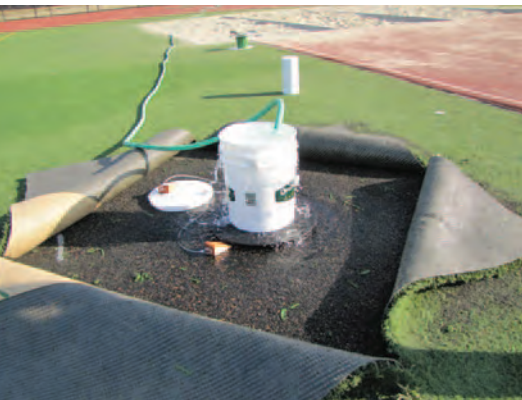


# CONSIDERATIONS when replacing synthetic turf fields



>> **Above:** Field assessment and evaluation

>> **Left:** Field permeability test **Right:** Turf removal and salvage

**I**N THE UNITED STATES there are easily more than 5,000 synthetic turf fields used by youth and adults of varying ages and competition levels. Each field has a different level of use, climate, installation quality, and maintenance practices that dictate how it will wear after its initial date of installation and ribbon cutting ceremony. Each field's owner also has slightly different expectation of how their field will wear and criteria for replacing an existing field. For some of you, it could be largely a perception of visual quality, not necessarily playability. For some, the concern is safety and wear levels. And for even others, it could be that the field that has just not performed like they expected or hoped it would and they want to move on to a new and different product.

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With the many possible conditions of a playing field, it is important to assess where your specific field is in the overall state of its life cycle and assess the reasons why it is in its current condition now. This determination requires evalu-

ating how the field was constructed—including its base and drainage systems and the turf product used—then completing an on-site field evaluation which would include a review of the type and number of events held on the field. This evaluation can be relatively straight forward and simple to complete. Our experience has shown that the assessment should include the following test criteria:

- The planarity of the field and observed surface imperfections.
- G-max/HIC test data during the lifespan of the field.
- Seam and inlay integrity of the turf product, including at all transitions from turf to the adjacent surfaces.
- The quality of any past turf repairs.
- The level and quality of the existing infill materials compared to the initial installation and design specifications.
- General visual condition of the turf, including fiber evaluation (i.e., are fibers showing complete splitting, “hair splitting” or fracturing?)
  - Average length of fiber loss to date due to wear and tear. Field traffic, grooming or other action may affect the fibers over a period of time. Compare the current measured pile heights versus pile height when the product was new. The projected length of fiber remaining at the end of the warranty period is based on a projection of the average annual wear.
  - Drainage issues: Identify known or observed signs of drainage issues such as areas that pond or that are known to be slow in draining

after a rain event. Staff with knowledge of the field should be interviewed to understand the history of the field’s drainage efficiency.

- Field permeability.
- Environmental testing of turf materials.

We recommend that the warranty for the turf product be reviewed to see if it is still in effect and, if so, what level of coverage may currently exist. An analysis of the recommended care of that turf company’s product should be compared to the level of on-going maintenance, including equipment used and frequency of those maintenance practices. It is important to understand what steps the owner is taking in maintaining the field, and if those steps are positively or adversely affecting the quality of the current condition of the turf.

For most turf fields we have evaluated, turf managers are concerned that the typically have is that there are issues with the field surface that are not necessarily due to the physical makeup of the turf product: the fiber, infill, or backing material. Rather, some of the field’s inlays may be coming apart; there may be a hole in the turf due to wear issues and insufficient turf care or proactive repair; or the field’s base may not be draining properly or may have settled.

In our experience, base issues and turf installation quality are typically the primary factors for a turf field to be considered in a poor state, not the product itself. This is not to say that the field’s fibers may not be matted down, frayed, split or fractured, and that



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the infill levels aren't uneven, as many fields can show some of these characteristics. It is just that compared to a new turf field with improved fiber technology, they appear "old, tired, and used up."

It is inevitable that you will have to replace your existing synthetic field at some point in the future. Unless the replacement is covered under an in-effect warranty with the turf company, you will need to contract for the removal and disposal (or ideally, recycling) of the old turf and purchasing and installing a new turf product. If there is a condition with the field that may be covered by the warranty, you should directly contact the turf company for an investigation of the issues identified and potential solutions. Many warranties will not fully fund replacement by the turf manufacturer. The amount of wear and tear will naturally be of consideration. The older the field the less cost discount will be offered by the manufacturer on new turf.

When replacing an existing turf field, take the opportunity to evaluate the quality of the overall facility. In a general sense, did the field and the overall space meet your expectations, exceed them or fall short? Were the activities on the field those that were initially identified or were there additional activities and events that impacted the field? If there were, can modifications be made to the field's base or areas around the field to accommodate the change in activities? Should a turf product with modified specifications to the one being replaced be considered? This consideration could be important if there has been change in the field's use. For example, a field used for field hockey has different field requirements than one for football.

Another item to evaluate whether the existing dimensions of the synthetic turf still meet your and user groups' needs and goals, as well as conforming to changes in sport rules and regulations. For example, if you have a lighted facility and two softball fields replaced natural grass with synthetic turf, leaving the existing skinned infields. After several years of use, the user groups and turf professional both agreed that the decision to keep skinned infields was a mistake, as it minimized the amount of area for soccer fields in the shared turf area, and it also reduced the amount of days the fields could be used for softball due to inclement weather. So when the field's synthetic turf was recently replaced, you installed new synthetic turf throughout the field, eliminating all the skinned surfaces. This decision reduced the amount of maintenance the infields required, increased the number of days the fields could be used, and allowed the field area to have two full-size soccer fields that could be used concurrently.

Field markings are also a key consideration when looking at replacing a field. It is not uncommon for a new field to receive permanent field striping for new field layouts not on the existing turf field. In other situations, the client decided to eliminate permanent field lines altogether due to changing needs, frequent rules modifications, the need for field flexibility so that no specific use is perceived as the dominant sport.

We also think an important item to evaluate is the infrastructure and utilities that service the turf area and the immediate surrounding areas. At a recent field replacement, the original design had irrigation quick couplers and drainage cleanout boxes that were

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exposed at the field surface and were less than one foot from the playing field—certainly not an ideal situation from either a playability or safety standpoint. So when it was time to replace the turf, the quick connect water couplings and boxes were moved to the outer edge of the turf, well beyond the playing field, and all cleanout boxes were lowered beneath the playing field surface. In addition, there may not have been infrastructure installed during the initial field construction projects that are now desirable or necessary.

Other considerations that should be included in the assessment of the existing turf field are whether the field requires a shock pad or if any new permanent embedments are needed in the turf (i.e., sleeved goals, mounting standards for track cameras, sleeved netting systems, etc.). Making all upgrades before installation of new turf, not after, is the best practice due to the complexity of cutting the turf and completing base modifications without creating long-term issues with the base or associated turf product.

If you are in tune with the field’s regular use and maintenance practices, you can develop a sense of how the field has performed and what the perception of the field is by the user groups. This knowledge is the most important information in making decisions for the turf replacement process. A design professional who has completed many field replacement projects can be a valuable resource to guide you in the process of how to remove the old turf, complete any modifications or repairs to the base or adjacent areas surrounding the



>> **FIELD GRAND OPENING**

field (such as needed infrastructure improvements), and assist in developing technical documents for the new field installation. By combining the determination of your needs with the knowledge and experience of a professional, you can achieve a smooth transition between the old and new—synthetic turf, that is. ■

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