

TURF FIELD CANCER RISK ENVIRONMENTAL REVIEW

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As illustrated by the court opinion described herein, environmental review under state or federal law is generally more procedural than substantive. In other words, compliance with the law is based on providing the public with appropriate notice and opportunity to comment on a proposed governmental action, as opposed to ensuring environmental protection. In so doing, an environmental assessment document must identify potentially significant environmental impacts of a proposed project and respond to public comments. The legislative objective of the required environmental review document is to provide the public and the public officials with pertinent information and data necessary to promote informed governmental decisionmaking. In so doing, the process may increase the likelihood, but does not require or guarantee any public health benefits or environmental protection.

Moreover, the legislative intent of the environmental review process is not designed to act as an effective veto on a proposed governmental action. On the contrary, compliance with the applicable environmental review process assumes the proposed governmental action will go forward as planned. Also, informed governmental decisionmaking does not guarantee that identified environmental impacts will be addressed or mitigated in a proposed governmental action. Furthermore, a public agency can generally satisfy environmental review requirements under state or federal law without necessarily choosing a course of action, which is the most environmentally beneficial or sensitive option available. In fact, a public agency may choose a course of action, which is arguably more harmful to the environment as long as there is full public disclosure of potential environmental impacts in a proposed project.

Accordingly, in reviewing the legal adequacy of an environmental review document, state and federal courts will simply ensure that procedural requirements have been satisfied and not second-guess or question the environmental wisdom of a proposed governmental action. As described below, in this particular state environmental review document, the City had fully disclosed and examined the cancer risks associated with recycled rubber in a proposed turf field project. Despite the identified presence of carcinogenic materials in recycled rubber, following the required environmental review, the reviewing state court found the City could reasonably conclude that environmental risks were not sufficiently significant to delay or require any modifications in the proposed project.

RECYCLED SCRAP TIRES

In the case of *Sierra Club v. City and County of San Francisco*, 2015 Cal. App. Unpub. LEXIS 6985 (9/30/2015), the Sierra Club challenged the adequacy of a state environmental review for a sports field renovation project in Golden Gate Park, “the

Beach Chalet Athletic Fields Renovation Project.” The Sierra Club claimed the EIR (environmental impact review) was inadequate under the California Environmental Quality Act (CEQA). The trial court dismissed the case. Sierra appealed.

On appeal, Sierra argued “the EIR violated CEQA by failing to disclose and mitigate significant health risks associated with the styrene butadiene rubber [SBR] crumb infill component of the proposed synthetic turf.”

The San Francisco Recreation and Parks Department (SFRPD), the project sponsor, had proposed to renovate the Beach Chalet Athletic Fields facility, an approximately 9.4 acre public sports field that was built 75 years ago along the western edge of Golden Gate Park. The proposed project would replace the four natural grass turf fields with synthetic turf.

In their current condition, the fields accommodated approximately 4,738 hours of annual play. Installation of synthetic turf would allow for use of the fields in wet weather conditions and eliminate the need for rest and regrowth periods. Installation of lighting would allow for longer evening use of the fields. The proposed project would add approximately 9,582 additional hours per year of play time, for a total of 14,320 hours of annual play, an increase of more than 200 percent over existing conditions.

The City's Planning Department issued a Notice of Preparation/Initial Study for the Beach Chalet project in February 2011, and released the draft EIR for the project on October 26, 2011. This 368-page draft EIR disclosed that the Beach Chalet project would have unavoidable significant impacts on historic resources, incorporated mitigation measures to reduce impacts on biological resources and exposure to hazardous materials, and examined in detail four potential alternatives to the project (including a "no project" alternative).

Following the public comment period and a public hearing, the Planning Department prepared Comments and Responses for the draft EIR, also known as the final EIR, which addressed environmental issues raised by the public, contained additional analysis and reports, revised the text of the EIR in response to comments or based on additional information that became available during the public review period, and corrected errors in the EIR. The final EIR is over 1,750 pages.

On May 24, 2012, the Planning Commission adopted findings under CEQA including findings rejecting alternatives as infeasible, adopting mitigation measures, and adopting a statement of overriding considerations, and certified the final EIR. On June 12, 2012, Sierra appealed the Planning Commission's certification of the final EIR to the Board of Supervisors. After a public hearing on July 10, 2012, the Board of Supervisors affirmed the Planning Commission's certification of the EIR.

On October 12, 2012, Sierra brought a lawsuit seeking a court order to void the EIR and block the proposed project until the City complied with CEQA. On December 3, 2013,

the trial court issued an order “dismissing the complaint in its entirety.” Sierra appealed.

INFORMED PUBLIC DECISIONS

Similar to the National Environmental Policy Act (NEPA) at the federal level, the California Environmental Quality Act (CEQA) requires an environmental impact review (EIR) by the lead public agency, in this case SFRPD. The EIR is “the public document used by the governmental agency to analyze the significant environmental effects of a proposed project, to identify alternatives, and to disclose possible ways to reduce or avoid the possible environmental damage.” The legislative purpose of an EIR is to “inform the public and its responsible officials of the environmental consequences of their decisions *before* they are made.” In so doing, the EIR “protects not only the environment but also informed self-government.”

In reviewing the adequacy of an EIR, the role of the courts is not to determine “the correctness of the EIR's environmental conclusions, but only upon its sufficiency as an informative document.” Accordingly, a court will set aside an EIR as inadequate only when there is “a prejudicial abuse of discretion.” In this context, the requisite “abuse of discretion” would be established “if the agency has not proceeded in a manner required by law or if the determination or decision is not supported by substantial evidence.”

In this particular instance, Sierra claimed “the EIR was legally inadequate for failing to disclose that SBR infill poses significant risks to human health.” According to the state appeal court, it was “undisputed that SBR infill contains a number of potentially toxic chemicals that pose both non-carcinogenic and carcinogenic health risks.”

As noted by the court, the EIR had described the proposed synthetic turf as a combination of four components: fiber, infill, backing and underlayment.

The fiber, composed of polyethylene, would be grass-like in appearance. The infill, used to provide stability, would be comprised of about 70 percent SBR and 30 percent sand. The fiber and infill would be supported by a backing of woven and unwoven polypropylene fabrics that provide strength and vertical drainage. Underlayment would consist of a drainage tile or an aggregate rock base.

The SBR used in the infill is finely ground rubber derived from recycled scrap tires, and has been demonstrated to contain a number of volatile compounds and metals. Production of SBR material from tires typically includes a step to remove 99 percent of the steel belting and bead material to lower levels of iron, manganese, and chromium in the SBR material.

CANCER RISK ASSESSMENT

As cited by the court, the EIR provided the following description of “the methodology

used to determine whether exposure to the SBR material would pose a health risk”:

A human health risk evaluation is used to assess whether exposure to chemicals would pose a health risk to humans. The evaluation includes several components, including data evaluation to characterize the chemicals present and their concentrations; an exposure assessment to evaluate what receptors could be exposed to the chemicals and through which pathways (i.e., inhalation, ingestion, dermal contact); and a risk characterization...

Cancer health risks are defined in terms of the probability of an individual developing cancer as the result of exposure to a given chemical at a given concentration.

Further, the court noted that the federal EPA (Environmental Protection Agency) “considers estimates of theoretical excess cancer risk of less than 1 in 1,000,000 to be *de minimis* [i.e. too trivial or minor to merit consideration], or acceptable.” Moreover, according to EPA, “[r]isks within the range of 1 in 1,000,000 to 100 in 1,000,000 may also be acceptable depending on other risk management factors.”

According to the court, the EIR had “discussed a number of research studies that assessed the potential risks of exposure to SBR materials,” including a 2007 state environmental health study entitled *Evaluation of Health Effects of Recycled Waste Tires in Playground and Track Products*. This particular study “evaluated health risks associated with children's exposure to chemicals in the play surfaces via ingestion of loose tire shreds, ingestion as a result of hand-to-surface-to-mouth exposure, and skin sensitization as a result of dermal contact.” The study concluded “ingestion of 10 grams of loose tire shreds did not represent a serious non cancer risk and posed a *de minimis* cancer risk.” Other studies cited in the EIR found the cancer risk associated with SBR infill in turf fields to be acceptable.

SIGNIFICANT CANCER RISK?

As noted by the appeals court, the “final step of the risk evaluation” was to determine whether a particular environmental impact was “significant” within the meaning of the CEQA, specifically “the hazards associated with the use of SBR infill on the athletic fields.” In this particular instance, the court found the EIR had cited, discussed and summarized studies of cancer risk associated with SBR infill in turf fields and concluded for each study “the health impacts related to SBR infill would be less than significant.”

Based on studies and expert reports postdating the EIR, Sierra challenged the conclusion that “the cancer risks posed by SBR are less than significant.” According to Sierra, this more recent information established “the carbon black, dioxins, and polycyclic aromatic hydrocarbons (PAHs) contained in the SBR infill present a significant risk of cancer.”

In reviewing Sierra’s argument that evidence of significant cancer risk existed and had

been effectively ignored, the court would “determine whether the EIR discussion of these chemicals reflects a good faith effort to inform decisionmakers and the public on this issue.” As noted by the appeals court, the “CEQA requires an EIR to reflect a good faith effort at full disclosure; it does not mandate perfection, nor does it require an analysis to be exhaustive.” Further, the court acknowledged that an EIR would be considered adequate and upheld “if it reasonably sets forth sufficient information to foster informed public participation and to enable the decision makers to consider the environmental factors necessary to make a reasoned decision.”

CARBON BLACK RISK

In this particular instance, Sierra claimed the public had “provided the City with extensive evidence of the cancer risk posed by carbon black” contained in SBR. Specifically, Sierra cited the fact that OEHHA (the state office of environmental health hazard assessment) “lists carbon black as a carcinogen and that it comprises approximately 20 percent of the content of SBR.” (Carbon black is an industrial chemical composed of nanoparticles which is used in the manufacturing of automobile tires and other plastic materials.)

The court noted that the EIR had indeed disclosed “the presence of carbon black in SBR infill.” Further, the EIR had “acknowledged that laboratory research ‘indicates that there can be health risks associated with the inhalation of these particles’.” The final EIR also included “multiple examples of public comments addressing the fact that SBR infill includes carbon black and that carbon black is a known carcinogen.” The EIR further noted that studies referenced in the public comments had described “laboratory research or evaluate risks in the workplace environment which would be enclosed, and would result in more intense exposure to nanoparticles.” However, in an outdoor environment, the EIR found the wind would disperse any nanoparticles generated. As a result, the EIR concluded “exposures to nanoparticles as a result of play on synthetic turf fields that use SBR infill would be minimal, if any at all.”

In response, Sierra claimed the EIR was inadequate because the EIR's "wind dispersion hypothesis" is a "conclusory analysis without any citation to scientific evidence." The court, however, found the EIR had discussed studies, which had found “play on synthetic turf fields resulted in negligible generation of nanoparticles.” Moreover, the appeals court found the EIR had discussed three separate studies which noted “how air samples taken from above indoor synthetic turf fields contained higher concentrations of potentially hazardous chemicals when compared to outdoor fields.” In the opinion of the court, these studies reviewed in the EIR supported the City’s conclusion that “carbon black did not present a significant cancer risk when present in outdoor synthetic fields using SBR infill.”

On appeal, the court also considered whether the EIR had adequately addressed the existence of another carcinogenic chemical in SBR, benzo(a)pyrene (BaP), which is a polycyclic aromatic hydrocarbon (PAH). In so doing, the court cited a 2007 OEHA

study which indicated that the increased cancer risk posed by ingestion of PAH in SBR through surface-to-hand-to-mouth contact was 2.9 in a million. As described by the court, this particular study had concluded that the slightly increased risk posed by PAH in SBR was considered acceptable due to the small magnitude of increased cancer compared to the overall cancer rate. Moreover, the court noted that this specific finding about the cancer risk associated with PAH in SBR was also discussed in the EIR.

OUTDOOR VS INDOOR RISK

Similarly, the court found a 2009 OEHHA study had calculated the increased lifetime cancer risk posed by inhalation of air above indoor synthetic fields. This particular study found that of eight carcinogenic chemicals observed in air samples taken from above the indoor fields, five (including the PAHs benzene and naphthalene) were above the "negligible risk level" for increased incidence of cancer. The court took particular notice that "Data from indoor fields were used to estimate outdoor exposures and calculate these cancer risks." In addition, this particular study "assumed that all organized soccer play over a lifetime occurred on artificial turf fields." As a result, the court found these assumptions in the 2009 study "tend to overestimate the cancer risks for soccer players using artificial turf fields." Once again, the court found this particular PAH finding had been disclosed in the EIR.

The appeals court went on to cite a third study from Bainbridge, Washington which had discussed the presence of PAH in recycled rubber turf. This particular study had devised a "play scenario that formulated the cancer risk a teenager would face if he or she were to play on synthetic turf for three hours a day, 261 days per year, for seven years." In this scenario, the study concluded that a teenager would be at the threshold lifetime excess cancer risk due to exposure from PAH. The court, however, noted that the analysis of chemicals, including PAH, in the study were "based on concentrations of chemicals found in indoor facilities rather than open air environments." In the opinion of the court, this indoor/outdoor distinction was significant because data based on "indoor air value overestimates the likely risks associated with inhalation of VOCs [volatile organic compounds] in outdoor environments."

While the studies cited demonstrated the presence of PAH's and the associated cancer risk in SBR, the court found these risks were adequately disclosed in the EIR. Moreover, the court found a 2012 study cited by Sierra did not contradict the studies cited in the EIR or "shed additional light on the carcinogenic risk posed by PAHs." Instead, as characterized by the court, this 2012 study "simply reinforces the conclusion that PAHs are carcinogenic and are found in recycled rubber materials." As described above, the court found these facts were "already disclosed in the EIR."

NO NEW OR CONFLICTING DATA

In challenging the adequacy of the EIR, Sierra had also cited letters from two scientists, written in response to the draft EIR which addressed the cancer risks of SBR infill in

general. According to the appeals court, “[t]he fact that two individuals disagree with the EIR's conclusions regarding the cited studies does not render the EIR's evaluation of SBR infill's cancer risks inadequate.” Further, in the opinion of the appeals court, these letters did not disclose “new or conflicting data or opinions that cause concern that the agency may not have fully evaluated the project.” On the contrary, the court found the letters of these scientists, as well as the EIR itself, acknowledged the 2009 OEHHA study “overstated the cancer risks due to its reliance on air sampling data taken from above indoor synthetic fields.”

Based on a review of a number of studies, including those described above, the appeals court found the EIR had indeed disclosed “the presence of known carcinogens in SBR infill.” Despite this fact, the appeals court noted the EIR had “ultimately concluded the cancer risk posed by these chemicals was not significant.” Further, the appeals court found that Sierra had not demonstrated the City had been presented with “new or conflicting data or opinions” which would indicate “the City may not have fully evaluated the cancer risks posed by SBR infill or its constituent chemicals.”

CONCLUSION

Accordingly, in the opinion of the appeals court, “the EIR included sufficient information to permit informed decisionmaking and public participation relating to the cancer risks of SBR infill in general and carbon black and PAHs in particular.” As a result, the appeals court found the EIR was adequate and complied with the requirements of the state environmental quality act (CEQA).

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