A PRACTICAL GUIDE FOR HOMEOWNERS + LANDSCAPE CONTRACTORS

Bocce Court Mix

Installation & Care Guide



Example finished court with river-stone borders. Appearance and construction vary by project.

Build a stable foundation, plan for drainage, and finish the playing surface with care. This guide walks through a residential natural-material court from layout to long-term maintenance.

PLAN

Choose the size, drainage outlet and final surface elevation.

BUILD

Prepare stable layers and verify each stage before covering it.

MAINTAIN

Groom gently, correct low spots and keep outlets clear.

Confirm the supplied mix before installation

Before ordering, confirm the finished surface depth, compaction allowance, moisture method, finishing equipment and any top dressing for the supplied blend. Use the layer section on page 3 as a planning example and have your installer adapt it to the actual soil, drainage and court design.

Plan before you order

Choose the site, define the playing area and arrange materials before excavation.

Court size: measure the clear inside dimensions

Example layout	Inside dimensions	Playing area
Compact backyard	10 ft x 40 ft	400 sq ft
Long backyard	10 ft x 60 ft	600 sq ft
Residential example used in this guide	12 ft x 60 ft	720 sq ft
Larger recreational court	13 ft x 76 ft	988 sq ft

These are recreational planning examples, not competition standards. Leave room outside the borders for construction, safe access, drainage and maintenance. Verify the rules and access requirements separately for organized or public play.

Site and design checklist

- ☐ Choose a reasonably level site. Sloping lots, retaining structures, unstable fill and persistent wet ground need a site-specific design.
- ☐ Set the finished court elevation and identify where rainfall and upslope runoff will go. Keep building drainage and irrigation off the court.
- ☐ Contact 811 before digging or driving stakes. Wait for the required responses and follow the ticket instructions. Arrange separate locating for private irrigation, lighting and other private lines.
- ☐ Confirm property limits, local approvals and any drainage or accessibility requirements that apply to the work.

Tools and materials

Tools / equipment	Materials / components
Tape, stakes, string, laser or builder's level, straightedge and screed rails	Approved surface mix; compatible base and drainage aggregate
Shovels, wheelbarrows, grading rake, hose with fine spray and court broom	Exterior-rated border system; compatible anchors and corrosion-resistant fasteners
Base compaction equipment; smooth roller suited to the surface trial	Designed drain system and filter/separation geotextile where specified

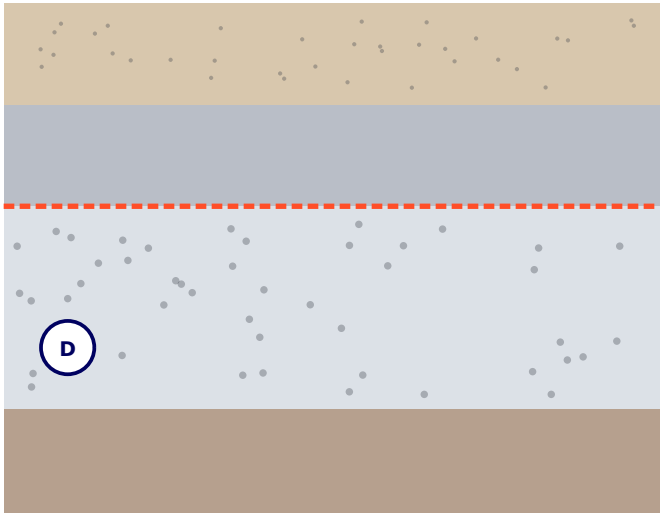
Work safely: Wear gloves, sturdy footwear, eye and hearing protection as appropriate. Minimize airborne dust, review the material safety information, and use task-appropriate controls and respiratory protection when required. Keep people clear of equipment and delivery trucks.

Understand the court layers

Illustrative section only. All dimensions shown below are finished, in-place thicknesses.

Example stack: 4 in + 2 in + 2 in = 8 in

Use this section to discuss quantities and elevations with your installer. Soil, drainage, aggregate size, equipment and the actual blend may require a different design. Layer thicknesses are not certified product requirements.



Bocce Court Mix
2 in example

Leveling / base course
2 in example

Drainage aggregate
4 in example

Prepared subgrade
Depth varies with site

D = optional collector drain at the designed low edge; route to an approved outlet. Orange line = designed filter separation. Diagram is not to scale.

Layer	Purpose and selection
Playing surface	Finish for ball roll. Confirm the blend, required finished depth and finishing method before ordering and installation.
Leveling / base course	Firm, accurately graded support. A dense-graded base is not the same as clean drain rock and is not automatically freely draining.
Filter / separation	Retains fines while passing water. Choose geotextile by soil and aggregate compatibility; ordinary plastic weed sheet is not a substitute.
Drainage aggregate	Clean, angular, open-graded stone selected for the design. It needs an effective escape path; a stone-filled excavation can still hold water.
Subgrade	Prepared existing ground with unsuitable soil removed. Add lower separation or stabilization only where the site design calls for it.

Keep the playing surface flat. Set pipe falls and any below-surface drainage grades in the site design. Do not add a generic patio-style slope to the playing surface; it changes ball roll.

Prepare the site and borders

Steps 1-4 | Do not bury a drainage or soil problem beneath the surface mix.

1 Lay out a square, parallel court

Measure between the inside faces of the future borders. Run string lines, check the width at several locations and compare diagonal measurements. Equal diagonals in a rectangle help verify square corners. Set a protected benchmark for all finished elevations.

Layout check for the 12 ft x 60 ft example

Inside area: 720 sq ft. Each diagonal: about 61.19 ft. Inside perimeter: 144 linear ft. Border thickness, posts, working space and drainage lie outside these dimensions.

2 Excavate to firm ground

Remove sod, roots, organic topsoil, debris and soft pockets. Calculate excavation from the approved finished elevation and total layer stack. The 8-inch example assumes a flush finished court and suitable soil immediately below; stripping or poor ground can increase excavation. Prepare beyond the border where needed for foundations and access.

Do not compact mud. Stop if the ground pumps, visibly ruts or remains saturated. Have the installer determine whether drying, undercutting, replacement fill or another stabilization method is needed. Keep excavated soil separate from clean court materials.

3 Build and check the drainage route

Intercept water arriving from outside the court. Where the design calls for an underdrain, bed a perforated collector in clean drainage aggregate and connect it to an approved discharge route. Set pipe size, slope, filter details and cleanouts for the site and pipe system. Check flow before covering. Do not discharge toward a building or neighboring property.

4 Install secure, straight borders

Use a border system suited to exterior ground exposure and ball impact. Anchor and brace it using its approved detail; keep sharp hardware out of the playing area. Verify alignment, elevation and clear inside size. Provide containment above the playing surface and any designed drainage openings. Use smooth inside rebound faces where needed; decorative stone can have irregular rebounds.

Check before proceeding

Subgrade is firm; utilities are protected; elevations are recorded; borders are stable; drainage has a clear, functioning outlet. Have retaining walls, structural footings and challenging ground conditions designed separately.

Build a stable foundation

Steps 5-6 | Complete and inspect the base before opening the surface mix.

5

Place the designed drainage and filter layers

Install any specified lower separator on the prepared ground. Place clean drainage aggregate without mixing in soil or base fines. Spread evenly and consolidate using equipment appropriate to the aggregate and layer depth. Preserve the designed collector route and elevations.

Where the section includes filter fabric above the drainage aggregate, install it flat without tears or wrinkles. Follow the selected fabric's seam, overlap and edge details. Protect it from traffic and cover it carefully; patch damage before it is buried.

6

Place and compact the leveling / base course

Spread the approved base in layers thin enough for the selected compaction equipment. Follow its effective lift thickness and moisture guidance; a deep layer compacted only at the top can settle later. Condition the base evenly rather than flooding it. Use systematic overlapping passes and compact carefully along the borders.

Screed the top of the base to the required elevation, leaving the full approved depth for the court mix. Remove temporary rails and fill their grooves with the same base material. Recheck after compaction and correct irregularities in the base instead of hiding them with uneven surface thickness.

Base inspection: check the whole court

- ☐ Check length, width, diagonals and base elevations against the benchmark.
- ☐ Use a long straightedge in several directions to find humps, hollows and edge dips. Agree on the flatness target with the installer before work begins.
- ☐ Confirm there is no visible pumping or movement under the intended construction traffic. A visual check does not prove a specified compaction density.
- ☐ If the project specifies a density or proof test, obtain the required field verification before covering the base.
- ☐ Protect the finished base from soil, vehicle ruts, heavy rain and foot traffic until the surface is installed.

Use each material for its intended job

Clean drain rock provides void space for drainage. Dense-graded base provides firm support. Surface mix provides the playing finish. These materials are not interchangeable, even if they look similar in a stockpile.

Install and finish the surface

Steps 7-10 | Establish the method on a test section, then repeat it consistently.

7

Inspect the delivery and make a test section

Check the delivered material before spreading. Keep it on a clean pad or protective sheet and protect it from runoff. Make a small test section over the completed base using the intended finished depth. If handling has separated coarse and fine particles, gently reblend for consistency without crushing the material.

Confirm on the trial: loose depth needed to reach the finished depth; amount and sequence of wetting; roller or other approved equipment; surface texture; and ball roll. Record the method and use it across the court. Confirm any separate top dressing before purchasing it.

8

Spread to a controlled, even depth

Place manageable amounts without disturbing the base. Rake gently and screed with level rails or a verified reference. Set the loose placement depth from the trial, not by assuming it equals the finished depth. Keep the same depth across the court and through the corners. Remove rails and fill their tracks with the same mix.

9

Condition moisture and consolidate

Use the trial-approved wetting sequence. Apply water in controlled passes and allow it to soak in; do not wash fines toward the edges. Some blends require deeper wetting, while others need only light conditioning. Stop if water ponds, slurry forms, or the base starts to move.

Use a smooth roller or the finishing equipment approved in the trial. Work in overlapping passes without sharp turns or sudden braking. Correct ridges and low areas, then repeat as needed. Use a vibrating plate on the surface only if it is confirmed suitable for this mix and finish.

10

Check, groom and open for play

When the surface is firm enough to work without rutting, check it with a straightedge and roll balls in both directions and across the width. Repair localized dips or drag marks, then groom lightly. Keep the court closed while it is soft, muddy or marking deeply. Readiness depends on moisture and weather, not a fixed number of hours.

Top dressing is optional and blend-specific

Do not automatically add oyster shell flour, sand, cement, salt, binders or stabilizers. Add only a compatible product and amount confirmed for the selected surface system. An unsuitable or excessive dressing can change ball roll and moisture behavior.

Calculate material quantities

Use feet for length and width, inches for depth, and cubic yards for volume.

Volume formula

Cubic yards = length (ft) x width (ft) x depth (in) / 324

The result is geometric volume at the entered depth. A finished-depth calculation is not yet a loose delivery quantity.

Inside size	Sq ft	1 in	1.5 in	2 in	3 in
10 x 40 ft	400	1.23	1.85	2.47	3.70
10 x 60 ft	600	1.85	2.78	3.70	5.56
12 x 60 ft	720	2.22	3.33	4.44	6.67
13 x 76 ft	988	3.05	4.57	6.10	9.15

Volumes are cubic yards, rounded to two decimals; totals use unrounded values. Depth columns are calculation options, not installation recommendations. Calculate every approved layer separately.

Worked example: 12 ft x 60 ft court

Example layer	Finished depth	In-place volume
Bocce Court Mix	2 in	4.44 cubic yards
Leveling / base course	2 in	4.44 cubic yards
Drainage aggregate	4 in	8.89 cubic yards
Total example stack	8 in	17.78 cubic yards

Allow for compaction correctly

Obtain a loose-to-finished yield for each supplied material. If a trial shows a **20% loss of loose volume**, divide the desired finished volume by 0.80. For this court's 2-inch surface: **(720 x 2 / 324) / 0.80 = 5.56 loose cubic yards**, before a separate handling allowance.

The 20% figure is an arithmetic example, not a TerraBay shrinkage rate. Adding 20% to a finished volume is not equivalent to allowing for a 20% loss of loose volume. If no yield is available, confirm the order allowance with your installer.

Weight, excavation and ordering

Tons = loose cubic yards x verified bulk density in tons per loose cubic yard. Use this blend's density. Excavated soil may swell, increasing haul-off volume. Confirm selling units and truck limits; round quantities to whole checkout units where required.

Care and troubleshooting

Maintain a natural-material court gently and correct the cause of recurring problems.

When	Recommended care
Before / after play	Remove leaves and debris by hand or gentle collection. Lightly groom ball marks with the agreed court broom or drag; avoid raising dust.
As conditions require	Use the confirmed moisture and rolling method. Do not play, groom deeply or compact while the court is muddy or pumping.
After storms	Check low spots, runoff entry, drain outlets and border movement. Reopen only when the surface is firm enough to avoid damage.
Periodically	Check flatness, anchors and surface depth. Repair with compatible material. Keep a small clean reserve for future patches.

Diagnose before adding more mix

Problem	Likely issue / next action
Balls drift the same way	Check base and surface grades, ridges and edge dips. Re-level the affected layer; repeated rolling alone cannot fix a sloping foundation.
Soft surface or deep tracks	Check moisture, trial method and underlying movement. Let excess moisture drain; investigate the base if softness returns.
Standing water	Check for a surface hollow, blocked outlet, incoming runoff or trapped water below. Repair the drainage cause before resurfacing.
Coarse patches / uneven roll	Look for handling segregation or exposed base. Restore uniform blend and depth; do not rake away all coarse particles.
Dust, cracks or crusting	Review moisture and finishing practices. Groom shallow defects as the approved system allows; confirm compatible repair material before adding a dressing.
Weeds at borders or seams	Remove early and check incoming soil, seed and edge gaps. Fabric does not stop seeds germinating in debris above it.

Protect the finished court

Avoid pressure washing, aggressive blowing, deep raking and vehicle traffic. These can remove fines or damage the layers. Take care when sweeping dry material; use dust-minimizing methods suited to the material and task.

Terms explained

A separate reference page for anyone new to court construction or bulk materials.

Aggregate

Stone particles used for drainage or support. Size and grading determine how the material behaves.

Base course

The supporting aggregate layer below the court surface; it provides a firm, accurately graded platform.

Benchmark / datum

A protected reference elevation used to check all the other layer and border heights.

Compaction

Reducing void space by suitable equipment and moisture. It changes loose thickness and volume.

Cubic yard (cu yd)

A volume of 27 cubic feet. It is not a weight and cannot be converted to tons without a density.

Dense-graded / minus

A range of particle sizes including fines. The name alone does not guarantee a drainage rate.

Fines

Small particles that fill spaces between larger grains. Their amount affects binding, dust and water movement.

Finished depth

The final in-place thickness after the required consolidation; different from the initial loose depth.

Geotextile

An engineered fabric used for filtration or separation. Selection depends on the adjacent soils and aggregates.

Gradation

The distribution of particle sizes in a material, usually measured by sieve testing.

Lift

One placed layer of material that is compacted before the next layer is added.

Open-graded drain rock

Aggregate with relatively few fines and connected voids for water movement; it still needs a discharge path.

Screed

A straightedge or tool used to strike material to the desired elevation and remove high spots.

Subgrade

The prepared ground supporting the court layers. Weak or wet subgrade can cause the whole court to settle.

Top dressing

A separate thin finishing material, used only when it is compatible with the chosen court system.

Yield / shrinkage

The relationship between delivered loose volume and finished in-place volume; confirm it for each material.

Three units to keep separate

Square feet describe area. **Cubic yards** describe volume. **Tons** describe weight. Court depth connects area to volume; material density connects volume to weight.

Final checklist and project record

Keep the installation notes with the court so future repairs use the same method.

- [ ] Approved dimensions, elevations, layer depths and drainage route are recorded.
- [ ] Borders are secure; anchors are covered; there are no sharp or loose projections.
- [ ] Finished depth, straightedge checks and ball-roll checks are satisfactory.
- [ ] Drain outlets work; the surface is firm; maintenance equipment and method are agreed.
- [ ] Delivery details, trial results, photos and compatible repair material are retained.

Installation record

Project / location

Installer / date

Clear inside length x width

Final surface depth

Mix delivery / lot reference

Loose-to-finished trial result

Wetting / roller method

Drain outlet / maintenance notes

General background resources

These public resources provide general context and do not identify the source or formulation of TerraBay's product. Other court systems may have different details.

Bocce Australia: court foundation and drainage background (different surface system)

Pleasant Hill Recreation & Park District: natural-court care context

811: utility locating before digging

OSHA: construction dust and crystalline silica information

Reviewed October 22, 2026. TerraBay diagrams, calculations and worksheets are illustrative planning aids.

DISCLAIMER - GENERAL INSTALLATION GUIDANCE

This guide provides general educational and planning information, not an engineered design, certified material specification or guarantee of performance. Example depths, quantities and methods must be verified for the supplied mix, actual site and intended use. Natural color, texture, moisture and particle distribution may vary. The owner and installer must confirm suitability, quantities, site conditions, drainage, utilities, required approvals and applicable project requirements before work begins. Use current product instructions and safety information. Obtain qualified design advice for unstable ground, slopes, retaining structures, persistent drainage problems or public-use facilities. Performance depends on materials, installation, weather, use and maintenance; this guide does not establish tournament, accessibility or regulatory compliance.