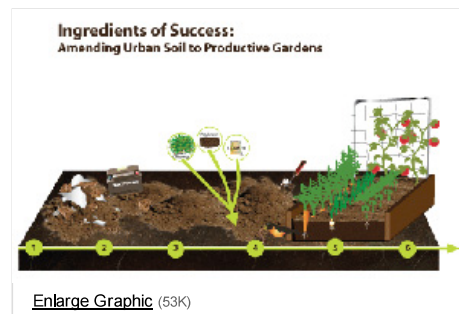




Brownfields

Steps to Create a Community Garden or Expand Urban Agriculture

1. Survey the property and identify potential risks and contaminants for testing.
2. Test your soil. Consider likely environmental contaminants, pH, organic content, and soil nutrients needed for healthy plant growth.
3. Clean contaminants and add soil amendments to create a safe growing environment.
4. Consider garden design including location, crops, water, sunlight, lighting, and accessibility.
5. Construct the garden to accommodate children, the elderly, and people all abilities. Raised beds, wider paths, and benches can all be used to create a more usable space.
6. Plant a safe and healthy garden and enjoy your growing community.



1. Survey the property and identify potential risks and contaminants for testing.

The types of contaminants you are likely to find depend on the history and use of the property. As a general rule at brownfields, environmental professionals look at the property history and previous uses to identify what environmental contaminants may be present for testing. They also look at nearby properties to see if their use may have created hazards that could affect neighboring areas.

You can do a similar search in your community. A librarian at your local public library may be able to help you locate historical property records, Sanborn or fire insurance maps and city directories that identify previous property uses or you may be able to find information on the internet. Sometimes looking at a property can provide visual cues to potential contamination. Soil staining, an oily sheen on puddles, visible tanks or piping, or piles of debris may suggest petroleum tanks or illegal dumping. If you suspect environmental contaminants, you may wish to select a different site for a potential garden.

Talk with your local officials and they may be able to help you select a safer site for gardening.

1B. Need help? Apply for Brownfields Assessment or Cleanup Grant.

After your investigations and discussions with your local town or city officials, if your community determines you want to garden at the proposed site, you may wish to work with local officials to [apply for an EPA brownfield grant \(PDF\)](#) (2 pp, 148K). That will provide money to your city or town to assess the property you selected as well as other potential properties to and/or to clean up the existing site you have chosen.

Only governmental entities are eligible for assessment grants. See the EPA Brownfields grants page for a definition of who is eligible to receive brownfields grants. A non-profit organization may apply for a grant to cleanup up a site they own, provided they are not liable for the contamination at the site and took certain steps, such as conducting a Phase I environmental site assessment prior to acquiring the property.

2. Test your soil. Consider likely environmental contaminants, pH, organic content, and soil nutrients needed for healthy plant growth.

Individuals establishing a community garden typically send samples to a soil extension service lab. The lab will generally test for pH, organic content and nitrogen (N), phosphorus (P), and potassium (K) and some also commonly test for lead. Some labs may do additional tests, such as a metal panel, but you will need to request them specifically and pay for specific additional tests. Check with your extension service to see what soil tests they provide or recommend. Individual state land grant universities and extension offices may have specific suggestions for sampling requirements, testing request forms and packaging recommendations for mailing soil samples so check with them first. The [US Department of Agriculture website](#) provides a map and links with the university and extension offices in your area.

3. Clean contaminants and add soil amendments to create a safe growing environment.

If you have contaminants at a level that need cleanup, encourage your city or town or non profit organization to apply for a brownfield cleanup grant if they do not have cleanup funds. The state or tribal response program can help and oversee the cleanup if the property is enrolled in their voluntary cleanup program or response program. You will need to explain your interest in turning the site into a garden and they will provide guidance on what levels of cleanup need to be met to ensure safe gardening. They may also recommend above-ground rather than in-ground gardening to reduce exposure to unsafe soils.

In those instances, your state or tribal response program or local city agency may recommend using a water permeable fabric cover or geotextile to reduce exposures to soils of concern. They may suggest you purchase and add topsoil or clean fill from 'certified soil sources' to ensure the soil is safe for handling by children or gardeners of all ages and for food production. One important point to remember – in the building and construction trades, the term 'clean fill' is used to mean materials was screened so no chunks of concrete or asphalt are in the material, it does not mean the soil is safe and healthy for gardening. If you need soil material to add in gardening areas, you are looking for certified soils and your environmental program will be able to direct you to providers of safe certified soils.

Alternatively, you may have such limited contamination that no cleanup is necessary. In those instances, adding safe compost, certified soils or soil amendments which you may have already planned to do before planting, can improve the soil quality and can help to further bind the contaminants.

4. Consider garden design including hours of sunlight and shade, access to water, location, types of crops, security and lighting, and accessibility. If your site was capped, soils were removed or contamination remains at greater depths, you may only be able to grow plants with shallow root systems or may be required to bring in additional clean soil that you will need to test to make sure it's safe for growing.

In addition to the property specific environmental considerations, there are a number of other factors that need to be considered in garden design. These considerations include: access to sunlight and water; location and proximity to homes and other structures, lighting and security for gardeners, produce and tools, as well as accessibility.

How do I...?

- Start an Urban Agriculture Project
- [Learn more about Urban Agriculture](#)
- [Read about Success Stories & Ongoing Projects](#)
- [Find Resources & Related Links](#)
- [Read Frequent Questions and Answers](#)

The [Sustainable Sites Initiative](#) [EXIT Disclaimer](#) focuses on creating sustainable landscapes using environmentally sustainable materials and can provide information on material selection.

5. Construct the garden to accommodate children, the elderly, and people all abilities. Raised beds, wider paths, and benches can all be used to create a more usable space.

Creating a garden to serve the entire community requires a number of additional considerations. Remember to design your garden entrance with paths and ramps that can accommodate children, senior citizens, and those with disabilities by:

- Creating pathways at least 3 feet wide between beds will allow space for wheelchairs while a 5 foot width permits a wheelchair turning radius while a 7 foot width allows two wheelchairs to pass.
- Learn more about access requirements on the [Access Board's website](#).
- Adjusting the height and depth of raised beds to facilitate access for gardeners with restricted movement or issues of balance.
- Path materials should be firm and smooth with a texture that minimizes slipping. Minimize changes in the slope and grade of paths, where possible.
- Providing benches or picnic tables provide areas for gardeners to safely sit – preferably in the shade!
- Gardening is a favorite hobby of people of all ages, including many retirees. By 2030, 1 out of 5 Americans will be age 65 or over. Consider ways you can make your garden accommodate their needs. By contrast, children under six may like a sandbox to play in, a shady spot or their own growing area in a safe location where parents and grandparents can supervise. Let the children help design their garden spot.
- Horticultural therapy uses gardens and growing plants to heal and encourage activity for those of all abilities.

Learn more at the [American Horticultural Therapy Association](#) [EXIT Disclaimer](#).

6. Plant a safe and healthy garden and enjoy your growing community.