Volunteer

Professional

Volunteer + Professional

Clean + Green

Urban Neighborhood Initiative

VACANT to Vibrant
The Clean + Green lot design is a set of guiding principles to prepare a lot for a healthy and low maintenance future.

This template offers an inexpensive, hands-on approach to improving the soils on your lot. It provides an environmentally friendly alternative to chemical-based fertilizers, pesticides, and fungicides. These soil treatments are not harmful to insects, wildlife, plants, soil, pets, or humans and can be used on vegetable gardens, flowers, trees, and lawns to provide extra nutritional boost. Two strategies are included for encouraging healthy soil biology to suit the size of your planting area.

Additionally, guides with detailed directions for Tree Planting, for Perennials + Grass Planting, and for Bulb Planting are at the end of this document.

### What is the lot design likely to cost?

The estimated cost of the Clean + Green is low ($1,000 – $2,500) and based on using volunteer labor. The cost will vary based on the price of trash removal, waste disposal, equipment rental, and ‘green’ remediation to help create healthy soil. The cost assumes that residents or volunteers have access to basic safety gear and garden tools.

### How much upkeep will this lot design require?

Maintenance ultimately will depend on the lot design or groundcover you choose to install after treatment.

### Will installation of this lot design require a professional?

The installation of this lot design should not require professional support if you have the help and support of friends, family or neighbors. Refer to the Step-By-Step section on pages 6-8 of the template for guidance. If you do not have the required support or feel unable to tackle this lot design, seek professional assistance.

### How long will it take to install this lot design?

While people tackle projects in different ways and at different speeds, the Vacant to Vibrant Guide estimates the installation time of this lot design to be one full weekend, plus one additional day for soil treatment the following week, with the help of at least two healthy adults or youths. The Guide assumes that all equipment and materials required for lot design have been acquired and are ready to use.

For more information, refer to UNI Vacant to Vibrant: A Guide to Working with Lots, www.uni-kc.org

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Clean + Green

Examples of Materials Found in Clean + Green

1 - Hand Tools
2 - Volunteer Labor
3 - Soil
4 - Grass Area

Examples of Composting Materials

5 - Spray Bottle
6 - Soil
7 - Soil Builder

Section

Grass Area, Full Lot Coverage

The Clean + Green design, which improves the safety of the lot and health of soils, can be used on any lot. Most of the action in this lot design happens below the surface. It can be implemented on single or multiple lots and is suitable for any property.
Before You Start

Be Lead Safe around Garden Soils

Lead-based paint was used in housing built before 1978. If the lot you plan to transform had a home on it, the soil may contain remnants of lead-based paint. This is a health concern if soil particles containing lead are inhaled or ingested at a harmful level. This can happen when working with bare soil, or when soil containing harmful levels of lead is tracked into a home environment on shoes and clothing worn while working on the lot. Children under age six are particularly susceptible to the possibility of lead poisoning because they frequently put their hands in their mouths, and their bodies are small and growing rapidly. Small children should be protected in the lot, garden, and at home.

The Kansas City, MO, Health Department and the U.S. Environmental Protection Agency recommend the following actions to protect community members where lead in soil is a potential concern:

- Wear gloves and wash hands after gardening and before eating.
- Keep children and pets IN areas with vegetation or mulch and OUT of areas with exposed soil.
- Leave garden footwear outside and remove and wash clothing used for gardening, rather than wearing it through the house.
- Mulch bare soil until vegetation grows in.

These recommendations are for non-edible gardens only. If your community plans to grow edibles, please consult the gardening resources section in the UNI Vacant to Vibrant: A Guide to Working with Lots at [www.uni-kc.org](http://www.uni-kc.org).

Till Safely

There may be times tilling is necessary. However, before you till, inspect your lot for signs of buried concrete or rubble not removed during the cleanup stage. Large debris can ruin tiller blades.

When tilling, wear appropriate safety gear, such as covered boots with socks, long pants, safety glasses, dust mask, and ear protection. Make sure you understand the safe operating procedures of your tiller. Refer to the user’s manual.

Chain Saw Safety

Arbor Day Foundation’s Backyard “Woods Guide” at [www.arborday.org/programs/backyardwoods](http://www.arborday.org/programs/backyardwoods) is full of useful information, including Work Safely with a Chain Saw.

Safety Gear: Gloves, heavy work boots, tall socks, pants, long sleeve shirts, protective eye wear, dust masks, ear plugs, and hard hats. Additional safety gear, such as hard hat with attached face guard and leg protection or chaps, are required for using a chainsaw.

Experience in tree cutting and tree felling is required before removing any large trees. The UNI Vacant to Vibrant Guide recommends professional assistance or support.

Call Before You Dig

Locate underground utilities before beginning your lot design. Call 1-800-DIG RITE (800-344-7483) or 811 at least three days before you plan to start digging on your lot.
What You Need: Shopping List

Shopping List

The shopping list provides a breakdown of potential materials, tools, and resources required to construct this lot design.

This shopping list is designed for a single lot (30 by 100 feet).

Tools + Resources

Suggested Tools

- **Marking Paint, Spirit Level, Tape Measure, String and Stake**
- **Safety Gear**: Gloves, heavy work boots, tall socks, pants, long sleeve shirts, dust masks, protective eye wear, ear plugs, and hard hats (if using heavy machinery).
- **Garden Tools**: Spades, shovels, rakes, trash bags, and wheelbarrows.
- **Hacksaw and Screwdriver**
- **(If needed) Ball Cart, for moving heavy trees**

Potential Water Sources

- **Garden Hose, with potential extension hose**
- **Sprinkler**
- **Rain Barrel, if a downspout is available, in addition to another water source**

Resources

- Step-by-Step Planting Instructions are available on pages 11–14 of this template.

Biological Amendments

Soil Conditioner

- Mix 3 cubic feet of a soil conditioner with probiotics like Happy Frog Soil Conditioner to 1 cubic yard good quality compost. Use a compost without a strong, unpleasant odor that doesn’t have a lot of leftover agricultural chemicals. Compost made from crop waste containing pesticides may still have a lot of pesticide residue. Such compost should be tested and those tests made available before purchase. Mix the soil conditioner into the compost and let the pile sit undisturbed for a few days. Don’t let the pile dry out or get really wet. Distribute the mixed compost evenly over the lot. If tilling is necessary, place the treated compost on top of the soil after tilling so you don’t damage your microbes. Extra compost may be used to lightly cover seeds that have been spread.

Compost Tea

- Mix 1 packet of a probiotic product, like **Organic Plant Magic**, to 1 cubic yard of good quality compost (see above). Mix the packet into water. Rainwater or dechlorinated water is best, but tap water that is left standing for awhile can be used. Pour the solution into a water can or a drip bucket and sprinkle evenly over the compost after it is spread evenly across the lot. If tilling is necessary, see warning above.

- **To Apply**: Drill 4 or 5 small holes in the bottom of the watering can or bucket. When filled with liquid, it can be swung back and forth to sprinkle probiotic. This is much easier than using a watering can.

Materials List

**Materials**

- **Compost**: For a 30’ x 100’ lot - 24 cubic yards.
- **Fescue Mix**: 24 pounds of seed.
- **Biological Amendments**: There are two choices: soil conditioners and compost tea. Explanations for each are in the box to the right.
Let’s Start

Want to create the Clean + Green lot design but don’t want to hire a professional? Here are a few guiding principles to help you construct your lot design.

- Check off tasks as you go along.

Lot Design Steps

Clean Steps

Volunteer Opportunities:
- Assess Lot Condition
- Learn Soil Condition
- Remove Trash
- Remove Unwanted Scrub

Professional Recommended:
- Remove Dead or Dying Trees (see page 7)

Volunteer Opportunities:
- Remove Groundcover
- Bald Lot (see page 7)

Green Steps

Volunteer Opportunities:
- Maintain Your Lot
- Maintain Your Sidewalk
- ‘Green’ Your Lot (see page 8)

Clean Steps

Assess Lot Condition

Once you have selected your lot, spend an afternoon understanding what is currently on your lot. Here are a few questions to ask as you walk through the lot:

- What types of trees or plants are growing on the lot? Can you name the species?

- Does your lot have scrub or brambles? Where?

- Do any trees or vegetation need to be removed? Do you notice any trees that are dead, have dead wood, cracks, disease, decay, are tilting or have poor form, have structural defects, or anything else that looks dangerous?

- Are there trees or vegetation that you would like to keep?

- Do you see native plants? Native plants are a good investment. They grow better and require less maintenance. How are you going to protect them in your management plan?

Learn Soil Condition

Before completing steps for the Clean + Green on your lot, make sure the soil is clear of harmful chemicals or toxins that could be hazardous to health. The UNI Vacant to Vibrant Guide recommends soil be tested before removing low growing vegetation, tilling, installing a lot design, or undertaking any other activity that would disturb the soil.

Remove Trash

The first step in cleaning a lot is clearing a lot. Is there garbage on your lot? If so, what type? Some types may require a dumpster or hiring a trash hauling service.

Standard Refuse: Plastic, paper, boxes, metals, glass, etc.

Yard Waste: Organic materials, such as leaves, branches, and twigs.

Bulk Refuse: Furniture, appliances, air conditioners, hot water tanks, mattresses, large toys, doors, tires, etc.
Clean + Green Step-By-Step

Clean Steps

☐ Remove Unwanted Scrub

Once all trash is removed from your lot, cut down any unwanted vegetation, such as scrub brush. Scrub brush generally consists of small woody trees or shrubs, grasses, and brambles. The best time to remove unwanted vegetation or to prune most plants is in the spring or fall when plants are either starting to come up or die back for the year.

Be sure to wear appropriate clothing that protect against thorns, poison ivy, glass, or other debris that might be present. You will need a variety of tools to help assist in the removal of unwanted scrub and vegetation. Refer to the list of suggested safety gear, safety tips, and tools on pages 4 and 5.

Be careful when removing scrub as you may not know what type of vegetation it is, or if it conceals something that can harmful, such as a beehive. This job is best done in pairs or groups.

☐ Remove Dead or Dying Trees

Are there trees on the lot that need removal? These might be trees that are unhealthy, unsafe, or unwanted species.

The UNI Vacant to Vibrant Guide recommends working with someone who has prior experience with tree removal. For more information, visit the Arbor Day Foundation’s Backyard “Woods Guide” at www.arborday.org/programs/backyardwoods, which is full of useful information, including Work Safely with a Chain Saw, and other tree planting and removal tips.

For tree removal, wear the suggested safety gear listed on page 4. This list includes additional safety gear related to operating a chain saw. Select a chain saw that has the proper safety features, such as a chain brake, throttle safety latch, and chain with guard and links in good condition. If cutting a large tree, guide ropes and one or two hired professionals will likely be needed. Tree felling can be unpredictable. Before cutting trees, ensure trees are a safe distance from houses, roads, power lines, bodies of water, and cars. Also make sure children and adults are a safe distance away. Contact any nearby neighbors before removing large trees.

☐ Removing Groundcover

There are times tilling may be necessary. However, if your plan includes plugs, shrubs or other potted plants, tilling should not be needed.

If after treating the soil you would like to add a different ground cover than grass, several recommendations can be found on page 9. Or, refer to the UNI Vacant to Vibrant Guide at uni-kc.org for lot designs options. These include designs that can be implemented using existing groundcover and smaller lot designs that require only a small portion of the groundcover to be removed.

Note that tilling your existing vegetation directly into your soil will likely result in the same species growing back again.

☐ Bald Lot Considerations

Is your lot bald? It may have minimal groundcover if a house on the site was recently demolished or because of poor, compacted soil.

If a house was recently demolished, but the site has even soil distribution, this lot is ready for a lot design.

Refer to the UNI Vacant to Vibrant: A Guide to Working with Lots at uni-kc.org and select the lot design you wish to implement.
Clean + Green Step-By-Step

Green Steps

☐ Maintain Your Lot
Minimal maintenance is required for this lot design. If you have trees, be sure to monitor them throughout the year. It may be necessary to continually remove brush or trees as they die. The groundcover will require mowing once a year. When plants die, they can be pulled up and replaced, or mulched into the soil.

☐ Maintain Your Sidewalk
How does the lot's street and alley side edges look? If you are short on time, a good option is to introduce a 'tidy' look by cleaning curb, sidewalk, and alley edges.

A flat shovel or a Dutch hoe, which can be pushed or pulled through soil, are the best tools for clearing away extra debris, old leaves, and weeds growing along edges and sidewalk seams. Remove roots when possible.

Depending on the condition of your curb, sidewalk, and alley edges, this can be a large or small undertaking in terms of time and energy.

☐ ‘Green’ Your Lot
If you are planning to ‘green your lot,’ a low maintenance fescue seed is a good alternative to a traditional lawn. This family of floppy grasses is drought resistant and requires only one cutting (in August or September) per year.

Fescue can be established in full sun to shade and should be seeded in spring (mid-March to mid-May) or fall (August to September). Seed mix should be applied to a damp lot. Spread seed mix evenly using a seed spreader or by hand over the entire lot. You will need to do this several times to get even coverage. A seed rate of five pounds per 1,000 square feet is recommended. A full 30 by 100 foot lot will require approximately 24 pounds of seed mix.

Gently water seedlings daily until they are four to six inches in height. Fescue Mix is one recommended seed mix. It can be purchased through Missouri Wildflower Nursery, mowildflowers.net, and may be available at other garden centers.

Other lot designs can be used as groundcovers. See page 9 of this template, or visit the UNI Vacant to Vibrant Guide at uni-kc.org for options and ideas.

Image Source: Blue Grama (Bouteloua gracilis), Wind Cave National Park, NPS.gov, Public Domain.
Planting: Alternative Groundcover

For More Information

The suggestions on this page are for a temporary groundcover, and are divided into two categories:

- **Food Crop Groundcovers.** Choices depend on the season the ground cover is planted.

- **Lawn Alternatives.** For more permanent covers, review the list of other Vacant to Vibrant lot designs at [www.uni-kc.org](http://www.uni-kc.org).

Whatever you choose, it is very important that the soil not be left bare.

Lawn Alternatives: Mixed Season Grasses

A mixture of cool and warm season grasses can handle many different situations, such as part sun or soils that are wet or dry. These grasses are native so they take less care and don't need to be cut every week in the summer.

- Two species you can mix together are *Carex brevior* and *Bouteloua gracilis*. *Carex* is a sedge with the common names Plains Oval Sedge or Shortbeak Sedge. Not all sedges are alike! Other examples can be found in the UNI Four Seasons and Royal Rain Garden Lot Design templates at [www.uni-kc.org](http://www.uni-kc.org).

- You can mix cool season grass with a warm season grass like *Bouteloua gracilis*, common name Blue Grama grass. Both of these grasses can be started from seed or plugs. Cut them down to an inch or two above the soil in late winter/early spring and they will fill in your turf area with a low maintenance, native lawn.

Crop Groundcovers

Three recommendations for cover crops, based on the season when they are planted, follow:

- **Winter**—annual rye, vetch, and wild oats

- **Spring**—spring peas and oats

- **Summer**—field peas. In summer plant densely since dry weather imposes higher stress on the soil.

Lawn Alternatives: Buffalo Grass

Fescue grass turf is common in the Kansas City area, but it takes a lot of water and mowing. As a low-maintenance alternative, consider planting Buffalo grass. It is a tough ground cover that can take lots of foot traffic, dogs and kids’ activities. Buffalo grass can be started by seed or landscape plugs, which are small pots with extra deep root systems to allow the grass to grow faster. It’s what big landscape companies use. Buffalo grass requires full sun and will not do as well if your lot is shaded by a house, garage, or trees.
Clean + Green Lot Design

- **Front Setback:** This refers to the distance between the sidewalk and the beginning of your lot design and should be consistent with adjacent houses. Front setbacks should be at minimum 25 feet.

- **Side Setback:** This refers to the distance between the edge of your property and the beginning of your lot design. The setback will help ensure the lot design elements will not interfere with the privacy or safety of your neighbors. Side setbacks are typically 5 feet.

For more details, visit UNI Vacant to Vibrant: A Guide to Working with Lots located at www.uni-kc.org
**Tree Planting Detail: Balled and Burlapped**

- **Dig Hole**
  
  Dig a hole three times the diameter of the root ball. Make sure the soil at the bottom of the hole is compacted—otherwise the tree will settle, affecting its health.

- **Place Tree**
  
  Put the tree into the hole. Make sure the top of the rootball is level with soil at the edges of the hole. Planting the tree too high or low may affect its growth.

- **Remove Rootball Restraints**
  
  Root balls should remain wrapped until in the hole. Unwrap the top 1/3 of the root ball and peel back the burlap once planted. Remove any twine, nails, or stakes. The bottom half of the burlap will decompose over time.

- **Fill Hole**
  
  Water the root ball, then backfill the hole with the soil previously removed for planting. Add water to the tree every six inches as you backfill the hole. Compact the soil lightly after each watering until the hole is filled with soil and level with the adjacent ground. Make sure the top of the rootball is exposed. Using excess soil, create a berm or small mound around the base of the tree.

- **Add Mulch**
  
  Add a 3 foot diameter by 3 inch depth of wood chips or mulch around trees. Mulch helps conserve soil moisture, control soil temperature, and reduce weeds. Keep mulch or wood chips a few inches away from tree trunks.

- **Upkeep**
  
  Watering and weeding around the stems of the trees is required during the first few years. Add mulch annually to help suppress weed growth. The tree will likely take three or more years to become established, and any major pruning should occur after this occurs.

### Notes

- Plant trees as soon as possible after purchasing. If you cannot plant trees the same day, keep them in shade and well watered until you can plant them.

- Guying trees may only be necessary for trees with a trunk smaller than 3”, or trees that are exposed to windy conditions.

- Trees are best planted in late winter or early spring while other plans are dormant. If trees can be planted without disturbing other plants, planting can take place after the temperature drop in September.

### Required Tools

- Gloves
- Shovel
- Knife
- Watering Hose
- At least one other person (Recommended)

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![Diagram of tree planting detail: Balled and Burlapped](image-url)
Tree Planting Detail: Container Grown

**Dig Hole**

Dig a hole three times the width of the root ball and equal to the depth. Dig the hole three times the diameter of the pot. Make sure the soil at the bottom of the hole is compacted—otherwise the tree will settle, affecting its health.

**Remove Pot**

Remove the tree from the pot. This can be done by carefully grabbing the plant at its base and flipping the pot upside down. Once the plant is removed, gently break up any roots encircling the root ball by hand. This will allow roots to grow outward.

Some pots are biodegradable and can be planted with the tree, as shown in the detail to the left. Remove the collar so the pot is not exposed above the soil.

**Place Plant in Soil**

Place the tree into hole. Water the root ball, then backfill the hole with soil previously removed for planting. Add water to the tree every six inches as you backfill the hole. Compact the soil lightly after each watering until the hole is filled with soil and level with the adjacent ground. Make sure the tree is upright and will not shift.

**Add Mulch**

Apply three inches of mulch around the base of the tree to conserve moisture, control temperature and discourage weed growth. Keep mulch or wood chips a few inches away from tree trunks.

**Upkeep**

Water and weed around the trunks of the trees during the first few years. Add mulch annually to help suppress weed growth.

**Notes**

- Plant trees as soon as possible after purchasing. If you can't plant trees the same day, keep them in shade and well-watered until you can plant them.
- Container grown trees may need to be stabilized using guying wires. See tree planting instructions on page 11 for more information.
- Trees are best planted after the temperature drops in September. Be sure not to disturb existing plants that are not yet dormant.

**Required Tools**

- Gloves
- Shovel
- Knife
- Watering Hose
**Bulb Planting Detail**

**Dig Hole**

Dig a hole three times as deep as the bulb's height.

**Place Bulb**

Place bulb in the hole. Ensure the distance between bulbs is at least three times the width of the bulb. To ensure proper growth, situate the nose, or growing point, up and the roots downward into the soil.

**Place Soil**

Fill the hole with soil previously removed for planting. Any air pockets can negatively affect the bulb's growth, so compact the soil by hand.

**Upkeep**

Water plant well during the establishment period.

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**Required Tools**

- Gloves
- Trowel
- Knife
- Watering Can or Hose

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**Notes**

- Bulbs are best planted early in the spring or late fall. Both seasons allow bulbs time to develop a root system before the challenges of summer heat or winter chill.

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*Image Source: Yellow-Daffodil-2009.jpg by Kham Tran - www.khamtran.com (CC BY-SA 3.0).*
Perennials + Grasses Planting Detail

☐ Dig Hole

Dig hole twice as wide as plant container. Make sure the hole is only as deep as the plant is tall.

☐ Remove Pot

Remove plant from pot. This can be done by carefully grabbing the plant at its base and flipping the pot upside down. Once the plant is removed, gently break up any roots encircling the rootball by hand. This will allow roots to grow outward.

Some pots are biodegradable and can be planted with the plant. Be sure to remove the collar, so the pot is not exposed above the soil.

☐ Place Plant in Soil

Place the plant into the hole. Fill the hole with the soil previously removed for planting, and compact by hand.

☐ Add Mulch

Apply three inches of mulch around the base of the plant to conserve moisture, control temperature, and discourage weed growth.

☐ Upkeep

Water and weed plants regularly, especially during the first two years. Mulched areas should be replenished or top-dressed annually.

Required Tools

- Gloves
- Shovel
- Watering Can or Hose

Notes

- Perennials are best planted after the temperature drops in September. Be sure not to disturb existing plants that are not yet dormant.

Image Source: Perennials Plot by Kor!An, own work, (CC BY-SA 3.0).