 8 inches of specialized fill will be needed under the track and artificial turf infill for drainage and proper support of the track and turf, so the track and turf will have an elevation approximately 18 inches higher than the existing field.

The project is shown on the following enclosed plans:

Sheet A-1.2, Area Expansion/Lot Merger & Athletic Fields Improvements, 10/2/2012, prepared by CJW Architecture

Sheet A-1.3, Enlarged Plan of Merger Area, 11/5/2012, prepared by CJW Architecture

Sheet A-1.3A, Merger Detail, 9/4/2012, prepared by CJW Architecture

Sheet A-1.4, Merger Detail, 10/8/12, prepared by CJW Architecture

Sheet A-1.5, Grading Plan at Trail, 11/7/12, prepared by CJW Architecture

Sheet 1, Sewer Relocation - Context Plan, 8/12, prepared by BKF

Sheet 2, Sewer Relocation, 8/12, prepared by BKF

Sheet F-1, Drainage Map, Existing Conditions, 5/12, prepared by BKF
Sheet F-2, Drainage Map, Proposed Condition, 5/12, prepared by BKF
Sheet 3, Site Plan, 11/12, prepared by BKF

These plans include revisions and clarifications that respond to comments made at previous meetings. These include shifting the track slightly so that it is further away from Portola Road and also moving the softball field and backstop back towards the hill and away from the track. In addition, the plans now include undergrounding the utility line that runs along the berm. A drainage report, prepared by BKF, confirms that with the proposed drainage provisions, the project would be consistent with the Priory's town-approved Master Drainage Plan.

If the conditional use permit amendment is approved, a site development permit would eventually need to be processed for the grading and tree removal. More detailed grading and drainage plans would be submitted as part of that process.

Planning Commission Actions Needed

As noted above, the planning commission will need to take two actions on this project at its January 16 meeting or a subsequent meeting. First, the commission will need to adopt the Initial Study/Mitigated Negative Declaration. Second, the commission will need to act on the requested use permit amendment, including the lot merger. Each of these actions is discussed below.

Draft Initial Study/Mitigated Negative Declaration
A draft Proposed Initial Study/Mitigated Negative Declaration (IS/MND) has been prepared for the proposed project and has been released for public review and comment. The IS/MND was sent to the State Clearinghouse for review by state agencies, and information about the project and the availability of the IS/MND was also send to PG&E and the West Bay Sanitary District. Although the public comment period is only required to be 30 days, in this case the comment period was extended to 45 days because of the holidays and runs from November 21 through January 4.

The IS/MND was prepared by Pacific Municipal Consultants in consultation with the Town Planner's Office. The purpose of the IS/MND, as with all CEQA documents, is to reasonably document and disclose the potential environmental impacts of the proposed project so that the town can then make an informed decision about the project. The IS/MND addresses all of the topics required under CEQA. Below is a list of selected issues that have been mentioned at previous public meetings, with references to the sections and the key pages where those are discussed:

- Source and amount of sand (Project Description, see page 18)
- Air quality impacts from off-gassing from the artificial turf (Air Quality Section, see pages 57-59)
- Surface temperature problems (Air Quality Section, see pages 59-63)
- Impacts on greenhouse gas emissions (Greenhouse Gas Emissions Section; see pages 101-105)

- Hazardous materials impact from the artificial turf (Hazardous Materials Section; see pages 109-125)
- Drainage (Hydrology and Water Quality Section, see pages 132-134)

The IS/MND, as is required by state law, focuses on the proposed project's potential impacts on the existing physical environment. The main question the IS/MND is trying to answer is whether the project, as proposed, could have a significant impact on the environment. Based on the analysis presented, the IS/MND concludes that as long as the recommended mitigation measures are required, the project will not have a significant impact on the environment.

The task before the planning commission with regards to the IS/MND is to determine whether the document adequately and reasonably discloses the potential environmental impacts of the project. If so, the commission can act to adopt the IS/MND at its January 16 meeting. If not, the commission needs to provide guidance about what additional analysis would be needed. We have asked the environmental consultants to attend the December 5th meeting to hear comments and provide any responses to questions or comments that can be easily addressed. Likely, however, most comments would be addressed in written responses that would be made available with the staff report that will be prepared for the January 16, 2013 continued public hearing.

Some issues which have been raised at public meetings are outside the purview of CEQA and therefore are not discussed in the IS/MND. For example, members of the public have asked about a comparison of different types of playing field surfaces, and the applicant has provided some information as part of the application. However, this information is not discussed in the IS/MND because it does not relate to the question of whether the proposed project could have a significant impact on the environment. These questions do relate, however, to the question of whether the project is consistent with the town's general plan and particularly whether the project has minimal impact on non-renewable resources and water usage as discussed below.

Proposed Project: Lot Merger and Conditional Use Permit Amendment
In order to approve an amendment to a conditional use permit, the planning commission needs to make the seven findings listed below. No additional findings are required for the lot merger because it involves less than four lots. As a result, the lot merger can be acted on as part of the use permit amendment.

Findings required for the conditional use permit amendent:

1. The proposed use or facility is properly located in relation to the community as a whole and to land uses and transportation and services facilities in the vicinity.
2. The site for the proposed use is adequate in size and shape to accommodate the proposed use and all yards, open spaces, walls and fences, parking, loading, landscaping and such other features as may be required by this title or in the opinion of the commission be needed to assure that the proposed use will be reasonably compatible with land uses normally permitted in the surrounding area and will insure the privacy and rural outlook of neighboring residences.

3. The site for the proposed use will be served by streets and highways of adequate width and pavement type to carry the quantity and kind of traffic generated by the proposed use.
4. The proposed use will not adversely affect the abutting property or the permitted use thereof.
5. The site for the proposed use is demonstrated to be reasonably safe from or can be made reasonably safe from hazards of storm water runoff, soil erosion, earth movement, earthquake and other geologic hazards.
6. The proposed use will be in harmony with the general purpose and intent of this title and the general plan.
7. When this title or the town general plan specifies that a proposed use shall serve primarily the town and its spheres of influence, the approving authority must find that it is reasonable to conclude, based on the evidence before it, that the proposed use will meet a need in the town and that a majority of the clientele of the proposed use will come from the town and its spheres of influence within the near future, normally no more than two years. In general, in making such finding, the approving authority shall, in addition to other information, explicitly take into consideration all similar uses in the town and its spheres of influence.

The proposed track and field would be constructed on an existing school campus located on a major arterial, and the school is already using much of the land for an athletic field. The provisions of the Priory's use permit control the amount of use for the field and related traffic, and these provisions would continue to apply to the proposed track and larger field. As a result, findings 1, 2, 3, 5 and 7 would appear to be fairly straightforward to make. Findings 4 and 6 are discussed below in more detail.

Finding 4: The proposed use will not adversely affect the abutting property or the permitted use thereof.

The project is located within the Priory campus and not directly adjacent to other uses. As a result, there should not be aesthetic impacts on abutting property associated with the basic changes, although concerns have been expressed over the visual conditions of an artificial surface and how these would impact the rural character, particularly along the Portola Road corridor. The potential impacts on rural quality are discussed further below.

Traffic and parking would be controlled under the existing use permit provisions and therefore should not increase. A neighbor raised the question of drainage at an earlier meeting on the project. The drainage report for the project indicates that the drainage improvements that are proposed as part of the project would improve storm drainage from the existing conditions and be fully consistent with the approved drainage master plan for the school site. As a result, it does not appear that the proposed project would have any significant potential for adverse physical impacts on abutting properties.

Finding 6: The proposed use will be in harmony with the general purpose and intent of this title and the general plan.

The general purpose and intent of the zoning ordinance is stated in Section 18.02.020 of the Municipal Code. Section 1010 of the general plan states the general purpose and

intent of the general plan. Both of those sections are attached. The question has been raised at previous meetings as to whether having an artificial turf field could conflict with some of the community's goals. In particular, is having an artificial turf field inconsistent with the rural quality of the town and the natural beauty of the town? The general plan also calls for the town to guide development so as to "minimize the use of non-renewable energy resources, conserve water, and encourage energy conservation and the use of renewable energy sources." These three goals of the town's zoning ordinance and general plan are each discussed below in terms of the artificial turf.

The rural quality of the town

The general plan describes preserving the rural quality of the town as generally minimizing man-made features, noise and lighting and ensuring that development remains secondary to the natural features of the town. The key question is whether placing artificial turf on the track infill would be incompatible with this rural quality. The basic athletic field uses have been found to be an acceptable part of the Priory school facilities, particularly with the allowance for outside use of the facilities. Whether an artificial or natural turf is used, the athletic and outside uses would likely be the same, although it appears that the availability of the fields for uses would likely increase due to key drainage concerns being resolved.

The natural beauty of the town

This goal gets at the aesthetics of the proposed project. On the one hand, the proposed artificial turf has been designed to look as much like natural turf as possible, especially from a distance. The quality of artificial turf has improved over the years. The turf proposed at the Priory would not be permanently striped, which would help it to blend with the surrounding environment. On the other hand, there is a visible difference between artificial turf and natural turf, especially close up. The question related to this goal is whether the artificial turf would impact the natural beauty of the town and if an artificial surface is compatible with the basic provisions of the general plan seeking to preserve the natural elements of the town to the extent reasonably possible. It appears from the data presented and evaluated that drainage improvements and control of runoff need to be made for reasonable use of the athletic facilities with either a natural grass or artificial turf surface. Both will likely have some use limitations, but there should be more play time with an artificial surface for both the established Priory and outside uses as allowed for in the field use agreement with the town. In acting on the use permit, some decisions will need to be made that address the balance between the recreational needs of the community and the potential aesthetic and other impacts.

Minimal use of non-renewable energy resources and water

The CEQA analysis finds that artificial turf maintenance at the site would use much less water than natural turf, that no fertilizer or pesticides would be needed, and that the turf would not need to be mowed. However, the artificial turf needs to be manufactured, and the manufacturing process likely uses both water and non-renewable energy resources. In comparison, natural turf would not need to be manufactured, but the fertilizers and pesticides needed to maintain the natural turf would. Those processes also likely use both water and non-renewable energy resources. Researching and documenting all of these impacts would be time-consuming and difficult.

To summarize, the known facts appear to be as follows:

- Once installed, artificial turf uses less water than natural turf and no fertilizers or pesticides
- Once installed, artificial turf requires less maintenance than natural turf.
- The manufacture of artificial turf likely uses both non-renewable energy resources and water, as does the manufacture of fertilizers and pesticides. The amounts of water and non-renewable resources used in these manufacturing processes are not known and would be difficult to obtain.
- Any athletic field requires the use of non-renewable energy resources and water.

The question here is whether having an artificial turf field in particular is incompatible with the goal of having minimal use of non-renewable energy resources and water.

Next Steps

The next steps will be determined based on the comments made at the December 5 planning commission meeting and written comments received. The Priory, town staff and the environmental consultants will consider all of the comments in preparing the staff report and supporting materials for the January 16th continued public hearing. The report for the meeting will likely include specific recommendations for planning commission action, and these will be based on the input received at the public hearing and on the proposed IS/MND.

Attach./Encl.

Cc: Nick Pegueros, Town Manager
Steve Padovan, Interim Planning Manager
Carol Borck, Planning Technician
Sandy Sloan/Leigh Prince, Town Attorney

General Purpose and Intent of the Zoning Code and General Plan

Zoning Ordinance Section 18.02.020

The zoning ordinance codified in this title is adopted to promote and protect the public health, safety, peace, morals, comfort, convenience and general welfare and for the accomplishment thereof is adopted for the following more particularly specified purposes:

A. To guide, control and regulate the future growth and development of the town in a manner consistent with the general plan;

B. To protect the established "rural" quality and the stability of private and public areas within the town and assure the orderly and beneficial development of such areas;

C. To prevent overcrowding the land and prevent undue congestion of population;

D. To maintain Portola Valley as a major open space preserve;

E. To obviate the menace to the public safety resulting from the locating of buildings, and the use thereof, and the use of land, in such manner as to cause interference with existing or prospective traffic movements on said streets;

F. To preserve and enhance the natural beauty of the town;

G. To provide adequate light, air, privacy and convenience of access to property;

H. To minimize silting of drains and drainage channels;

I. To secure safety from fire, inundation and other danger;

J. To protect the community against excessive storm water runoff, soil erosion, earth movement, earthquake, and other geologic hazards.

General Plan Section 1010

Major Community Goals

1010 The goals included below are general in nature and basic to the entire general plan. Goals related to specific aspects of the plan are stated in other appropriate sections. The plan is designed and intended to assist in achieving these major local goals:

1. To preserve and enhance the natural features and open space of the planning area because they are unusual and valuable assets for the planning area, the Peninsula and the entire Bay Area.

2. To allow use of the planning area by residents and others but to limit that use so that the natural attributes of the planning area can be sustained over time.

3. To conserve the rural quality of Portola Valley and maintain the town as an attractive, tranquil, family-oriented residential community for all generations compatible with the many physical constraints and natural features of the area. Rural quality as used in this plan includes the following attributes:

a. Minimal lighting so that the presence of development at night is difficult to determine, so that the subtle changes between day and night are easily discernible and so that the stars may be readily seen at night.

b. Minimal man-made noise so that the prevailing sense tends to be one of quiet except for the sounds of nature.

c. Man-made features which blend in with the natural environment in terms of scale, materials, form and color.

d. An overall impression of open space, natural terrain and vegetation, interrupted minimally by the works of people.

e. Narrow roads bordered by natural terrain and native vegetation.

f. Unobtrusive entrances to properties, primarily designed to identify addresses and provide safe access.

g. Minimal use of fencing except when necessary to control animals and children on properties and then of a design which is minimally visible from off-site.

h. The ability to maintain horses on private properties and to enjoy a trail system throughout the town.

i. Paths and trails that allow for easy access throughout the town.

j. Agricultural pursuits in appropriate locations.

4. To guide the location, design and construction of all development so as to:

    a. Minimize disturbances to natural surroundings and scenic vistas.

    b. Reduce the exposure of people and improvements to physical hazards such as earthquakes, landslides, fire, floods, traffic accidents and to provide evacuation routes for emergencies.

    c. Protect the watershed of the planning area.

    d. Ensure that projects complement and are subordinate to their natural surroundings.

    e. Minimize the use of non-renewable energy resources, conserve water, and encourage energy conservation and the use of renewable energy sources.

5. To protect, encourage and extend the use of native plant communities, grasses and trees, especially oak woodlands, because they reduce water usage and preserve the natural habitats and biodiversity.

6. To ensure that growth and development within the planning area is evaluated against required regional environmental standards.

7. To subject new developments with potential for adverse fiscal and other effects on the delivery of essential public services to an impact analysis to avoid unreasonable financial burdens on the town and other affected local governmental agencies and ensure the continued availability of essential public services.

8. To provide civic and recreation facilities and activities that are supported by the local citizenry and that encourage the interaction of residents in the pursuit of common interests and result in a strong sense of community identity.
9. To provide scenic roads, trails and paths to enhance enjoyment of the planning area and to increase convenience and safety.
10. To encourage the increased availability and use of public transportation and shared private transportation in connecting the town to regional shopping, employment and recreational areas and to the regional transportation network.
11. To provide for those commercial and institutional uses which are needed by the residents of Portola Valley and its spheres of influence on a frequently recurring basis and which are scaled to meeting primarily the needs of such residents. Commercial and institutional uses that meet the frequently recurring needs range from those that most residents of the town and its spheres of influence could be expected to use frequently, typically daily or weekly, to those that, while not frequented so often by most residents, still could be expected to be used primarily by residents of the town and its spheres of influence. Those uses that meet the more frequently recurring rather than occasional needs of the residents are preferred.
12. To limit growth in order to minimize the need for additional governmental services and thereby maintain and preserve the town's predominately volunteer local government, a government which fosters a sense of community.
13. To work with neighboring communities, when appropriate, to identify and develop solutions to interjurisdictional problems.
14. To ensure that development will produce a maximum of order, convenience and economy for local residents consistent with other stated goals and objectives.
15. To foster appreciation of the heritage of the planning area by encouraging the recognition and preservation of important historic resources.
16. To control the size, siting and design of buildings so that they, individually and collectively, tend to be subservient to the natural setting and serve to retain and enhance the rural qualities of the town.

MEMORANDUM

TOWN OF PORTOLA VALLEY

TO: Planning Commission

FROM: Tom Vlasic, Town Planner
Karen Kristiansson, Principal Planner

DATE: February 26, 2013

RE: Continued Public Hearing, Application for amendment to CUP X7D-30 for parcel merger and expansion of athletic fields with new track and artificial turf infill at 302 Portola Road, Priory School, Initial Study/Mitigated Negative Declaration, and responses to comments

Introduction & Recommendation

On March 6, 2013, the planning commission will continue the public hearing on this application, which was opened at its December 5, 2012 meeting and continue to permit time for comments on the proposed project to be considered and formulated into final staff recommendations. At the March 6 meeting, the commission should receive the staff report, take additional public comments and, if possible, complete action on the application.

As is explained below, the planning commission has considered this project at numerous meetings, as have other town committees and commissions. The following actions are possible and recommendations as set forth herein have been developed for planning commission consideration:

1. Approval of the Initial Study/Mitigated Negative Declaration;
2. Approval of the project with the attached conditions and any other conditions which the planning commission feels are necessary.

These actions have been shared with the applicant and have been reviewed with the town attorney. The town attorney will be present on March 6 to provide input and answer questions as may be necessary relative to the possible actions.

Proposed Project

The proposed project would merge the 1.3 acres former Rutherford/Gambetta ("Rutherford") parcel, now owned by the Priory, with the existing Priory land, remove the

berm between the Rutherford parcel and the softball field, relocate the sewer line that is currently located within that berm, underground the utility lines that run along that berm, and install a regulation-sized track facility with 2.39 acres of artificial turf on the interior. With the parcel merger, the total Priory land covered by the Conditional Use Permit (CUP) would be 50.4 acres.

Cut from the removal of the berm would be placed on the field and used to raise the track and field area by approximately 10 inches. None of the cut from the berm will be removed from the site. An additional 8 inches of specialized fill will be needed under the track and artificial turf infill for drainage and proper support of the track and turf, so the track and turf will have an elevation approximately 18 inches higher than the existing field.

The project is shown on the following revised plans (enclosed or available online):

Sheet A-1.2, Area Expansion/Lot Merger & Athletic Fields Improvements, 10/2/2012, prepared by CJW Architecture

Sheet A-1.3, Enlarged Plan of Merger Area, 11/5/2012, prepared by CJW Architecture

Sheet A-1.3A, Merger Detail, 9/4/2012, prepared by CJW Architecture

Sheet A-1.4, Merger Detail, 10/8/12, prepared by CJW Architecture

Sheet A-1.5, Grading Plan at Trail, 11/7/12, prepared by CJW Architecture

Sheet 1, Sewer Relocation - Context Plan, 8/12, prepared by BKF

Sheet 2, Sewer Relocation, 8/12, prepared by BKF

Sheet F-1, Drainage Map, Existing Conditions, 5/12, prepared by BKF

Sheet F-2, Drainage Map, Proposed Condition, 5/12, prepared by BKF

Sheet 3, Site Plan, 11/12, prepared by BKF

If the CUP amendment were approved, a site development permit would eventually be needed for the grading and tree removal. More detailed plans would be submitted as part of that process.

Previous Consideration and Discussion

Both the planning commission and the architectural and site control commission (ASCC) have considered this project at a number of previous meetings, including:

- a joint field meeting of the planning commission and ASCC at the Priory on February 1, 2011 to consider the original proposed project;
- discussion of the original project on February 15, 2011 at the ASCC;
- discussion of the original project on February 16, 2011 at the Planning Commission;
- informal consideration on June 6, 2012 by the Planning Commission of a revised project with a larger track and less artificial turf;
- a joint field meeting at the Priory on September 10, 2012 to consider site issues related to the revised project;

- discussion of site issues at the regular ASCC meeting on September 10, 2012;
- discussion of site issues at the regular Planning Commission meeting on September 19, 2012;
- a joint field meeting on September 24 at Woodside Elementary School to view their natural and artificial turf fields;
- opening of the public hearing before the Planning Commission on December 5, 2012; and
- consideration of the application by the ASCC on January 14, 2013.

The staff reports and minutes from all of those meetings are available online. In addition, minutes from the January 14, 2013 ASCC meeting are attached to this memo. To summarize, ASCC commissioners agreed on the following items:

- The proposed grading was generally acceptable, although it was recognized that a more detailed plan would be provided as part of the application for a site development permit.
- The location and general size and design of the proposed shed were acceptable, although the building should be lowered with a change in roof pitch. In addition, the shed should be no larger than necessary to meet the Priory's needs. Final design details, including clarification of space needs, should be subject to ASCC review and approval to ensure the best possible design to blend with conditions at the proposed location and minimum visual intrusion relative to views from the public trail.
- The facility, location and general approach to design for the proposed track were generally found to be acceptable. ASCC members discussed the color of the track and agreed that either the proposed dark red cinder color or perhaps a tan or medium grey color could be acceptable. The final color should be based on consideration of all site conditions and should be subject to ASCC review and approval prior to installation of the track.
- The landscaping plan was found to be generally acceptable, but a more detailed landscaping plan, including final details for the parcel frontage fencing, should be provided and subject to ASCC review and approval. In addition, there should be a follow-up review of the landscaping with the ASCC approximately 18-24 months after the new plantings are installed in order to determine if additional plantings are needed or if other landscape adjustments should be made.

There were differences of opinion about the proposed artificial turf. ASCC members' comments are summarized on pages 8 and 9 of the minutes from the meeting.

Comments Received

A number of comments were received via letters or emails, during the public hearing at the December 5 planning commission meeting, and during the January 14 ASCC meeting. This section discusses some of the key comments. Comments on the Initial

Study were also addressed in the Response to Comments documents, which is described in the next section of this staff report.

Clarification of the Proposed Artificial Turf Type

There have been conflicting statements made at public meetings and in some informational materials provided by the artificial turf manufacturer about the components of artificial turf that would be used for this project. However, the Initial Study for the project and the staff reports have been consistent in the type of artificial turf analyzed and are as confirmed by the applicant. The artificial turf proposed consists of the following:

- FieldTurf's Revolution fiber "blades" made of a proprietary polymer
- Backing consisting of a pile/geotextile fabric
- Infill comprising sand and thermoplastic elastomer (TPE) pellets

The TPE is made specifically for this artificial turf product, and it is important to note that the infill does not include any material from used tires. The TPE proposed for this project is a light green color, although it is also available in tan.

These proposed materials are somewhat different from the materials observed during the field visit to Woodside Elementary School (WES). The artificial turf at the WES field includes an older design of the fiber "blades" and a different infill material.

Maintenance of Artificial Turf

More information was requested about the maintenance that would be needed for the artificial turf. According to the manufacturer, a typical maintenance plan would include the following:

- Regular sweeping as needed to remove leaves and other debris;
- Grooming/raking every four to six weeks;
- Brushing, once every six to eight weeks; and
- Aerating, two or three times per year

All of the maintenance is accomplished by a small vehicle, such as a golf cart, which tows a machine behind it to perform the appropriate maintenance task.

This maintenance plan could need to be adjusted based on the amount the turf is used and the weather, as well as the age of the turf. In general, less maintenance will be needed during the first couple of years. Because maintenance is important for maintaining the look of the artificial turf, a condition of approval is recommended that would require the Priory to follow a maintenance plan based on the manufacturer's recommendations. Also, the cart used for field maintenance should be an energy-efficient model and should be electric if possible.

There are various chemicals which can be applied to the field to remove gum, grease, and mold, or to reduce static buildup. The applicant does not plan to use any of these chemicals. A recommended condition of approval would prohibit the Priory from using any chemicals to maintain the artificial turf.

Mitigation of Heat Impacts

Due to concerns about heat impacts and enforceability of the draft mitigation measure, we have revised the mitigation measure to make it more practical. This is mitigation measure 3.3-2c, which originally read as follows:

MM 3.3-2c When ambient air temperatures are in excess of 85 degrees Fahrenheit, the project applicant shall be required to water the synthetic field, during practice or play, in order to lower the field temperature. If field surface temperatures can not be sustained below 95 degrees Fahrenheit for one hour, play and use of the field by children under the age of 18 years old shall be suspended.

The proposed revised mitigation measure is:

MM 3.3-2c The applicant shall install an accurate, easy-to-read thermometer on the shed near the proposed track and turf along with a sign that explains this mitigation measure. The design of the sign shall be subject to the approval of the ASCC, and the wording on the sign shall be subject to the approval of the Town Planner. The thermometer shall be read by the field manager, referee, coach or other responsible party at 20 minute intervals starting before use of the field through the conclusion of field usage. The Priory shall also provide access to an accurate, functioning portable thermometer for any group who will be using the field from June through September; the system for providing this access shall be subject to the approval of the Town Planner. When ambient air temperatures, as shown on the thermometer on the shed, are in excess of 85 degrees Fahrenheit, the field manager, referee, coach or other responsible party shall use the portable thermometer to measure the temperature at three feet above the field surface every 20 minutes during usage of the field. If the field surface temperature (at three feet) exceeds 95 degrees Fahrenheit, use of the field shall be suspended and the entire artificial turf infield shall be watered to lower the field temperature. If field surface temperatures measured at three feet above the surface cannot be sustained below 95 degrees Fahrenheit for one hour, play and use of the field by children under the age of 18 years old shall be suspended. The field manager, referee, coach or other responsible party shall keep a record of the date, time, temperature reading and actions taken, if any. Such log book shall be available to the Town for inspection, upon request.

Commenters have also asked for more information about the accessible shade areas called for in Mitigation Measure 3.3-2b, which states:

MM 3.3-2b As part of the final project design, the school shall identify accessible shade areas and drinking water fountains near the field. Given the density of trees along Portola Road that provide relief from the afternoon sun to the west, this area is ideal for shade protection. Final project plans shall call out “shade relief areas” and drinking fountain locations.

The Priory intends to install drinking fountains on the shed and to preserve the tall redwood trees along Portola Road in order to provide the shade relief areas. The recommended conditions of approval include conditions to implement this measure (see condition #2 relative to the shade relief areas and condition #4 concerning the drinking fountains).

Traffic/Trips

One question that was raised was whether traffic would increase with the addition of artificial turf. It should be noted that although the Priory would be able to get significantly more use of the field for practices, there would be no increase in traffic as a result of practice use. The only increase in traffic would be from cancelled games, of which there are approximately seven per year.

To address the question of whether the decrease in cancelled games could have a significant traffic impact, we reviewed the traffic study that was completed in 2004 with the adoption of the Priory's Master Plan and arranged for BKF, which had prepared the original traffic analysis, to review the potential traffic impacts from the proposed project. To do this, BKF examined the assumptions from the original traffic study and the levels of service (LOS) at intersections near the school. The report (attached) finds that there would be no significant traffic impact from the use of artificial turf.

Life-cycle Environmental Impacts of Artificial Turf

Artificial turf would use no fertilizers and less water than natural grass and would require less maintenance once it is installed. However, the question has been raised as to how much water, chemicals and energy are used in manufacturing the artificial turf in the first place, and whether that would offset the savings. To look at this fairly, however, one would also need to consider the water, chemicals and energy used in the manufacture of the fertilizers, herbicides, pesticides, and seed used for the maintenance of a natural grass field.

As is explained in the attached memorandum from the town attorney's office, this type of life cycle analysis is not appropriate under CEQA. Instead, the assessment of environmental impacts should be focused on local impacts. This is consistent with what the town requires from applicants for other types of projects, and this is what is done in the Initial Study/Mitigated Negative Declaration for the project.

General Plan Compliance

Most of the proposed project—the berm removal, utility undergrounding, grading and drainage changes, installation of a 400m track and landscaping changes—appears to be consistent with the general plan. The track is consistent with the general plan's institutional use designation for the Priory and the existing athletic facilities in that portion of the campus. Both the track and the landscaping changes were considered by the ASCC at their January 14 meeting, and the consensus was that those portions of the project would not have significant aesthetic impacts. Therefore, in both the response to comments document and this report, the discussion about general plan compliance focuses on the artificial turf.

Compliance with the town's general plan needs to be assessed both under CEQA and under the findings required for a use permit amendment. A complete list of general plan

goals and policies that are relevant to the project is provided in the CEQA Response to Comments document. That document discusses the project's consistency with most of the goals and policies. However, CEQA analysis of General Plan consistency is limited to assessing compliance only with plans and policies that were adopted "for the purpose of avoiding or mitigating an environmental effect." The discussion in the response to comments identifies three policies in the general plan that are relevant to the project but are not directly related to avoiding or mitigating an environmental impact. Those policies need to be considered to determine whether the proposed project is consistent with the general plan, as consistency with the general plan is one of the findings required for a use permit amendment. Those policies are discussed below.

The first of these is the question of whether the project is consistent with policies that call for the provision of recreation facilities that are supported by the citizenry and that build a sense of community (Major Community Goal 8), and for schools to make recreation facilities available during non-school hours (Section 2147.5). Although the Priory is a private school, it has made its fields available during non-school hours to community groups since its initial use permit approval. The proposed project would not change the terms of the use agreement but would continue to make the field and other athletic facilities available to the community. As a result, the project appears to be consistent with these general plan policies. The type of field surface, whether artificial turf or natural grass, would not affect consistency.

Consistency with the other two policies is more difficult to determine. One policy is Goal 3 of the Major Community Goals, which is "To conserve the rural quality of Portola Valley and maintain the town as an attractive, tranquil, family-oriented residential community for all generations compatible with the many physical constraints and natural features of the area." The question here is whether artificial turf would be inconsistent with the rural quality of the town and natural features of the area. The planning commission has heard arguments on both sides of this question. On the one hand, the artificial turf could be seen as simply the modification of an existing athletic facility. Athletic fields in general, including those with artificial turf surfaces, could then be considered consistent with the town's rural quality. On the other hand, using artificial turf instead of a natural grass could be seen as more urban and therefore raise concerns relative to consistency with the rural quality of the town.

The third policy is an overarching goal from the Sustainability Element: to "strive for an optimum balance among the activities of residents, the built environment and the natural environment so as to maintain and improve the condition of life for future generations." Artificial turf would support the activities of residents by providing a more usable sports field surface, but artificial turf would not support the natural environment in the way that a natural grass field would. Natural grass can provide habitat or food for some animals, at least during some times of the year, whereas artificial turf would not, but natural grass may not support the athletic/recreation activities of residents as well as the artificial turf would.

Based on the foregoing and the analysis in the response to comments, the general plan consistency matter clearly raises value judgments that the planning commissioners will need to make in taking action on the project. There are construction, maintenance and other factors associated with both artificial turf and real grass surfaces, and it appears

from the analysis that it would be possible to find either surface consistent with the general plan.

CEQA Analysis and Response to Comments

The planning commission first reviewed the draft Initial Study/Mitigated Negative Declaration (IS/MND) at its December 5 meeting and provided a number of comments on the draft. In addition, the town received written letters and emails about the draft, and members of the public also had the opportunity to comment on the draft at the December 5 meeting. California law does not require that a "response to comments" document be prepared for a Mitigated Negative Declaration as it does for an Environmental Impact Report, but the town requested that a similar document be prepared in order to ensure that comments are carefully considered. The "response to comments" document includes written responses to comments raised as well as revisions to the Initial Study and Mitigated Negative Declaration.

In particular, the response to comments document includes additional information about consistency with the general plan, potential health risks and environmental hazards, runoff and water quality, soil impacts and subsurface biomes, lifecycle impacts, greenhouse gas emissions, maintenance and disposal impacts, flammability, aesthetics and traffic. Some of those issues were also discussed further in the above comments.

Two mitigation measures were also revised during the response to comments period. One is measure 3.3-2c, which mitigates heat impacts on field users by requiring the temperature to be measured and use of the field to stop if the temperature is over 95 degrees. This measure was revised in order to make it more practical and more likely to be implemented. The second revised mitigation measure is measure 3-17-2, which was revised at the request of the town attorney's office. This measure sets for the means by which the town can require the applicant to recycle the artificial turf when it is replaced.

As is required under CEQA, a Mitigation Monitoring and Reporting Plan (MMRP) has been prepared for the project based on the recommended mitigation measures. This plan is attached.

The proposed changes to the IS/MND are primarily to provide more information and additional clarity. New significant impacts were not identified and new mitigation measures were not incorporated. As a result, the changes are not a "substantial revision" under CEQA and therefore do not require a formal recirculation period.

The IS/MND, as is required by state law, focuses on the proposed project's potential impacts on the existing physical environment. The main question the IS/MND is trying to answer is whether the project, as proposed, could have a significant impact on the environment. Based on the analysis presented, the IS/MND concludes that as long as the recommended mitigation measures are required, there is no evidence that the project would have any significant impact on the environment. A draft resolution that the planning commission could use to approve the IS/MND is attached.

Planning Commission Consideration

Before it can take action on the project, the planning commission needs to approve the IS/MND. While additional information could be added to the document, the revised IS/MND meets the requirements of CEQA. Staff therefore recommends that the planning commission approve the IS/MND. This approval would occur prior to considering the findings necessary to act on the project itself.

There are seven findings which are required for action on the project and an amendment to the CUP:

1. The proposed use or facility is properly located in relation to the community as a whole and to land uses and transportation and services facilities in the vicinity.
2. The site for the proposed use is adequate in size and shape to accommodate the proposed use and all yards, open spaces, walls and fences, parking, loading, landscaping and such other features as may be required by this title or in the opinion of the commission be needed to assure that the proposed use will be reasonably compatible with land uses normally permitted in the surrounding area and will insure the privacy and rural outlook of neighboring residences.
3. The site for the proposed use will be served by streets and highways of adequate width and pavement type to carry the quantity and kind of traffic generated by the proposed use.
4. The proposed use will not adversely affect the abutting property or the permitted use thereof.
5. The site for the proposed use is demonstrated to be reasonably safe from or can be made reasonably safe from hazards of storm water runoff, soil erosion, earth movement, earthquake and other geologic hazards.
6. The proposed use will be in harmony with the general purpose and intent of this title and the general plan.
7. When this title or the town general plan specifies that a proposed use shall serve primarily the town and its spheres of influence, the approving authority must find that it is reasonable to conclude, based on the evidence before it, that the proposed use will meet a need in the town and that a majority of the clientele of the proposed use will come from the town and its spheres of influence within the near future, normally no more than two years. In general, in making such finding, the approving authority shall, in addition to other information, explicitly take into consideration all similar uses in the town and its spheres of influence.

These findings were discussed in the staff report for the December 5 planning commission meeting (attached). As was stated in that staff report, it appears that most of these findings can be made, and the additional data developed since that report was prepared does not change these conclusions.

The one finding that is more difficult is #6, that “the proposed use will be in harmony with the general purpose and intent of this title and the general plan.” Even here, the only part of the project which is in question is the artificial turf; the other parts of the project

are consistent with the general plan. Excerpts from both the zoning ordinance and the general plan are attached, and consistency with the general plan was discussed in detail in the IS/MND and earlier in this staff report. Because the purposes of the zoning ordinance are similar to the goals of the zoning ordinance, that discussion effectively covers both.

If the planning commission cannot make finding #6 for the artificial turf portion of the proposed project, the commission could instead require that a condition of approval be added for the project prohibiting artificial turf. The Priory would then be able to construct the project using natural grass in the inside of the track instead of the proposed artificial turf. A version of the recommended conditions of approval which would include this prohibition is also attached.

Recommended Actions

At the conclusion of the public hearing, the planning commission should close the hearing and consider the project. Based on the discussion, it is recommended that the commission act to approve the IS/MND and then reach consensus on the conditional use permit application. This would include a final position relative to use of artificial turf or natural grass for the track infield area. We also recommend that the commission provide specific direction for finalizing the proposed CUP conditions. Review should then be continued to the March 20 regular meeting, but only for final action on the resolution that would confirm the planning commission's consensus from the March 6 meeting.

Attach./Encl.

Cc: Nick Pegueros, Town Manager
Steve Padovan, Interim Planning Manager
Carol Borck, Planning Technician
Sandy Sloan/Leigh Prince, Town Attorney

Recommended Conditions of Approval for the Project with Artificial Turf

(Note: These conditions would be for this requested amendment and would be in addition to the master plan conditions required with the 2005 CUP amendment.)

1. Prior to removal of any vegetation, a detailed plan for vegetation thinning along Portola Road shall be submitted to the town. The plan should be consistent with landscape concept plan and will be subject to the review and approval of the ASCC.
2. The tall redwood trees along the Portola Road frontage shall be preserved in order to provide shade relief areas for the proposed field. If these trees become diseased or need to be removed for safety reasons, as confirmed by a certified arborist, the Priory shall submit a plan for providing sufficient shade to the town for review and approval by the ASCC.
3. Detailed grading and drainage plans shall be submitted for ASCC review and approval prior to issuance of site development permit. These detailed plans shall be consistent with the Priory's master drainage plan, and verification of consistency shall be to the satisfaction of the town public works director.
4. The final design of the shed, including its size, shall be subject to review and approval by the ASCC prior to issuance of a building permit. The shed shall not be larger than 2,000 square feet in area. As part of this review, the ASCC shall also examine the proposed locations and design of the required drinking fountains.
5. The final color of the track shall be subject to the review and approval of the ASCC priory to installation of the track.
6. Prior to issuance of a site development permit for the project, a final landscaping plan shall be submitted to the ASCC for review and approval. The final landscaping plan shall show all existing and proposed vegetation along the Portola Road frontage and in the berm area, as well as all proposed fencing in those areas.
7. Approximately 18-24 months after the new landscaping is complete, there shall be a follow-up meeting to review the landscaping with the ASCC. Additional plantings or other landscaping adjustments may be required by the ASCC as a result of the follow-up meeting.
8. The Priory shall follow a maintenance plan for the artificial turf based on the manufacturer's recommendations. One year after the installation of the artificial turf, and every two years thereafter, the Priory shall submit information to the town summarizing the number and type of maintenance activities that were undertaken for the artificial turf.
9. Equipment used for field maintenance shall be energy-efficient and should be electric if possible.
10. No chemicals shall be used to maintain the artificial turf.
11. The project shall comply with the mitigation measures set forth in the Initial Study/Mitigated Negative Declaration for the project.

Recommended Conditions of Approval for the Project with NO Artificial Turf

(Note: These conditions would be for this requested amendment and would be in addition to the master plan conditions required with the 2005 CUP amendment.)

1. Synthetic or artificial turf shall not be used as part of this project.
2. Prior to removal of any vegetation, a detailed plan for vegetation thinning along Portola Road shall be submitted to the town. The plan should be consistent with landscape concept plan and will be subject to the review and approval of the ASCC.
3. Detailed grading and drainage plans shall be submitted for ASCC review and approval prior to issuance of site development permit. These detailed plans shall be consistent with the Priory's master drainage plan, and verification of consistency shall be to the satisfaction of the town public works director.
4. The final design of the shed, including its size, shall be subject to review and approval by the ASCC prior to issuance of a building permit. The shed shall not be larger than 2,000 square feet in area.
5. The final color of the track shall be subject to the review and approval of the ASCC priory to installation of the track.
6. Prior to issuance of a site development permit for the project, a final landscaping plan shall be submitted to the ASCC for review and approval. The final landscaping plan shall show all existing and proposed vegetation along the Portola Road frontage and in the berm area, as well as all proposed fencing in those areas.
7. Approximately 18-24 months after the new landscaping is complete, there shall be a follow-up meeting to review the landscaping with the ASCC. Additional plantings or other landscaping adjustments may be required by the ASCC as a result of the follow-up meeting.
8. Equipment used for field maintenance shall be energy-efficient and should be electric if possible.
9. The project shall comply with the mitigation measures set forth in the Initial Study/Mitigated Negative Declaration for the project.

DRAINAGE REPORT
FOR
WOODSIDE PRIORY
MULTI-PURPOSE FIELD IMPROVEMENTS
PORTOLA VALLEY, CALIFORNIA

Prepared by BKF Engineers
BKF Job No.: 20060221

November 14, 2012

DESIGN ENGINEER:

BKF Engineers
255 Shoreline Drive
Suite 200
Redwood City, CA 94065

TABLE OF CONTENTS

November 8, 2012
BKF No. 20060221

DRAINAGE REPORT FOR WOODSIDE PRIORY

1.0 INTRODUCTION

The Woodside Priory proposes replacement of an existing grass field with a track and artificial turf field with improved drainage system. The following report presents analyses of proposed drainage facilities and demonstrates compliance with conditions imposed on the project by the Town of Portola Valley.

2.0 EXECUTIVE SUMMARY

A storm drainage system is proposed to serve the track and artificial turf field improvements. The storm drain system includes a 12-inch diameter perforated perimeter drain for stormwater detention. A permeable drain rock trench section underneath the perforated pipe will provide storm water retention with infiltration into native soils. With the proposed storm drain system improvements, the peak rate on runoff between 10% of the two 2-year up to the 25-year storm event is lowered for post-development conditions compared with pre-development conditions.

The proposed sizes for the stormwater retention and detention facilities are based on project improvements drainage areas. For the purpose of these analyses, discharge from the detention facilities is as orifice flow with a weir overflow to downstream systems.

3.0 BACKGROUND

Site drainage conditions are presented in the report; "Stormwater Storm Drain Mater Plan for Woodside Priory School" by BKF dated July 8, 2005 (2005 Drainage Mater Plan). As a part of this report, it was recommended that stormwater detention be provided to mitigate increased runoff associated with project development.

4.0 METHODS OF ANALYSIS

- The Bay Area Hydrology Model (BAHM) was used to determine pre and post-development hydrology. BAHM was then used to determine storage volumes, riser heights and orifice configuration to meet the design criteria.

- Existing site condition is modeled as pervious flat grass field with Hydrologic Soil Group (HSG) B soils.

- Proposed site conditions are modeled as either one of the following three options:
  1) Impervious Road Flat (includes the track, bleachers, and sports equipment shed)

2) Pervious flat grass field with HSG C/D (includes the artificial turf field with reduced permeability)
3) Pervious flat grass field with HSG B (includes proposed landscaped areas)

5.0 DESIGN CRITERIA

Project conditions require that there be no adverse impact to the storm drain system for the 10-, 25- and 100-year storm events with the proposed development.

6.0 SYSTEM EVALUATION (PRE-DEVELOPMENT CONDITIONS)

The proposed project drains in the direction as shown in Figure 1. The following describes the existing drainage path.

> The project site is an existing field turf with a gentle one percent slope that sheet flows from the south to north. Runoff reaches an unlined drainage ditch behind an existing softball backstop. The ditch enters a flared end CMP pipe and connect to a manhole at 36-inch CMP on the north end of the project site. The 36-inch CMP ultimately discharges to Corte Madera Creek.

For existing conditions per BAHM, the peak flow rate off of the site is 1.38 cfs during a 10-year event and 2.80 cfs for the 25-year event. Per the 2005 Drainage Master Plan the total runoff to the 36-inch CMP culvert, including non-project flows, is about 88 cfs for the 10-year event, 102 cfs for the 25-year event and 128 cfs for the 100-year event.

7.0 SYSTEM EVALUATION (PROPOSED CONDITIONS)

Proposed Project Description

The proposed project will replace the existing grass field with 0.67 acres of impervious surface within the running track, driveway and storage shed and 2.36 acres of artificial turf field with reduced permeability associated with compaction of underlying soils. If not mitigated, the development will increase site runoff by between 0.3 to 0.6 cubic feet per second (cfs) for the 10% of the 2-year through the 25-year storm events. To maintain the peak rate of runoff at or below existing levels, on-site retention and detention storage in a permeable drain rock trench underneath a perforated pipe is proposed.

The following describes the proposed projects drainage path.

The project site will maintain existing grades and a gentle one percent slope from the south to the north. With the project, surface flow and direct rainfall will drain through the artificial turf layer to a 4-inch thick Class 2 Permeable drain rock layer. A perimeter drain will surround the track and will be installed along the north project perimeter. The perimeter drain will retain a portion of the runoff, allowing percolation of the retained runoff. The remaining project site runoff will be detained within the rock layer prior to discharge to the existing 36-inch CMP.

With the proposed development, the impervious area will increase by 0.67 acres and there will be reduced pervious surface under the 2.36 acre turf field. See Table 1 for modeling results. With the proposed development, including on-site storm water retention and detention, the net result is a reduction in the peak rate of runoff to the 36-inch CMP culvert of about 0.3 cfs during the 10- and 1.3 cfs during the 25-year storm events. All storm events smaller than the 2-year event will be retained and infiltrated into the native soils. Total runoff volume will be reduced by 80 percent compared to pre project conditions.

Mitigation Measures

Storage of peak flows within the Priory property will mitigate project development impacts.

There is a perimeter drain located along the inner radius of the track field. Below is the size of the Retention and Detention Basin contained within the artificial turf perimeter drain:

Retention Layer
1,300 feet long by 3.25 feet wide by 3.0 feet deep, 3/4-inch course angular drain rock below the invert of the perforated pipe.

Detention Layer
1,300 feet long by 3.25 feet wide by 2.25 feet deep, 3/4-inch drain rock around a 12-inch perforated pipe. A 2.5-inch diameter orifice opening is proposed that will restrict the flow line of the perforated pipe with another 2.0-inch diameter orifice opening one foot higher. At the downstream end an inlet with side opening as the overflow weir 4-inches deep and 12-inches wide.

8.0 CONCLUSIONS

Stormwater runoff will be directed as shown on Figure 1. Storm drainage facilities will be provided along the artificial turf boundary to direct runoff to the existing 36-inch diameter CMP storm drain line. The increase in peak storm water flows from the proposed project will be mitigated using an underground stormwater retention layer over detention pipes to store and infiltrate or store and metered release excess flows and prevent increase in downstream flows with project development.

TABLE 1

BKF# 20066021-13
MULTIPURPOSE FIELD IMPROVEMENTS
DRAINAGE REPORT
Hydrology: Design Storm Peak Flows

Return Period (Years)	Pre-Project Baseline Flow (cfs)	Post-Project Flow (cfs)	Flow Reduction Pre-Project vs Post-Project (cfs)
2	0.30	0.13	0.17
5	0.93	0.52	0.42
10	1.38	1.01	0.36
25	2.80	1.48	1.32

Notes:
1) Project drainage area = 5.15 acres
2) Post-Project added impervious area = 0.67 acres

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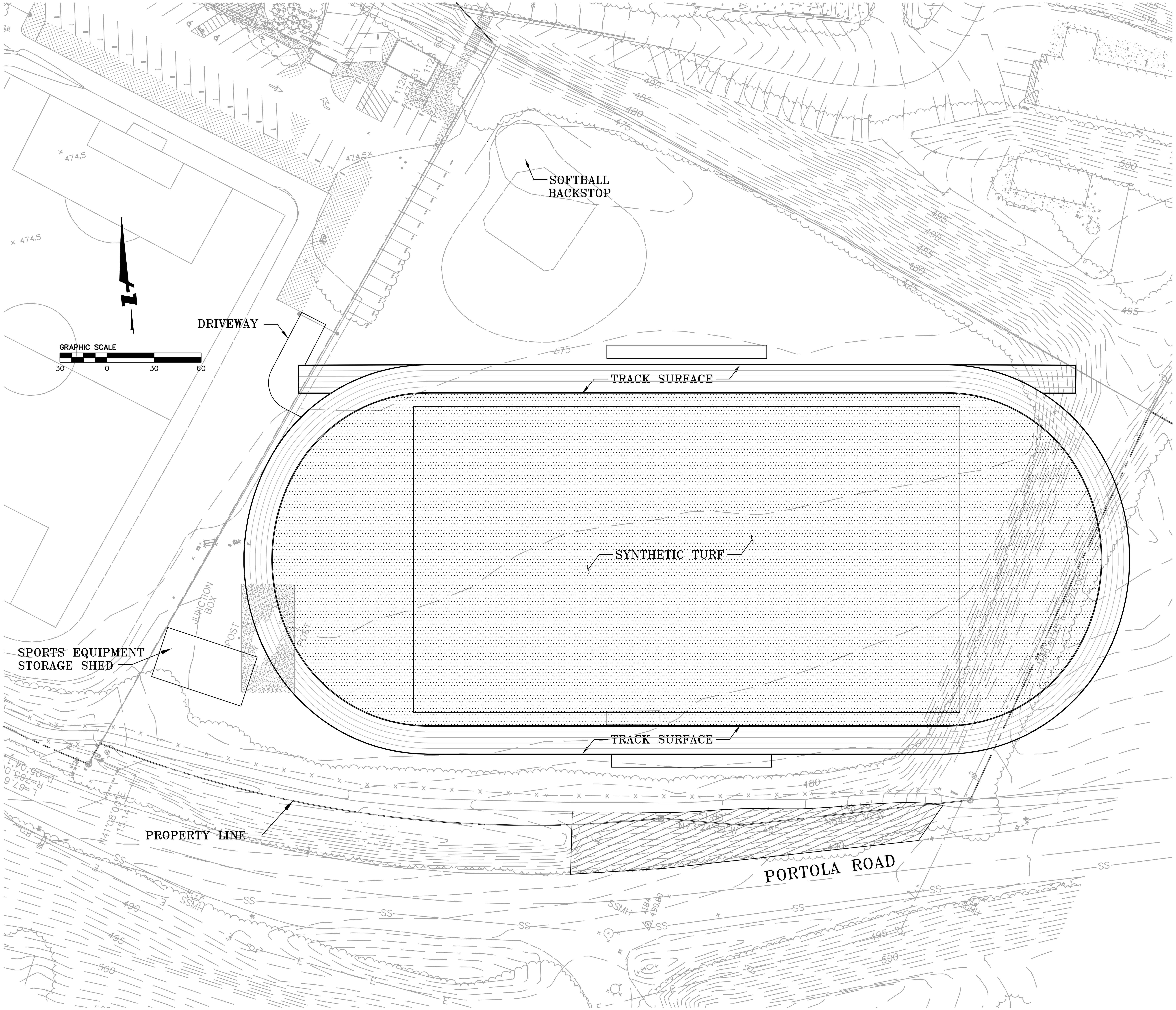

POST-DEVELOPMENT

B-SOILS 0-5% SLOPE – 1.68 AC
(1.02 ACRES DRAIN TO NORTHERN DITCH, AWAY FROM PROJECT IMPROVEMENTS)

B-SOILS >20% SLOPE – 0.44 AC

SYNTHETIC TURF FIELD – 2.36 AC

IMPERVIOUS – 0.67 AC

PRE-DEVELOPMENT

B-SOILS 0-5% SLOPE – 4.42 AC

B-SOILS >20% SLOPE – 0.73 AC

PRELIMINARY
NOT FOR CONSTRUCTION

255 SHORELINE DRIVE
SUITE 200
REDWOOD CITY, CA 94065
650-482-6300
650-482-6399 (FAX)

BKF
ENGINEERS / SURVEYORS / PLANNERS

WOODSIDE PRIORY
MULTIPURPOSE FIELD IMPROVEMENTS
POST-DEVELOPMENT SITE PLAN

TOWN OF PORTOLA VALLEY SAN MATEO COUNTY CALIFORNIA

No.	Revisions

Date: 11/12
Scale: 1"=30'
Design: RAM
Drawn: RAM
Approved:
Job No: 20060221-13

Drawing Number:

OF

Appendix

Bay Area Hydrology Model
PROJECT REPORT

Project Name: Woodside-Priory-revise
Site Address:
City :
Report Date : 11/8/2012
Gage : San Francisco
Data Start : 1959/10/01
Data End : 1997/09/30
Precip Scale: 1.29
BAHM Version:

PREDEVELOPED LAND USE

Name : Basin 1
Bypass: No

GroundWater: No

Pervious Land Use	Acres
B,Grass,Flat(0-5%)	4.42
B,Grass,Very S(>20%)	.73

Impervious Land Use	Acres

Element Flows To:
Surface **Interflow** **Groundwater**

Name : Gravel Trench Bed 1
Bottom Length: 1300ft.
Bottom Width : 3.25ft.
Trench bottom slope 1: 0.005 To 1
Trench Left side slope 0: 0 To 1
Trench right side slope 2: 0 To 1
Material thickness of first layer : 0.75
Pour Space of material for first layer : 0.33
Material thickness of second layer : 1
Pour Space of material for second layer : 0.55
Material thickness of third layer : 3
Pour Space of material for third layer : 0.33
Infiltration On
Infiltration rate : 0.2
Infiltration saftey factor : 1
Wetted surface area On
Discharge Structure

Riser Height: 4.92 ft.
Riser Diameter: 3.5 in.
Orifice 1 Diameter: 2.5 in. **Elevation:** 3 ft.
Orifice 1 Diameter: 2 in. **Elevation:** 4 ft.

Element Flows To:
Outlet 1 **Outlet 2**

Gravel Trench Bed Hydraulic Table

Stage(ft)	Area(acr)	Volume(acr-ft)	Dschrg(cfs)	Infilt(cfs)
0.000	0.097	0.000	0.000	0.000
0.058	0.097	0.002	0.000	0.020
0.117	0.097	0.004	0.000	0.021
0.175	0.097	0.006	0.000	0.022
0.233	0.097	0.007	0.000	0.022
0.292	0.097	0.009	0.000	0.023
0.350	0.097	0.011	0.000	0.024
0.408	0.097	0.013	0.000	0.024
0.467	0.097	0.015	0.000	0.025
0.525	0.097	0.017	0.000	0.026
0.583	0.097	0.019	0.000	0.027
0.642	0.097	0.021	0.000	0.027
0.700	0.097	0.022	0.000	0.028
0.758	0.097	0.026	0.000	0.029
0.817	0.097	0.029	0.000	0.029
0.875	0.097	0.032	0.000	0.030
0.933	0.097	0.035	0.000	0.031
0.992	0.097	0.038	0.000	0.032
1.050	0.097	0.041	0.000	0.032
1.108	0.097	0.044	0.000	0.033
1.167	0.097	0.047	0.000	0.034
1.225	0.097	0.050	0.000	0.034
1.283	0.097	0.054	0.000	0.035
1.342	0.097	0.057	0.000	0.036
1.400	0.097	0.060	0.000	0.036
1.458	0.097	0.063	0.000	0.037
1.517	0.097	0.066	0.000	0.038
1.575	0.097	0.069	0.000	0.039
1.633	0.097	0.072	0.000	0.039
1.692	0.097	0.075	0.000	0.040
1.750	0.097	0.077	0.000	0.041
1.808	0.097	0.079	0.000	0.041
1.867	0.097	0.081	0.000	0.042
1.925	0.097	0.083	0.000	0.043
1.983	0.097	0.085	0.000	0.043
2.042	0.097	0.087	0.000	0.044
2.100	0.097	0.088	0.000	0.045
2.158	0.097	0.090	0.000	0.046
2.217	0.097	0.092	0.000	0.046
2.275	0.097	0.094	0.000	0.047
2.333	0.097	0.096	0.000	0.048
2.392	0.097	0.098	0.000	0.048
2.450	0.097	0.100	0.000	0.049
2.508	0.097	0.101	0.000	0.050

2.567	0.097	0.103	0.000	0.051
2.625	0.097	0.105	0.000	0.051
2.683	0.097	0.107	0.000	0.052
2.742	0.097	0.109	0.000	0.053
2.800	0.097	0.111	0.000	0.053
2.858	0.097	0.113	0.000	0.054
2.917	0.097	0.115	0.000	0.055
2.975	0.097	0.116	0.000	0.055
3.033	0.097	0.118	0.030	0.056
3.092	0.097	0.120	0.050	0.057
3.150	0.097	0.122	0.064	0.058
3.208	0.097	0.124	0.075	0.058
3.267	0.097	0.126	0.085	0.059
3.325	0.097	0.128	0.094	0.060
3.383	0.097	0.129	0.102	0.060
3.442	0.097	0.131	0.109	0.061
3.500	0.097	0.133	0.116	0.062
3.558	0.097	0.135	0.123	0.063
3.617	0.097	0.137	0.129	0.063
3.675	0.097	0.139	0.135	0.064
3.733	0.097	0.141	0.141	0.065
3.792	0.097	0.143	0.146	0.065
3.850	0.097	0.144	0.151	0.066
3.908	0.097	0.146	0.156	0.067
3.967	0.097	0.148	0.161	0.067
4.025	0.097	0.150	0.183	0.068
4.083	0.097	0.152	0.201	0.069
4.142	0.097	0.154	0.215	0.070
4.200	0.097	0.156	0.227	0.070
4.258	0.097	0.157	0.238	0.071
4.317	0.097	0.159	0.247	0.072
4.375	0.097	0.161	0.257	0.072
4.433	0.097	0.163	0.266	0.073
4.492	0.097	0.165	0.274	0.074
4.550	0.097	0.167	0.282	0.074
4.608	0.097	0.169	0.290	0.075
4.667	0.097	0.171	0.298	0.076
4.725	0.097	0.172	0.305	0.077
4.783	0.097	0.178	0.312	0.077
4.842	0.097	0.184	0.319	0.078
4.900	0.097	0.189	0.326	0.079
4.958	0.097	0.195	0.354	0.079
5.017	0.097	0.201	0.424	0.080
5.075	0.097	0.206	0.519	0.081
5.133	0.097	0.212	0.631	0.082
5.192	0.097	0.218	0.760	0.082
5.250	0.097	0.223	0.902	0.083

Name : Basin 1
Bypass: No

GroundWater: No

Pervious Land Use	**Acres**
C D,Grass,Flat(0-5%)	**2.36**
B,Grass,Very S(>20%)	**.44**

B,Grass,Flat(0-5%)	.66

Impervious Land Use	Acres
Roads,Flat(0-5%)	0.67

Element Flows To:

Surface	Interflow	Groundwater
Gravel Trench Bed 1,	Gravel Trench Bed 1,	

Name : Basin 2
Bypass: No

GroundWater: No

Pervious Land Use	Acres
B,Grass,Flat(0-5%)	1.02

Impervious Land Use	Acres

Element Flows To:

Surface	Interflow	Groundwater

MITIGATED LAND USE

ANALYSIS RESULTS

Flow Frequency Return Periods for Predeveloped. POC #1

Return Period	Flow(cfs)
2 year	0.298544
5 year	0.933166
10 year	1.376172
25 year	2.802449

Flow Frequency Return Periods for Mitigated. POC #1

Return Period	Flow(cfs)
2 year	0.130814
5 year	0.514976
10 year	1.011627
25 year	1.481543

POC #1
The Facility PASSED

The Facility PASSED.

Flow(CFS)	Predev	Dev	Percentage	Pass/Fail
0.0299	3260	647	19	Pass
0.0435	1952	564	28	Pass
0.0571	1278	505	39	Pass
0.0707	919	465	50	Pass
0.0843	680	412	60	Pass
0.0979	540	376	69	Pass
0.1114	452	328	72	Pass
0.1250	371	300	80	Pass
0.1386	325	261	80	Pass
0.1522	285	234	82	Pass
0.1658	246	215	87	Pass
0.1794	216	197	91	Pass
0.1930	191	183	95	Pass
0.2066	172	165	95	Pass
0.2202	160	155	96	Pass
0.2338	147	140	95	Pass
0.2474	133	131	98	Pass
0.2610	120	122	101	Pass
0.2746	104	111	106	Pass
0.2882	96	100	104	Pass
0.3018	92	89	96	Pass
0.3154	86	80	93	Pass
0.3290	77	68	88	Pass
0.3426	70	63	90	Pass
0.3562	61	55	90	Pass
0.3698	56	52	92	Pass
0.3834	53	45	84	Pass
0.3970	53	42	79	Pass
0.4106	51	41	80	Pass
0.4242	49	38	77	Pass
0.4378	49	37	75	Pass
0.4514	47	34	72	Pass
0.4650	44	33	75	Pass
0.4786	43	29	67	Pass
0.4922	42	28	66	Pass
0.5058	41	27	65	Pass
0.5194	38	24	63	Pass
0.5330	36	23	63	Pass
0.5466	34	21	61	Pass
0.5602	32	21	65	Pass
0.5738	31	19	61	Pass
0.5874	31	19	61	Pass
0.6010	31	19	61	Pass
0.6146	30	19	63	Pass
0.6282	28	19	67	Pass
0.6418	27	19	70	Pass
0.6554	26	18	69	Pass
0.6690	23	17	73	Pass
0.6826	23	17	73	Pass
0.6962	23	16	69	Pass
0.7098	21	16	76	Pass
0.7234	20	14	70	Pass
0.7370	20	13	65	Pass
0.7506	19	13	68	Pass
0.7642	17	13	76	Pass

0.7778	17	13	76	Pass
0.7914	15	12	80	Pass
0.8050	14	12	85	Pass
0.8186	14	12	85	Pass
0.8322	14	12	85	Pass
0.8458	14	12	85	Pass
0.8594	14	12	85	Pass
0.8730	13	12	92	Pass
0.8866	12	12	100	Pass
0.9002	12	12	100	Pass
0.9138	12	12	100	Pass
0.9274	12	11	91	Pass
0.9410	10	10	100	Pass
0.9546	10	10	100	Pass
0.9682	9	9	111	Pass
0.9818	8	8	125	Pass
0.9954	8	8	112	Pass
1.0090	8	7	87	Pass
1.0226	7	6	85	Pass
1.0362	7	5	71	Pass
1.0498	7	5	71	Pass
1.0634	7	5	71	Pass
1.0770	7	5	71	Pass
1.0906	7	5	71	Pass
1.1042	7	4	57	Pass
1.1178	7	4	57	Pass
1.1314	7	3	42	Pass
1.1450	7	3	42	Pass
1.1586	6	3	50	Pass
1.1722	6	3	50	Pass
1.1858	6	3	50	Pass
1.1994	6	3	50	Pass
1.2130	5	3	60	Pass
1.2266	5	3	60	Pass
1.2402	5	3	60	Pass
1.2538	5	3	60	Pass
1.2674	5	3	60	Pass
1.2810	5	3	60	Pass
1.2946	5	3	60	Pass
1.3082	5	3	60	Pass
1.3218	5	3	60	Pass
1.3354	5	3	60	Pass
1.3490	5	2	40	Pass
1.3626	4	2	50	Pass
1.3762	4	2	50	Pass

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program even if Clear Creek Solutions Inc., Applied Marine Sciences Incorporated, the Alameda County Flood Control and Water Conservation District, EOA Incorporated or any member agencies of the LOU Participants or their authorized representatives have been advised of the possibility of such damages.