

STATE OF CALIFORNIA
Budget Change Proposal - Cover Sheet
 DF-46 (REV 02/15)

Fiscal Year 2016-17	Business Unit 3980	Department Office of Environmental Health Hazard Assessment	Priority No. 4
Budget Request Name 3980-005-BCP-BR-2016-GB		Program 3730	Subprogram

Budget Request Description
Turf CalRecycle Project

Budget Request Summary

This proposal is requesting \$800,000 in reimbursement authority to carry out an Interagency Agreement (IAA) with CalRecycle to evaluate possible health hazards from synthetic athletic turf and playground mats. The evaluation, which is attracting national interest, has already started and OEHHA administratively established the positions to begin the work.

The IAA funds a study that requires OEHHA to determine chemicals that can be released from recycled tire material used in synthetic turf and playground mats. It requires OEHHA to study "new" or un-installed crumb rubber as well as collect air, wipe, and crumb rubber samples from synthetic fields in different climatic regions of California. The IAA also requires OEHHA to evaluate human exposure to the chemicals by studying activity patterns of players and children using these turf fields and mats and assess the associated potential health impacts.

Requires Legislation <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	Code Section(s) to be Added/Amended/Repealed	
Does this BCP contain information technology (IT) components? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <i>If yes, departmental Chief Information Officer must sign.</i>	Department CIO	Date

For IT requests, specify the date a Special Project Report (SPR) or Feasibility Study Report (FSR) was approved by the Department of Technology, or previously by the Department of Finance.

FSR SPR Project No. Date:

If proposal affects another department, does other department concur with proposal? Yes No
Attach comments of affected department, signed and dated by the department director or designee.

Prepared By <i>David Ting</i> David Ting <i>for DTing</i>	Date <i>1/6/16</i>	Reviewed By <i>Allan Hirsch</i> Allan Hirsch	Date <i>1-6-16</i>
Department Director <i>Lauren Zeise</i> Lauren Zeise, Acting Director	Date <i>1/6/16</i>	Agency Secretary <i>Matthew Rodriguez</i> Matthew Rodriguez	Date <i>1/6/16</i>

Department of Finance Use Only

Additional Review: Capital Outlay ITCU FSCU OSAE CALSTARS Dept. of Technology

BCP Type: Policy Workload Budget per Government Code 13308.05

PPBA	Original Signed By: Ellen Moratti	Date submitted to the Legislature <i>1/7/16</i>
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Analysis of Problem

A. Budget Request Summary

This proposal is requesting \$800,000 in reimbursement authority to carry out an Interagency Agreement (IAA) with CalRecycle to evaluate possible health hazards from synthetic athletic turf and playground mats. The evaluation, which is attracting national interest, has already started and OEHHA administratively established the positions to begin the work.

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B. Background/History

Approximately 300 million used tires annually are discarded in the United States, according to the US Environmental Protection Agency (US EPA). Scrap tires can be retreaded and re-used, incinerated to produce energy, used in construction and pavements, or made into various rubber products. The use of recycled tire material in synthetic turf has gained popularity because these fields do not need watering and application of pesticides, can be used year round, and are relatively inexpensive to maintain. However, many chemicals are used in tire manufacturing and some of them are known to be toxic to humans at sufficiently high concentrations. There is a public concern that these fields may release toxic chemicals and pose a health hazard to the athletes and children who use them. Though several studies have investigated this issue, they were limited in scope; they evaluated only a handful of chemicals and did not consider the wide variety of recycled tire material and manufacturing processes, the effect of weathering and climate, as well as different usage and exposure conditions.

The concern was heightened when NBC Nightly News aired a report in October 2014 questioning the safety of synthetic turf, and suggesting the possibility that it could be the cause of non-Hodgkins lymphoma cancer in an unusually large number of soccer goalies. Subsequent media reports also questioned its safety. A bill introduced earlier this year in the Legislature, SB 47, proposed that OEHHA conduct a study of health risks associated with artificial turf, but the bill remains in the Senate Appropriations Committee. Nevertheless, CalRecycle and OEHHA recognized the need for a similar study to the one proposed by SB 47, and signed an IAA for a three-year study to be funded from the California Tire Recycling Management Fund.

Under this IAA, OEHHA will:

- Convene an advisory panel of experts to provide advice on study design and implementation and hold three or more public meetings to engage the public and stakeholders in the study process.
- Consult with scientists in academia and research institutes and other departments in the California state government, other states, and the federal government on the approach, design, and conduct of the study.
- Develop procedures for the sampling and analysis of new and in-field crumb rubber. Using the developed methods, procedures, and protocols, conduct field studies and collect and analyze chemicals in crumb rubber, artificial grass blade, air samples and wipe samples of balls and turf surfaces. Samples will be collected from fields of various ages and different geographic locations in California.
- Develop exposure scenarios for players and children who use synthetic turf and playground mats. Characterize relevant exposure pathways, routes, and activities related to various levels of human exposure experienced on synthetic turf and use models and monitoring data to estimate exposures of athletes and children.
- Perform a literature search to determine potential hazards to human health of the chemicals identified.

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- Conduct an assessment of the potential health impacts associated with using recycled tires in synthetic turf fields and playground mats.
- Develop a personal monitoring or biomonitoring study protocol for future investigations of human exposure and biological effects associated with synthetic turf and playground mats.

This is a new project and there is no resource or workload history.

C. State Level Considerations

There are concerns from the general public as well as some members of the Legislature that synthetic turf fields and playground mats pose serious health threats (such as cancer) to their users. Although the measure did not pass, meetings were conducted with various parties. The first such meeting, on August 3, included a large number of stakeholders from other states, and several of them indicated they see the OEHHA study as playing an important role in the national debate over the safety of synthetic turf. In addition, US EPA issued a media statement on August 12 that indicated it would provide technical input for OEHHA's study rather than conduct a similar evaluation of its own. This suggests the potential for OEHHA's study to become the lead evaluation nationally on crumb rubber in synthetic turf and playground mats.

CalRecycle will use the study to inform its future regulatory decisions regarding the use of waste tire materials in synthetic turf and playground mats.

This proposal is consistent with the California Environmental Protection Agency's (CalEPA) Strategic Vision Goal #7: "Continuous improvement and application of science and technology" – under the objective to "ensure all actions taken under California's environmental protection programs are based on sound science." It is also consistent with OEHHA's general mandate of providing the best health information and evaluations to other CalEPA boards and departments to support their missions and functions.

D. Justification

OEHHA cannot meet its contractual obligations with existing resources for the following reasons:

- The workload required by this IAA is very resource intensive with a compressed time frame. It requires development of complex sampling plans and analytical protocols to characterize chemicals that can be released from recycled tire rubber in synthetic turf fields. It requires many field trips all over California to collect air, wipe, and crumb rubber samples. It requires OEHHA to work with state or commercial laboratories to process and analyze hundreds of samples. For each sample, many chemicals need to be identified and quantified. It requires OEHHA to study athletes' activity patterns on these fields and develop an exposure assessment. It requires development of a personal monitoring or biomonitoring protocol. It requires hosting at least three public meetings and six external expert advisory meetings over a three-year period. Finally, OEHHA will develop an assessment of the hazards after all the information has been collected and analyzed.
- OEHHA does not have staff available to redirect to work this three-year project.

E. Outcomes and Accountability

The requested funds will allow OEHHA to evaluate the potential health impacts of synthetic turf fields and playground mats in a timely manner. It will allow OEHHA to hire highly specialized and qualified environmental scientists and health professionals to plan and hold public and expert advisory meetings, collect samples in field studies, assist in chemical analyses and perform quality assurance and quality control (QA/QC), evaluate the monitoring data, perform toxicity evaluation of the chemicals detected, and prepare a health impact assessment and project report to CalRecycle. The fund will also allow OEHHA to contract with academic research institutes and state-owned chemistry laboratories to perform complex targeted as well as non-targeted chemical analyses.

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The study will be reviewed by the external expert advisory panel, scientists in other state and federal agencies as well as the general public.

Successful completion of the project would provide valuable scientific data to fill information gaps related to the potential health impacts of recycled tire material. The findings and results can address health concerns of CalRecycle, the tire recycle industry, the Legislature, and the general public. It could provide valuable information to the tire recycle industry so that it can improve their products and reduce or minimize any negative health impacts.

Projected Outcomes

Workload Measure	2015-16	2016-17	2017-18
Prepare for and hold external advisory panel meetings	640 hours	160 hours	480 hours
Prepare for and hold public workshops	380 hours	160 hours	160 hours
Develop and adapt sample pre-treatment and chemical analysis protocols for crumb rubber including extracting with synthetic saliva, gastric juice, intestinal fluid, and sweat	800 hours	160 hours	
Develop and adapt sample pre-treatment and chemical analysis protocols for chemical vapor and particulates in air	640 hours	160 hours	
Develop and adapt sample pre-treatment and chemical analysis protocols for wipe samples	480 hours	160 hours	
Assist in the processing and analyses of "new" crumb rubber samples	480 hours	480 hours	
Process the analytical data on un-installed or "new" crumb rubber samples	480 hours	800 hours	
Train staff in collecting weather condition data and air, wipe and crumb rubber samples in field trips	300 hours		
Conduct field trips and collect air, wipe and crumb rubber samples in the field	480 hours	800 hours	
Assist in the processing and analyses of the collected air, wipe, and crumb rubber samples	480 hours	480 hours	
Process the analytical data on the air, wipe, and crumb rubber samples collected in the fields	480 hours	480 hours	
Conduct activity pattern survey of	480 hours	240 hours	

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players			
Develop exposure models for different age groups and players		800 hours	480 hours
Toxicity evaluation and compilation of regulatory toxicity criteria	480 hours	640 hours	480 hours
Assess potential health impacts		480 hours	480 hours
Conduct feasibility study on personal monitoring		640 hours	480 hours
Prepare reports to CalRecycle	300 hours	480 hours	720 hours
Total hours	7000 hours	7120 hours	3280 hours

F. Analysis of All Feasible Alternatives

Alternative 1: Establish \$800,000 in reimbursement authority to implement the IAA with CalRecycle.

PRO: This alternative would provide OEHHA with the necessary resources to conduct studies to determine chemicals that can be released from crumb rubber and their associated health impacts. Though there are many published studies on the subject, they are all limited in scope in terms of routes of exposure studied, number of fields investigated, and the chemicals evaluated. By conducting this study, OEHHA will gather objective scientific data and help to address health concerns of the Legislature and the general public.

CON: Requires \$800,000 in reimbursement authority.

Alternative 2: Do not establish \$800,000 in reimbursement authority.

PRO: State Government would not grow, even on a temporary basis.

CON: OEHHA would not be able to carry out the activities required by the IAA in a timely fashion and the people of the State of California, industry, the Legislature and CalRecycle would not benefit from the results of the study. Thousands of California children as well as adult athletes could continue to incur unknown health risks from exposure to toxic materials in synthetic athletic turf and playground mats.

Alternative 3: Temporarily redirect resources from within OEHHA.

PRO: State Government would not grow on a temporary basis.

CON: While the IAA activities might be completed, OEHHA would need to redirect resources away from other statutorily mandated activities and would be unable to complete scientific assessments intended to protect the public from air and drinking water pollutants, and other environmental hazards.

G. Implementation Plan

Administratively establish positions to begin work in 2015/16. Develop scopes of work to secure contracted services in support of the study.

H. Supplemental Information

The request includes \$732,000 in contract funding, over two years, to provide OEHHA with the resources to contract with state-owned or commercial laboratories to perform complex and difficult sample preparation and chemical analyses. OEHHA does not have staff expertise nor laboratory equipment to accomplish this task. OEHHA has contracted with commercial laboratories in the past to perform similar chemical analyses on a much smaller scale. The cost estimate is consistent. In this project, OEHHA will collect more types of samples, including more field locations, more complex sample processing procedures, and monitoring more chemicals.

I. Recommendation

OEHHA recommends approval of this BCP (Alternative 1).

BCP Fiscal Detail Sheet

BCP Title: Turf CalRecycle Project

DP Name: 3980-005-BCP-DP-2016-GB

Budget Request Summary

	FY16					
	CY	BY	BY+1	BY+2	BY+3	BY+4
Salaries and Wages						
Earnings - Permanent	0	337	256	0	0	0
Total Salaries and Wages	\$0	\$337	\$256	\$0	\$0	\$0
Total Staff Benefits	0	160	121	0	0	0
Total Personal Services	\$0	\$497	\$377	\$0	\$0	\$0
Operating Expenses and Equipment						
5301 - General Expense	0	-633	-583	0	0	0
5302 - Printing	0	4	4	0	0	0
5304 - Communications	0	4	4	0	0	0
5306 - Postage	0	1	1	0	0	0
5320 - Travel: In-State	0	18	4	0	0	0
5322 - Training	0	4	3	0	0	0
5324 - Facilities Operation	0	38	29	0	0	0
5340 - Consulting and Professional Services -	0	700	32	0	0	0
5346 - Information Technology	0	8	8	0	0	0
54XX - Special Items of Expense	0	159	121	0	0	0
Total Operating Expenses and Equipment	\$0	\$303	\$-377	\$0	\$0	\$0
Total Budget Request	\$0	\$800	\$0	\$0	\$0	\$0
Fund Summary						
Fund Source - State Operations						
0001 - General Fund	0	0	0	0	0	0
0995 - Reimbursements	0	800	0	0	0	0
Total State Operations Expenditures	\$0	\$800	\$0	\$0	\$0	\$0
Total All Funds	\$0	\$800	\$0	\$0	\$0	\$0
Program Summary						
Program Funding						
3730 - Health Risk Assessment	0	800	0	0	0	0
Total All Programs	\$0	\$800	\$0	\$0	\$0	\$0