Certified Nursery &
Landscape Professional

C N L P

New York State
Certified
Nursery & Landscape
Professional

Training Manual

New York State Nursery & Landscape Association

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New York State Nursery & Landscape Association

230 Washington Ave Ext, Suite 101, Albany, NY 12203-3539

Phone (518) 580-4063 | E-Mail: info@nysnla.com

PRINCIPLES OF LANDSCAPE DESIGN

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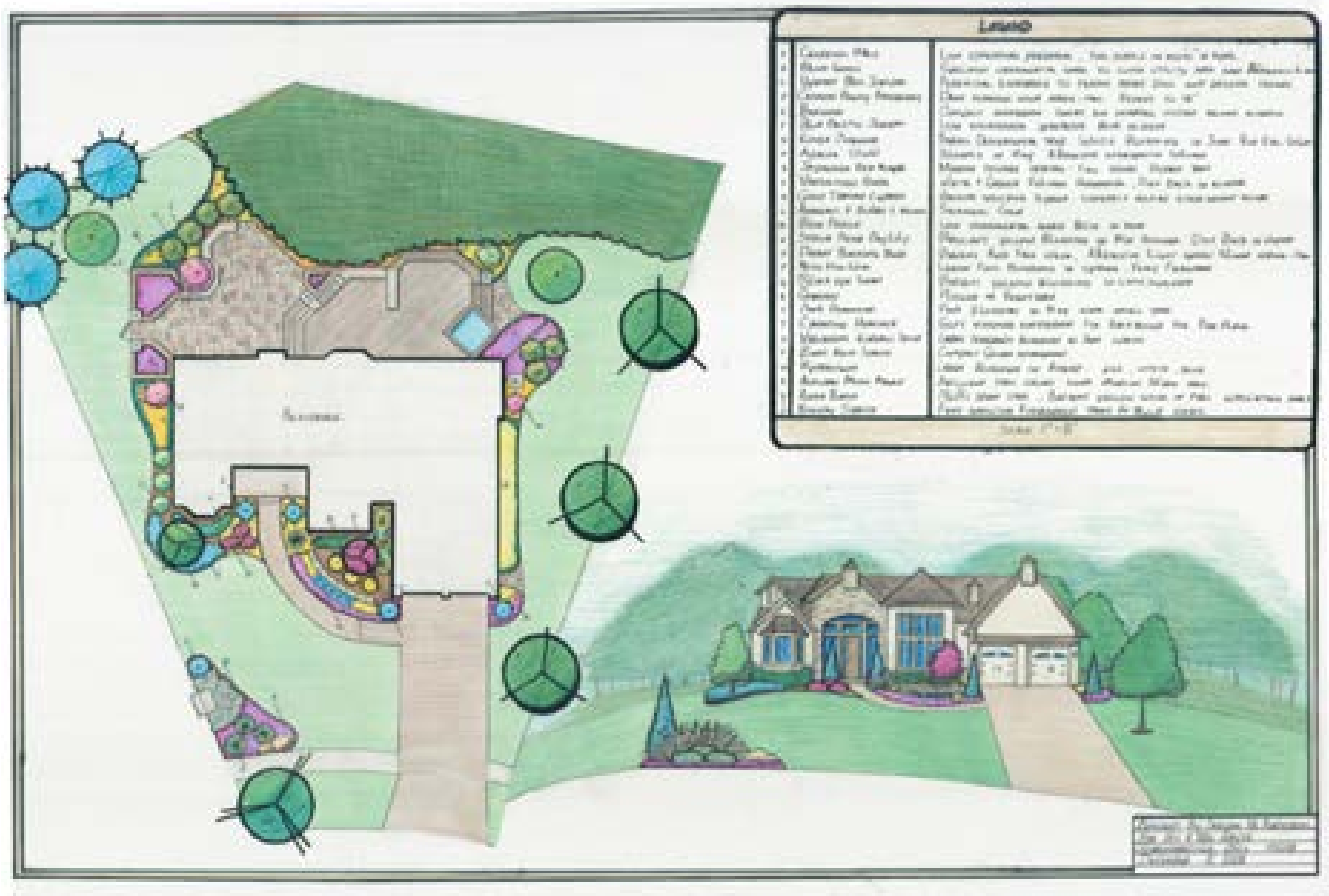
Principles of Landscape Design

Introduction

Landscape design is the process of planning & creating outdoor spaces for human use with consideration of the site and the resources available. It involves solving problems that may exist on a site, emphasizing the good points, minimizing the conflicts, and ultimately creating a series of outdoor spaces that meet the needs of the customer. Good design concerns itself with the customer's property and any surrounding property so that they function in unison.



Historical Landscape Developments

Historical significance of landscape development.

The earliest examples of landscape design can be traced back to ancient Egypt, Greece, and Rome. Moorish courtyard gardens such as the Alhambre Palace in Spain and Italian Villa terrace gardens were some of the earliest surviving forms of landscape design. In France, the water gardens at Versailles were an example of more formal designs based on symmetry and large scale land forms. Asian influences also played a strong role in the development of landscape design based on man becoming a part of nature rather than dominating nature. The English naturalistic school of gardening evolved, as a combination of both of these eastern and western philosophies. This has led to our modern day garden design which focuses both on nature and functionality.

The art and science of landscape design.

As with any artistic endeavor, the designer must adhere to certain principles time tested to be aesthetically pleasing. It is not just style but also certain principles of design that must be considered.

Design Concepts

Unity with variety

A simple theme repeated with variety for interest. It is the intentional selection of compatible elements arranged in a balanced way. Ex: The traditional "white" garden punctuated with evergreens.

Focal Point

A point of interest that may or may not be noticed immediately. Sometimes the point is revealed like when a meandering walk entry to a house allows the front door to be revealed.

Contrast with Value, Color & Textural Changes

Use tonal contrasts like black and white, and combinations of color to bring out the personality of your design. The colors of yellow, orange, and red are often used to make warm sections of your garden, while colors green, blue, and violet will make cool portions. These warm and cool colors can combined to created contrast and make certain colors come alive. Using contrasting texture and forms add richness to the design. Example of contrasting texture would be putting bold hosta with fine leafed lilies.

Balance

Formal/Informal Balance- Classical design involves a centerline with equal portions on either side. Informal balance does not have to be symmetrical and is commonly seen in Oriental gardens. An example of Informal Balance is using odd number quantities of plant material within planting beds or varied heights among plant massings to create a natural look while still being controlled.

Harmony

Harmonious landscapes consist of the following elements:

- Dominant focal point - center of interest.
- Consistency of style – natural or formal, stay within bounds of the theme.
- Repetition of materials - keeps flow by creating a theme through the use of specific features. Ex: walkway lights or clusters of evergreens punctuating a flower border.
- View Step Dichotomy - moving through a space by drawing one's eye to a view point which leads to other consecutive view points.
- Vignettes - framing views. Ex: Using a shade canopy tree in the foreground, partnered with a driveway. The total composition of a landscape is comprised of a series of vignettes.

> *The overall composition of a landscape is enhanced by following the above concepts from beginning to end.*

Creating Outdoor Spaces

The following techniques are used to create space within a landscape.

Enclosure or Containment

Used to define an area. Ex: Use pathways and lines to demarcate an area, such as using bed lines, pavement edges or perennials borders or woody plants in hedge form.

Enframement

Easiest way to unify a composition. Ex: picket fence around a yard

Linkage

Transition areas between spaces which tie them together. Ex: Arbor between two different gardens or a pathway around the side of the house.

Enlargement

Utilize offsite view to increase sense of space so they borrow from any landscape. Ex: View of background hills, scenic view. One may intentionally put the user in awe by over sizing something such as a great large space.

Reduction

Closeness or intimate space. Ex: Bonsai plant or a courtyard fountain.

Subdivision

Breaking a space into parts dictated by form or fashion. Ex: Dividing your garden into a shady or sunny garden or a high and low maintenance area of your garden.

Provide a sense of scale

Use small ornamental trees or garden structures to create scale within landscape. Ex: Overhead lattice or a pergola to humanize a space.

Applied Landscape Design

The key to the beauty, comfort and practicality behind a successful landscape is planning ahead. Landscape designers strive for a visually pleasing landscape. Functionality, maintainability, environmental soundness and cost effectiveness provide the framework needed to create a visually pleasing sustainable landscape.

The planning process includes the following steps:

The Base Plan

The base plan is developed through the information gathered at a specific site. This information is the starting point in the development of the landscape design. The base plan is made up of the following information.

Interviewing
Interviewing the customer to find out what it is that they would like to achieve within their landscape. Create a list of likes and dislikes to be taken into consideration during the design process.

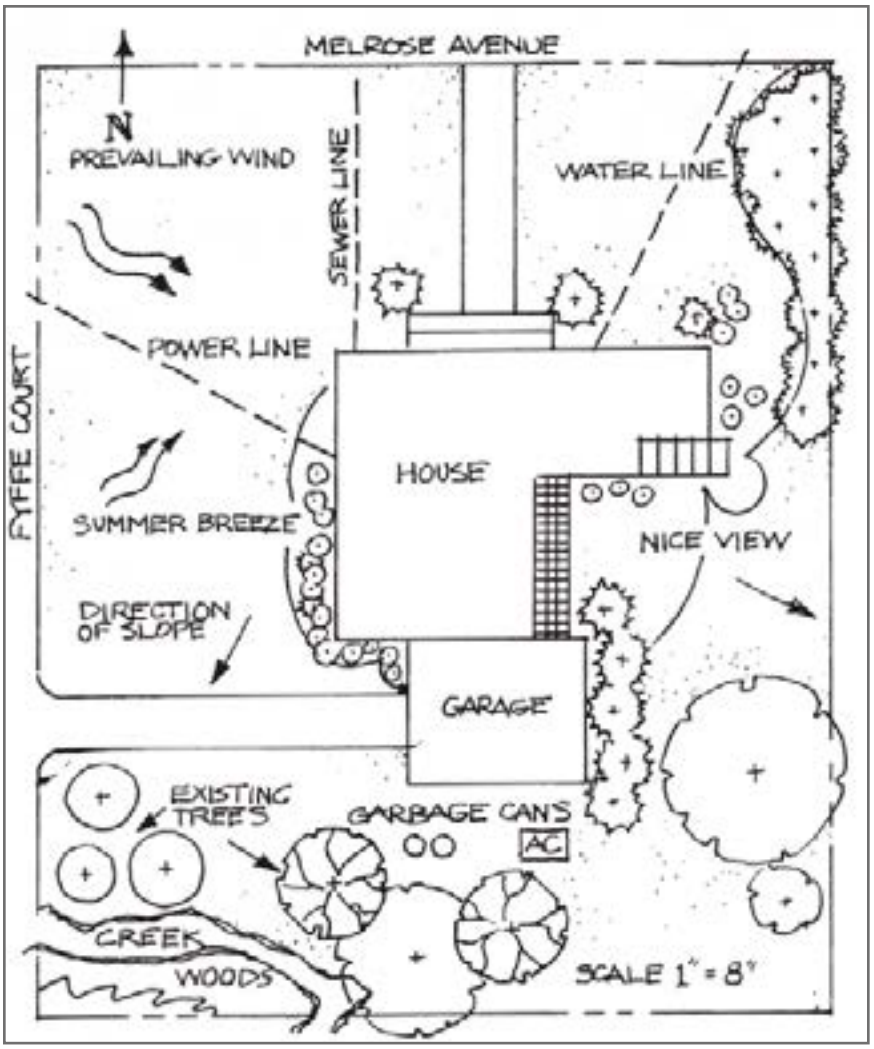
Site Survey
A site survey is an inventory of the site's existing landforms and conditions. These features will then be mapped out on a scaled base sheet. One should note circulation patterns, structural elements, as well as site conditions such as prevailing wind direction, sun angle and soil composition.

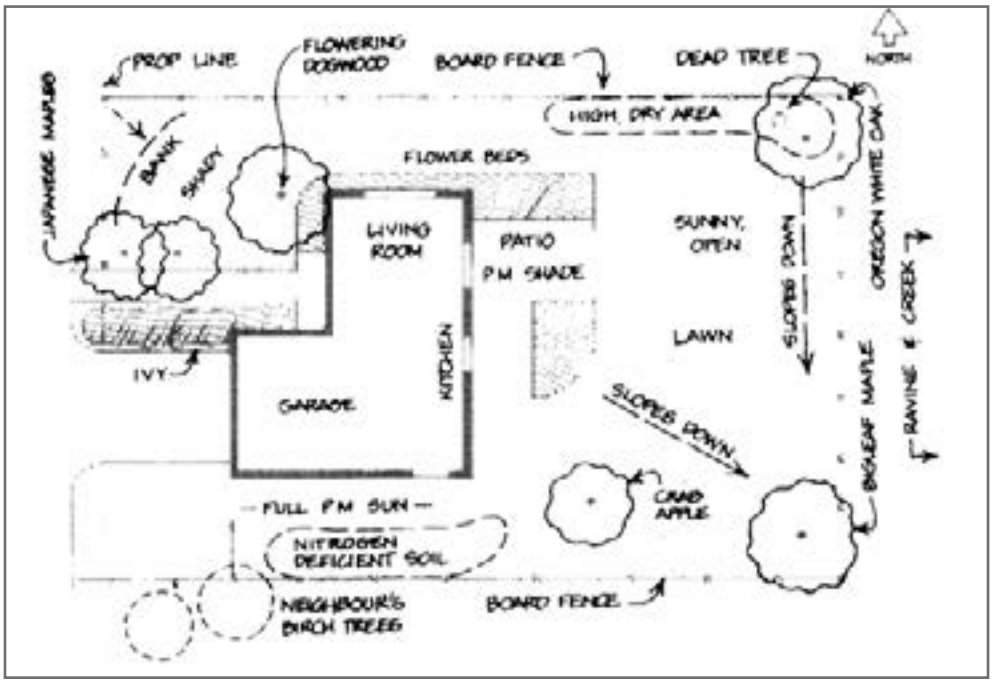
Lot Plan
A Lot Plan is a plan developed to scale showing property lines, bearings, distance, true north, easements, setbacks, right-of-ways, sidewalks and roads.

Site Plan
In new properties, the site plan may be the same as the plot plan. This plan indicates any changes that may have occurred since the lot plan was made.

Structure and Utility Blueprints
Structure and utility blueprints map out utilities such as gas, electric or sewer. These maps can be obtained from architects, builders or municipal offices.

Site Analysis
Site analysis means exploring, and noting the sites potential constraints and assets and weighing them against the original customer goals.

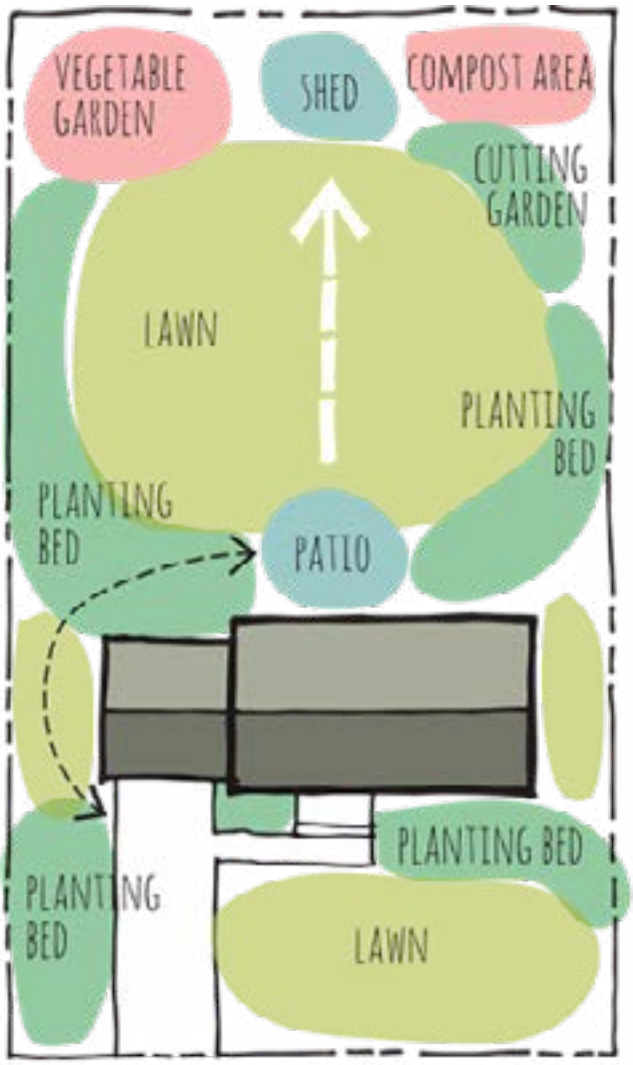

MELROSE AVENUE
N
PREVAILING WIND
SEWER LINE
WATER LINE
POWER LINE
FYFFE COURT
HOUSE
SUMMER BREEZE
NICE VIEW
DIRECTION OF SLOPE
GARAGE
EXISTING TREES
GARBAGE CANS
AC
CREEK
WOODS
SCALE 1" = 8'


PROP. LINE
FLOWERING DOGWOOD
BOARD FENCE
DEAD TREE
NORTH
HIGH, DRY AREA
JAPANESE MAPLES
BANK
SHADY
FLOWER BEDS
LIVING ROOM
PATIO
P.M. SHADE
SUNNY, OPEN
OREGON WHITE OAK
SLOPES DOWN
LAWN
IVY
KITCHEN
GARAGE
SLOPES DOWN
RAVINE & CREEK
BIGLEAF MAPLE
CRAB APPLE
FULL P.M. SUN
NITROGEN DEFICIENT SOIL
NEIGHBOUR'S BIRCH TREES
BOARD FENCE

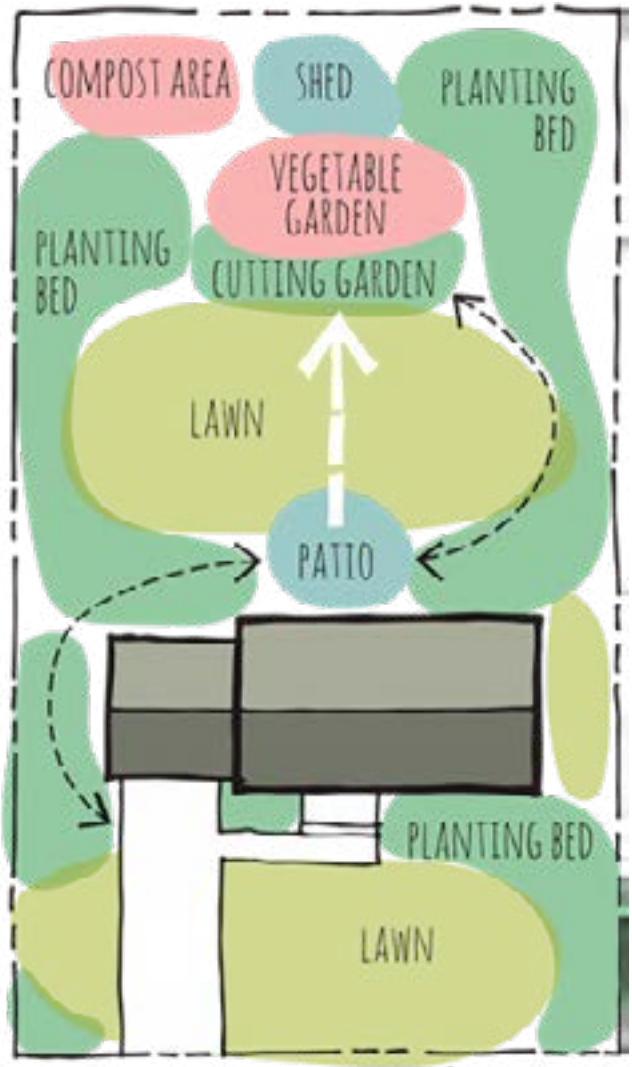
The Landscape Plan Sequence

Bubble Diagrams

A series of functional diagrams known as bubble diagrams can be drawn to define the functions that will take place in a certain space within the landscape and indicate the hardscape and softscape elements sought by the customer.



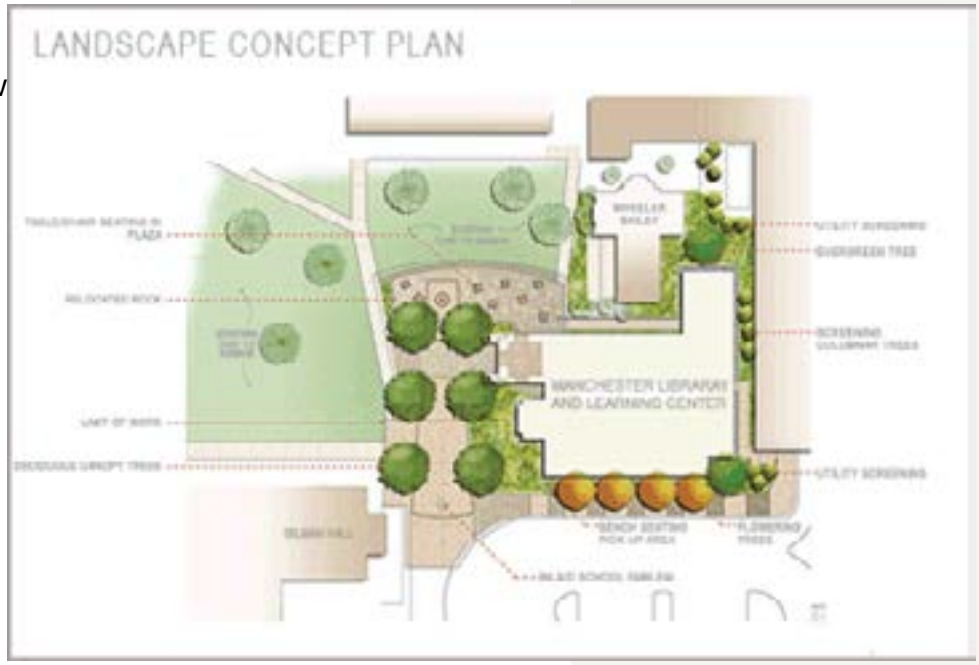
BUBBLE DIAGRAM #1



BUBBLE DIAGRAM #2

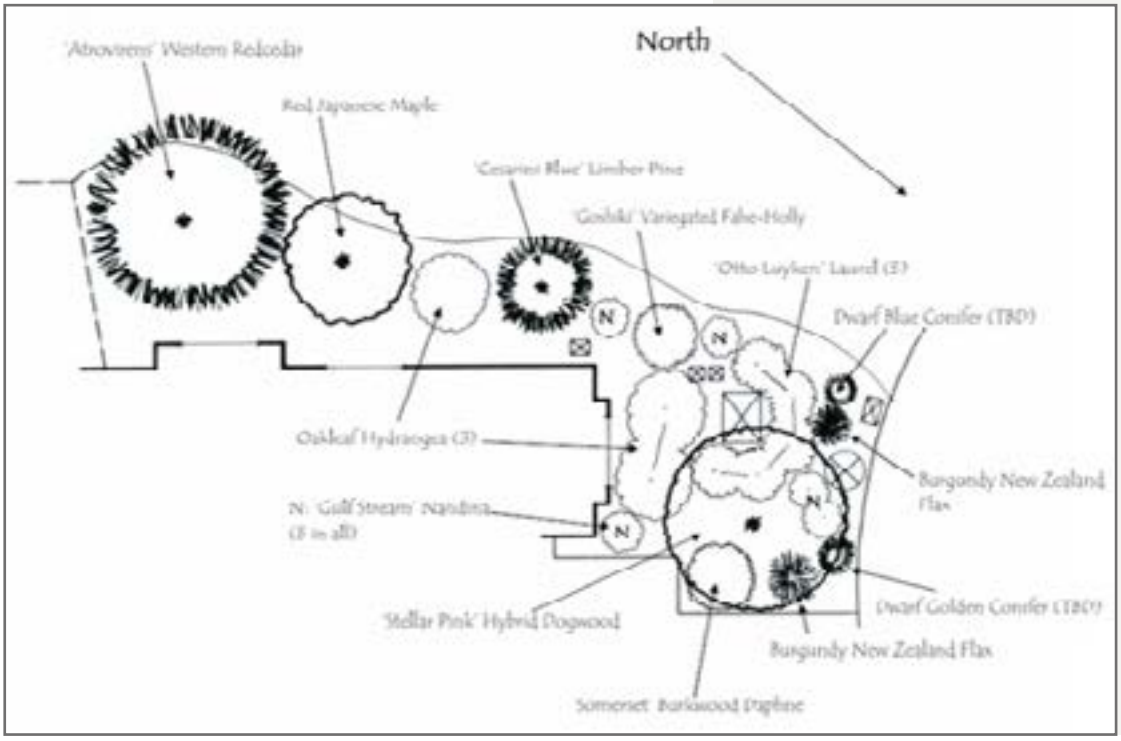
Concept Plans

Concept plans are more detailed then bubble plans, showing concept lines that divide areas within the landscape. These divisions help one to visualize spaces that are different from one another such as shaded planting beds from full sun beds or high maintenance from low maintenance areas. This helps to develop sustainability within the new landscape.



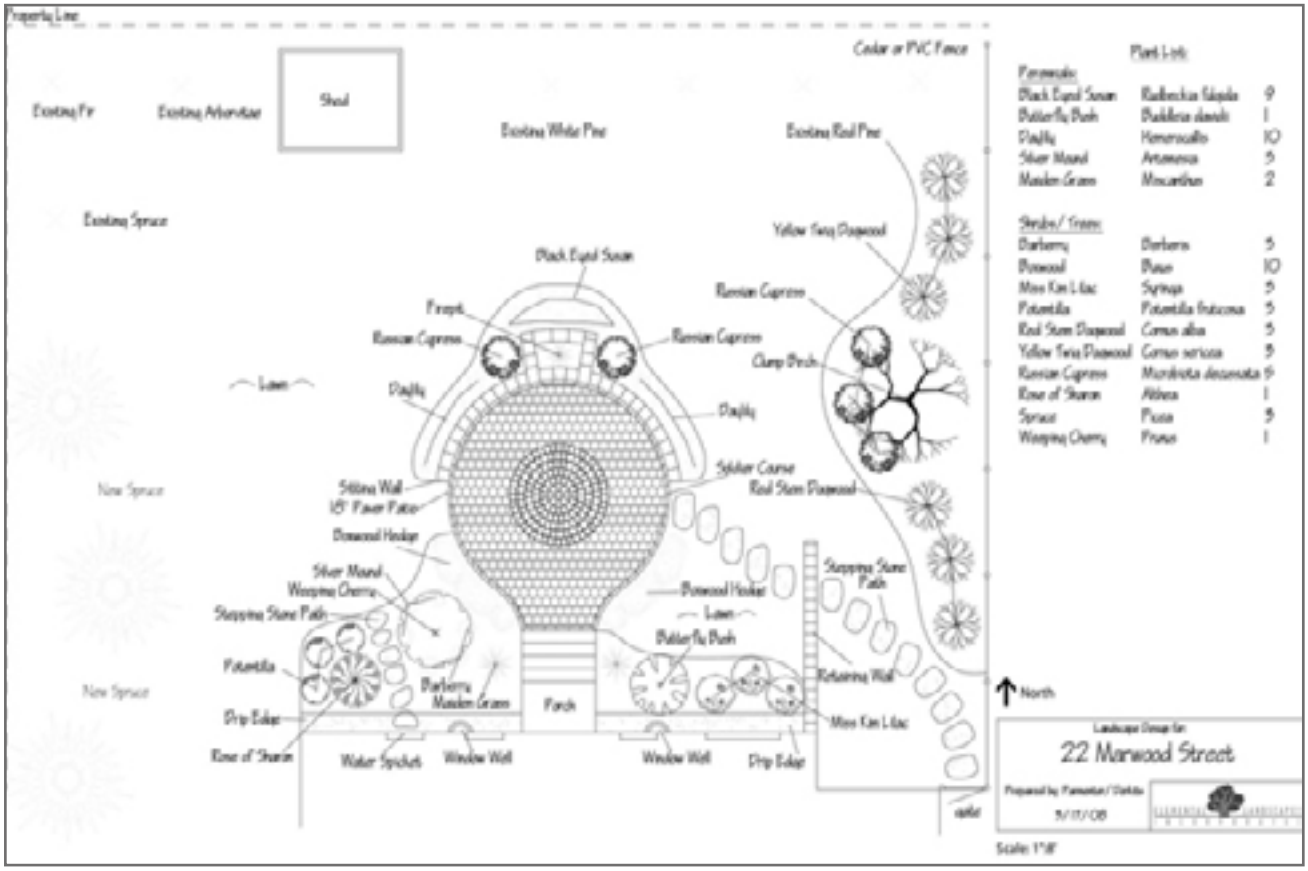
Draft Designs

Preliminary designs or draft designs are made until the designer and/or customer is happy with the design concepts created.



Completed Landscape Plan

Draft designs become a Completed Landscape Plan as specific plants and hardgoods are selected for each location. The completed landscape design is a culmination of the base plan, bubble diagrams, concept plans, and draft designs. This design has detailed schematics indicating layout, materials, timing and phasing of the overall landscape project. A detailed plant key is listed with the plan indicating common names, scientific names, quantity and sizes of all plant material. (Shown below)



Language of Landscape Design

The following is a list of the important plant types and plant groupings that need to be considered when creating a landscape design.

Trees are very important for screening, framing and shade. They must be considered very early in the design process.

Key Plants are those placed in a highly visible location. They are often associated with the screening or softening of architectural features such as building corners, steps and fences.

An **Entry Garden** is a landscape area near the entry of a building which calls attention to the entry and to certain plants.

Patio Gardens screen and soften the architectural features of the deck or patio, they frame views, and they can provide shade and protection from the wind.

Screen Plantings screen an area to provide privacy, block a poor view, or serve as a natural boundary or barrier.

Foundation Plantings are located in beds surrounding the base of a structure. They frequently contain several key plants.

Border Plantings are plants or plant groupings that divide spaces in a landscape. They can also provide divisions between adjacent properties.

Corner Plantings include any planting group that occupies a corner location, typically the corner of a property.

Freestanding or Group Plantings are separate from structures or other plantings. They are sometimes called an Island planting depending on location.

An **Accent Plant** is a plant of special interest that is usually part of a larger planting. Accent plants provide interest throughout the seasons through specific forms, textures and colors.

Specimen Plants usually stand alone in the landscape and provide seasonal interests of color through flowers, fruits or leaves.

Mass Plantings include many plants of the same species and are used to fill in an area.

Annual Gardens need to be replanted each year because the plants are not cold hardy. Annuals are frequently chosen for their intense flowering and often become seasonal focal points in the landscape.

Perennial Gardens are cold tolerant and grow back each spring and serve as focal points for many year

Elements of Design

The criteria used in the selection and organization of specific plants in the landscape are known as the Elements of Design. The number of design elements and the order in which they are considered will change with the specifics of a particular plan. These design elements are broken down into Primary and Secondary Elements.

Primary Design Elements

The following design elements form the backbone of the planting design.

Plant Type defines the growth habit of the plant such as a tree, shrub, vine or groundcover.

Height & Width pertain to the estimated mature sizes that a plant will reach in upward and outward directions. Improper spacing will lead to future problems within the landscape.

Texture refers to the coarseness or fineness of a plant. Texture can be created within a landscape design by rough or smooth surfaces, thin or thick leaf structure, or by brightness or darkness.

Form refers to the overall outline of a plant plus the three-dimensional features it produces such as columnar, round, vase, weeping or oval.

Seasonal interest is simply the time of year when a plant provides special characteristics such as flowers, fall color and fruits.

Secondary Design Elements

The following design elements are used when narrowing down the types of plants used.

Drought & Moisture Tolerance - Growing in the same set of conditions and with the same water availability, some plants perform better than others. Ex. Plants that grow well in restricted water environments are drought tolerant.

Insect & Disease Resistance - Plants should be selected that are least prone to disease and insects within each specific micro-climate.

Soil Adaptability - Plants should be selected that thrive rather than just survive at each site. Soil factors to consider during plant selection include water holding capacity, soil type, pH, compaction, soluble salts and fertility.

Full Sun or Shade Tolerance - Many plants tolerate full sun, and most flowering trees and shrubs will not flower well if they don't receive most of the day's available sunlight. Other plants must be planted in the shade to thrive and remain healthy in the landscape.

Tools for Communicating Design Intent

Plan Presentation

Verbal, graphic, and written communications are very important during the presentation of the final landscape plan.

Designs

- Free Hand & Perspective Drawings
  - These renderings or drawings are drafted by hand by designers. They have an impressive custom appearance but are difficult to change.
  - Computer Aided Design using AutoCadd and LandCadd
- Modern computer technology has allowed designers to have the ability to manipulate landscape sites in a large variety of ways. Computer aided designs can be revised very rapidly, greatly increasing efficiency.

Digital Imagery

- Digital cameras and monitors have enabled designers to present projects to customers through the use of laptop computers. Many programs have been developed to show before and after photos of sites prior to landscape installation.

Verbal Communication

- Having a narrative in which the designer can provide a summary of the landscape project from the initial problem statement to completion is critical while presenting landscape plans. A well thought out presentation is often the difference between securing and not securing a landscape proposal.

Contracts

- All estimates and contracts, along with company procedures and policies, should be thoroughly explained in writing to the satisfaction of the customer to avoid potential misunderstandings at a later date.

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Contributors:

Peter Lindh Bodycombe, CNLP
Cayuga Landscape Company, Inc.
2712 North Triphammer Road, Ithaca NY 14850
Ph. (607) 257-30000
Fax (607) 257-5242
Cell (607) 327-0272
peter@cayugalandscape.com

Jerry R. Parmenter, CNLP
Elemental Landscapes, Inc.
72 Badgley Lane
Voorheesville, NY 12186
www.gotstone.com

Chapter 7 Review Questions

1. Explain the difference between formal and informal balance within a landscape design.
2. List and describe six techniques used to create space within a landscape.
3. What type of plan is developed through information gathered at a site and forms a starting point for developing landscape design?
4. What four factors are critical in developing a sustainable landscape plan?
5. What is a site survey?
6. Describe the importance of structure and utility blueprints while developing a landscape plan.
7. What is the main purpose of bubble diagrams when developing a landscape plan?
8. What type of designs are made until the designer and/or customer is happy with the design concepts are created?
9. What should a plant key include on a landscape plan?
10. A plant that stands alone within a landscape is known as what?
11. What is the function of a screen planting?
12. Beds located around the base of a structure such as a home are known as what?
13. Describe the difference between primary and secondary design elements.
14. List a few design elements that must be considered when developing a landscape plan.
15. What are three ways to communicate a final landscape plan?