



INSTALLATION GUIDELINES

ShawGrass is a durable turf that requires planning and expertise to install correctly. Preparing the site is critical for long term success and while it will involve the most labor it will also provide the best results. The following guidelines will help to ensure that your projects are planned efficiently and give your customer the results they need.

1. PLANNING

A. Area: The area for turf installation should be clearly defined and marked.

B. Drainage: Determine whether the project area has an adequate existing drainage or will require additional drains or modified drains, grading or sloping.

C. Soil Condition: Check to see if you will need to wet or soften the ground or use a jackhammer to remove large rocks. Rain soaked soil may need to dry a few days before synthetic turf work begins.

D. Irrigation: Locate existing sprinklers or bubblers for the remaining trees and plants or complete irrigation for trees and plants first. Identify all irrigation lines, electrical conduit, etc. below ground that could be damaged during the synthetic turf installation. Reroute where possible.

Irrigation sprinklers are not needed for lawn turf, you will want to consult your Irrigation specialist to assist in rerouting or shutting off heads. If you opt for the TurfChiller cooling technology you may want to simply change the irrigation settings at the box as your customer will benefit from having an easy watering source.

E. Preventing Future Damage: Determine if additional supplies are needed to prevent damage from rodents or ground animals. Rodent wire (similar to chicken wire) may be appropriate. Secure the entire perimeter to prevent the synthetic turf from being pulled up or damaged by pets.

F. Existing Design Elements: Locate existing concrete borders and determine whether you need to nail into concrete footings. If you are using curbing, edging or border materials, install it prior to cutting the synthetic turf and adding any base material, as this will give you a more accurate measurement for the synthetic turf. Tree roots and pest control should also be considered.

G. Measurements: To reduce labor, measure the project area carefully and design the layout to minimize the number of seams in the synthetic lawn. Plan for a little extra material, especially if you involve curves in your design. A good figure to use is 10%. Use a smart level or transit for proper slope of 2% min.

H. Design Application Tips: All synthetic turf products have a pile (grain) direction that must be taken into account. Note the pile direction and install all sections of synthetic turf in the same pile pattern. Installing synthetic turf in opposing pile patterns may result in noticeable seams. The grain should face toward the primary viewpoint as this will minimize sheen.

MATERIAL PREP

A. TURF

Measure the entire turf area, and order more than enough turf to cover the entire area. Do this even if you only do partial installations over a period of time. Turf is manufactured in individual batches with normal batch to batch variation, so you will want to order enough for your entire job. Turf is typically manufactured in rolls that are 12 or 15 feet wide, so you should break your installation area into 12 or 15 foot wide sections, and then add the total length of these areas. Roll out the turf the day before installation as this will allow the panel to relax. If the synthetic turf has wrinkles, lay it flat on a flat surface in the sun or stretch.

Taller pile heights will require more infill so be mindful of your calculations. Also, remember that turf wrapped closest to the core may be excessively wrinkled, plan on about 18" of waste just to be on the safe side.

B. BASE MATERIAL

You will need approximately two-to-six inches of stone base under your turf. One yard of base material will cover 80 sq. ft. at 4 inches depth (one yard = one ton). Fine stone or aggregate (89 stone; 1/4" to 5/8" in size) can be applied over a coarse aggregate (57 stone; 1/2" to 3/4" in size), or a mix of coarse and fine aggregate (often referred to as crush and run) can be used. Your local building supply vendor will be your best source, and may offer delivery and installation options.

Avoid using pea gravel as your base material. DO NOT use pea gravel as rounded stone will shift too much. Pea gravel stones have a smooth, round surface, which make them hard to compact. Your local nursery, mulch or stone center will be your best options for gravel.

C. INFILL

Infill helps weigh the turf down and stabilize the fibers to keep them upright and prevent matting. Infill is essential as it assists with drainage and creates a firm, natural feeling base. Specialized infills can be used as well. TurfChiller cools surface temperatures significantly and requires at least 2# per square foot to be effective. Envirofill is an infill that is green in color, offers some cooling properties and has Microban®. Combining the two is a great combination when children or pets are involved.

D. SAND INFILL

In some geographic areas, you may want to use a color coated sand on the top of your infill. Coated sand is more expensive than white or natural sand, so it is normally only used on the top of your infill. A good rate would be 1 lb per sqft. Calculate the amount of sand infill in advance; a good estimate is three-to-five pounds of sand per square foot on 50-80 ounce turf.

E. TURFCHILLER™

TurfChiller is an evaporative cooling technology used to cool synthetic turf surfaces. The Turf Chiller technology is a pre-coated material so it arrives on site already bonded to the sand infill. Once installed, just hydrate to activate. Turf Chiller requires moisture to provide the long-term cooling effect.

We highly recommend TurfChiller as it is a specialized infill that drives surface temperatures down significantly. When used around families, pets and children it provides an extra level of comfort and provides the best peace of mind on hot days.

F. FABRICS

Don't forget to procure weed barrier. You may also need a wire mesh rodent barrier if you have had prior rodent problems (gophers, moles, etc).

G. SEAMING MATERIAL

Be sure to have enough seaming tape to run the full length of your seams, as well as adhesive. Take time to do your seams correctly as this will be one of the most noticeable features when complete. Also, please be sure to read all adhesives labels to ensure that they are used and stored correctly.

Plan your project to minimize or hide seams; for example place seams in the back or out of the line of site. Also, consider reworking your design to maintain 15' widths, this will save a lot of labor and potentially visible seams as well.

H. LANDSCAPE NAILS/SPIKES

(approximately 3.5 – 10 inches in length)

Spikes will be used alongside sidewalks, tree rings and other objects in the area to landscape. They will eventually be covered by infill but you will want to embed them as

deeply as possible. There are a variety of spikes available ranging from plastic to galvanized/non-galvanized. Local soils will drive these considerations.

Application will determine size of nail or spikes to use. Nails should be applied approximately every six inches along the perimeter of the installation, as well as along all seams to secure turf.

Use nailer board nails one-to-two inches galvanized or staples ¼ inch – ½ inch. Shorter nail spacing may be required when using nailer boards.

I. EDGING MATERIAL

Polyboard is superior to other lawn edging products because of its durability and multiple uses. It looks like real wood, but performs like plastic. Polyboard can be bent and curved to fit all your landscaping needs. Pressure treated wood may also be used.

TOOLS & EQUIPMENT

A. SAFETY

- Rubberized and leather gloves
- Back braces
- Knee guards
- Safety glasses
- First-aid kit
- Safety cones—for use on street for materials and equipment

B. MEASURING

- 100 ft. flexible metal tape measure
- Snap line for marking long cuts of turf
- Hard-edge level—two-to-four foot
- Square or T-square for squaring edges of turf

C. SITE PREPARATION

- Construction-grade wheel barrows
- Flat head shovels
- Spades—rounded head

- Large picks
- Small picks
- Leaf rake

D. BASE PREPARATION

- Transit or smart level
- Asphalt or landscape rake (40 inch)
- Pointed mason trowels – used to clear and clean edges of concrete, etc
- Hand Tampers (Eight or 10 inch)
- Water filled roller
- 2" x 1" x 2' pieces of wood - for hand tamping edges & small areas

E. TURF CUTTING

- Commercial quality knives and blades (select a blade and knife set that is easily changeable and stock up on blades)

F. INFILLING

- Drop spreaders for small jobs using a small drop spreader (holds approx. 75 lbs. of infill) or for larger areas, using a commercial drop spreader (holds approx. 200 lbs.) or walk-behind or tow behind units.
- Installation and grooming rakes (poly-nylon)
- Grooming hand brooms or tools (poly-nylon)

G. MATERIAL HANDLING > 1000 SF

- Fork lift with forks and 15 foot carpet pole
- Bungee cords or rope for securing loads
- Carpet dollies

H. HAND TOOLS

- Small hand shovel—used to clear and clean around pipes and tight edges
- Hammers
- Pliers (various sizes and shapes)
- Wrench and socket set (for small tool repairs and use in adjusting irrigation, etc)

- Sledge hammer (medium to large)
- Rubber mallets
- Cement chisel for removing extra concrete, rocks or other obstructions
- Pipe cutter (for modifications to irrigation)

I. POWER TOOLS

- Power brush to fribulate (bloom) blades
- Hand saw or power saw to cut bender board, pipes
- Leaf blower (for cleanup of organic materials and job site areas)
- Sod cutter (optional rental)
- Vibratory plate compactor (optional rental)

J. MISC. TOOLS

- Several small and large tarps or plastic drop cloths
- Several small containers for used blades and small buckets for hand-filling, small tools and job materials
- Gas cans for both plain gas and mixes

K. SITE CLEAN UP

- Water hose (100 ft.) and nozzle with variable heads
- Brooms (one soft bristle and one hard bristle)
- Small hand broom for rocks, edges, etc
- Shop vacuum (two gallon to larger)

2. AREA PREPARATION

Call 8-1-1 before you dig to prevent damage to underground utilities and service interruption. This is the universal number for the 71 regional services that coordinate location services for underground public utilities in the U.S.

A. Remove all turfs, sods, mulches, etc. from the marked area. You can do this with a manual shovel, or a gas-powered sod puller (you can rent one at most rental centers) or have a local landscaper remove the existing sod and any landscaping you want removed from your installation area. Excavate two-to-six inches of turf and soil if removing an old lawn. You will later replace this turf and soil with two-to-six inches of stone base material.

B. If you are landscaping around trees, shrubbery, flowers, light poles, utilities, etc., remember to mark around those areas and account for the turf edge configuration.

C. Leave ample area uncovered around the bases of trees.

D. Check on local ordinances on disposal of green waste before starting. Let your site dry out for a few days before excavating.

E. Do not use a tiller to remove turf because that will disturb the soil below the sod and create a poor base. A sod cutter is recommended for large areas. These are available at many tool rental suppliers. A spade or shovel can be used to cut the sod into small strips in small areas.

F. Organic material left under the newly installed surfaces will decompose, which can lead to sub-surface failure. Any newly removed tree stump or root areas should be free of organic materials, then filled and compacted prior to job start.

G. Using an inverted spray can marker, mark off the boundaries for your lawn and to label layout. Remember that synthetic turf comes in either 12-foot or 15-foot widths. Plan your installation with this in mind, to have as few seams as possible with your layout.

H. A variety of edging materials and border solutions may be used for your synthetic turf project. Examples may include transitions from synthetic turf to a flower bed, mulch, stone edging or sidewalks. You may also use synthetic lumber or synthetic turf edging.

I. This is the perfect time to add edges, large rocks, install pavers, stepping stones, walkways and walls.

J. If you have a sprinkler system in the installation area, reroute to perimeter if possible, or cap the unnecessary sprinklers and turn off their valves.

3. SOIL COMPACTION

A. It may be necessary to compact the native soil/sub-grade prior to base construction.

B. In the case where the native soils are soft and/or saturated, it is advisable to install a geotextile to separate the soft soils from the crushed stone base.

C. As a rule of thumb, if there is standing water, or if water comes to the surface under foot, a geotextile should be used.

D. You need to fully firm up the ground that will be the foundation for your turf. You can use a sod roller, or a vibrating plate compactor, which you can rent from your local rental suppliers. Ensure the existing ground is sloped properly or follows the grade of the surrounding area for adequate draining.

E. Apply a high-quality weed and turf killer to the lawn installation area.

F. Determine if additional supplies are needed to prevent damage from weeds, rodents or ground animals. Weed barrier and rodent wire (similar to chicken wire) may be appropriate (this is not always necessary in arid or dry climates).

4. BASE CONSTRUCTION

A. A crushed stone base of two-to-six inches should be spread evenly over the prepared area.

B. If using heavy equipment to do so, the equipment should not drive directly upon the prepared site. If it is unavoidable, the operator needs to be cautious of turns that can damage the base.

C. The crushed stone should be a D.O.T. Class 2 aggregate or equivalent, with maximum particle size of $\frac{3}{4}$ ", or approved equal. Class 2 aggregate is available in most areas.

D. The crushed stone should be spread evenly, as smoothly as possible. Use of a finer material will help to aid final grade.

E. For the depth of the base as a rule of thumb, in arid climates such as Las Vegas, Phoenix or San Diego, two inches of base course is sufficient. In climates with more rainfall or a higher water table, such as Seattle, New Orleans, or Houston, up to six inches may be necessary.

F. Lightly spray your surface with water and then firmly compact the sub-base using a hand compactor, landscape roller or vibratory plate compactor.

G. Check for surface depressions. If the base course layer is not as smooth as desired, or there are undesired undulations, it may be necessary to add a layer of fines (stone dust, screenings manufactured sand, etc.) to fill in the low spots or create a level surface. This layer should be kept to a minimum, preferably no more than two inches. This layer must be compacted with a heavy roller or plate compactor. Fill in and re-level any base depression that is more than 1/4" deep.

H. Even though synthetic turf drains water vertically through drainage holes built into it, we also suggest giving the base a very slight slope, away from any buildings, to a proper drainage area to avoid any pooling at all.

J. Continual passes over the project area are required until a compaction rate of 95% or greater is achieved. When dry, the project area should be smooth and firm to eliminate unwanted bumps under the synthetic turf.

K. Add your base starting at the farthest side of the install. Go from edge to edge, not center to edge. Feather base from load to load. The base material should be spread evenly. Grade and level to meet design and drainage requirements. Shape to desired appearance—flat, slight roll, mounded.

L. A gas powered vibratory plate compactor may be rented for larger jobs. Overlap trips with the compactor to minimize ridges and bumps.

M. Do not walk on freshly laid base until it is compacted. Walking in loose base will create holes and uneven spots. An easy way to estimate proper compaction is to step onto the stone base. If you leave a footprint, the base is not compacted enough.

5. LAY TURF

A. Roll the synthetic turf out on top of the constructed based, as planned. If the site requires multiple roll widths, be sure to have the lay of the fibers on each roll of turf running in the same direction.

B. When seaming is required, trim the selvage (un-tufted edge) off turf and lay in the desired position.

C. When trimming selvage, begin cutting two tuft rows in from edge in order to achieve proper seam strength.

D. Lay the next roll adjacent to the first and repeat **Step C**. Then butt the seams together.

E. With a carpet or utility knife, trim the overlapped turf to match the trimmed edge of the first roll if necessary.

F. Make all cuts as close as possible without touching. Seam spacing should be no more than 1/8 inch.

G. Repeat as needed for as many roll widths as the job requires.

H. Around the borders, trim the turf to match the edges.

I. If a secured or fastened edge is desired, do not secure the edge until most of the infill is installed (Refer to Step 8). More on this later.

J. When cutting curved edges, cut in small relief cut increments to match the design.

K. Rough-cut the perimeter before any seaming.

L. Always stretch synthetic turf tight to reduce wrinkling.

6. SEAMING

A. Fold the adjacent trimmed edges of two rolls of turf approximately two feet apart the entire length of the seam.

B. Mark the centerline of the seam on the exposed base or seaming tape with a chalk line or spray paint.

C. Roll out seam tape centered over the entire length of the seam line. Apply adhesive covering all of the seam tape from one end to the other. Depending on the type of adhesive used, you may need to allow time for vapors/gases to escape (flashing). Refer to the adhesive manufacturer's directions. The flashing time required may be dependent on ambient temperature and humidity.

D. After adhesive has flashed, lay the edges of each roll of turf directly onto the adhesive/tape, making sure not to bury any turf fibers into the adhesive.

E. Add weight (i.e. sandbags) down the length of the freshly laid seam, or use a heavy roller along the seam length once the adhesive has tacked up. The adhesive drying/curing time will vary with different adhesives dependent upon climatic conditions.

F. After the adhesive has dried, trim off your turf so your lawn fits exactly as you want.

7. INFILL INSTALLATION

A. You will also want to stand the turf up vertically with the power broom or stiff bristle broom prior to applying the infill. Do not use steel or wire bristle brooms that can damage the fiber. This keeps all of the turf fibers erect and exposed.

B. In synthetic turf applications, a drop spreader (commonly used to spread turf seed, fertilizer, lime, etc.) should be used to spread the infill in lifts ranging from 1/4" to no greater than 1/2" depths.

C. Infill should be applied evenly and groomed to ensure consistent infill level.

D. If the borders or edges will be secured, save the infill installation for these areas for last (See step 9).

E. Be sure not to dump the infill in large quantities on the turf, this will cause excessive grooming due to trapped fibers. As you spread the infill, make one entire pass on the on the surface of your new lawn and then sweep the infill deeply into the fibers with a stiff bristle push broom or power broom. Repeat the infill spread/ fiber brooming process until the infill is evenly spread such that no less than $\frac{1}{2}$ " - $\frac{3}{4}$ " of turf fiber tips are exposed above the level of the infill. Repeat this process until all of the infill has been spread and fallen in between the synthetic blades.

F. CAUTION: Too much fiber exposed (not enough infill) will cause the fibers to mat or crush with heavy foot traffic. This will lead to premature wearing of the fiber and will void the manufacturer's warranty.

G. There may be more than one type of infill used on the same site. In many cases, a combination of silica sand and granulated rubber, or silica sand and manufactured sand topdressing, may be used in layers. In either case, the silica sand is installed first, followed by the granulated rubber or topdressing.

H. Be sure to follow the site specifications outlining the amount or depth of each infill material.

I. For a 50-to-80 ounce product, typically four pounds per square foot will be used. Heavier products may use up to five pounds per square foot. The exact amount of infill will vary based on the product weight and the desired product reveal. When complete, $\frac{1}{2}$ " to $\frac{3}{4}$ " of the synthetic blades should be exposed. You may want to consider applying color coated sand as the final layer of infill to best match the local geography. As a rule of thumb you will use one pound per square foot of colored sand.

8. SECURE EDGES

The edges can be secured in a number of ways:

A. Landscape Nails and Spikes. Simply hammer landscape spikes, timber spikes, sod staples, etc. into the edge around the perimeter of the turf spaced every 4"-8". (particularly if you are not planning on using an edging or curbing) The nail heads should be level with the turf backing to prevent turf from dimpling. Afterwards, more trimming may be necessary.

B. Nailer Board. When installed next to a concrete or asphalt curb, a nailer board / synthetic lumber can be installed (preferably in Step 2, Area Preparation) by nailing the board to the curb with concrete nails. The turf can then be nailed into the top of the installed nailer board with a landscape nail. Afterward, more edge trimming of the turf may be necessary.

C. Buried Edges. Excavate a narrow trench around the border, deep enough to bury the exposed edge of the turf. Tuck the turf's edge into the trench (additional trimming of excess turf may be necessary). Nail and backfill the excavated soil against the buried turf, and compact. The edge can then be hidden with mulch, straw, rock, etc.

D. Depending on your yard and your landscape concepts, you might install edging around your new lawn. Options are incredibly varied and include extruded curbing, 4" x 4" timbers, natural stone, rock, metal edging and plastic edging. If you are not going to apply an edging, we suggest you hammer landscaping nails every 4" to 8" along the perimeter of your synthetic lawn to prevent the edges from lifting.

9. FINISH INFILL AND TOP DRESSING

A. If a secured edge was installed, it will probably be necessary to add infill around the border. (Use the technique described in Step 7).

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