

## LANDSCAPE SPECIFICATIONS

### PART 1 - GENERAL

#### DESCRIPTION

Provide trees, shrubs, ground covers, sod, and annuals/perennials as shown and specified on the landscape plan. The work includes:

1. Soil preparation.
2. Trees, shrubs, ground covers, and annuals/perennials.
3. Planting mixes.
4. Top Soil, Mulch and Planting accessories.
5. Maintenance.
6. Decorative stone.

#### Related Work:

1. Irrigation System; see irrigation specifications (sheet L-2,2)

#### QUALITY ASSURANCE

Plant names indicated, comply with "Standardized Plant Names" as adopted by the latest edition of the American Joint Committee of Horticultural Nomenclature. Names of varieties, not listed conform generally with names accepted by the nursery trade. Provide stock true to botanical name and legibly tagged.

Comply with sizing and grading standards of the latest edition of "American Standard for Nursery Stock". A plant shall be dimensioned as it stands in its natural position.

All plants shall be nursery grown under climatic conditions similar to those in the locality of the project for a minimum of 2 years.

Nursery Stock furnished shall be at least the minimum size indicated. Larger stock is acceptable; at no additional cost, and providing that the larger plants will not be cut back to size indicated. Provide plants indicated by two measurements so that only a maximum of 25% are of the minimum size indicated and 75% are of the maximum size indicated.

Before submitting a bid, the Contractor shall have investigated the sources of supply and be satisfied that they can supply the listed plants in the size and quantity as specified. Failure to take this precaution will not relieve the Contractor from their responsibility for furnishing and installing all plant materials in strict accordance with the Contract Documents without additional cost to the Owner. The Landscape Architect shall approve any substitutes of plant material, or changes in plant material size, prior to the Landscape Contractor submitting a bid.

#### DELIVER, STORAGE AND HANDLING

Take all precautions customary in good trade practice in preparing plants for moving. Workmanship that fails to meet the highest standards will be rejected. Spray deciduous plants in foliage with an approved "Anti-Desiccant" immediately after digging to prevent dehydration. Dig, pack, transport, and handle plants with care to ensure protection against injury. Inspection certificates required by law shall accompany each shipment invoice or order to stock. Protect all plants from drying out. If plants cannot be planted immediately upon delivery, properly protect them with soil, wet peat moss, or in a manner acceptable to the Landscape Architect. Water heeled-in plantings daily. No plant shall be bound with rope or wire in a manner that could damage or break the branches. Cover plants transported on open vehicles with a protective covering to prevent wind burn.

#### PROJECT CONDITIONS

Protect existing utilities, paving, and other facilities from damage caused by landscape operations.

A complete list of plants, including a schedule of sizes, quantities, and other requirements are shown on the drawings. In the event that quantity discrepancies or material omissions occur in the plant materials list, the planting plans shall govern.

The irrigation system will be installed prior to planting. Locate, protect and maintain the irrigation system during planting operations. Repair irrigation system components damaged during planting operations; at the Contractor's expense. Refer to the irrigation specifications, irrigation plan and irrigation details.

Do not begin landscape accessory work before completion of final grading or surfacing.

#### WARRANTY

Warrant plant material to remain alive, be healthy and in a vigorous condition for a period of 1 year after completion and final acceptance of entire project.

Replace, in accordance with the drawings and specifications, all plants that are dead or are in an unhealthy, or unsightly condition, and have lost their natural shape due to dead branches, or other causes due to the Contractor's negligence. The cost of such replacement(s) is at the Contractor's expense. Warrant all replacement plants for 1 year after installation.

Warranty shall not include damage, loss of trees, plants, or ground covers caused by fires, floods, freezing rains, lightning storms, winds over 75 miles per hour, winter kill caused by extreme cold, severe winter conditions not typical of planting area, and/or acts of vandalism or negligence on a part of the Owner.

Remove and immediately replace all plants, found to be unsatisfactory during the initial planting installation.

Maintain and protect plant material, lawns, and irrigation until final acceptance is made.

#### ACCEPTANCE

Inspection of planted areas will be made by the Owner's representative.

1. Planted areas will be accepted provided all requirements, including maintenance, have been complied with and plant materials are alive and in a healthy, vigorous condition.

Upon acceptance, the Contractor shall commence the specified plant maintenance.

#### CODES, PERMITS AND FEES

Obtain any necessary permits for this Section of Work and pay any fees required for permits.

The entire installation shall fully comply with all local and state laws and ordinances, and with all established codes applicable thereto; also as depicted on the landscape and irrigation construction set.

### PART 2 - PRODUCTS

#### MATERIALS

Plants: Provide typical of their species or variety, with normal, densely developed branches and vigorous, fibrous root systems. Provide only sound, healthy, vigorous plants free from defects, disfiguring knots, sun scald injuries, frost cracks, abrasions of the bark, plant diseases, insect eggs, borers, and all forms of infestation. All plants shall have a fully developed form without voids and open spaces. Plants held on storage will be rejected if they show signs of growth during the storage period.

1. Balled and plants wrapped with burlap, to have firm, natural balls of earth of sufficient diameter and depth to encompass the fibrous and feeding root system necessary for full recovery of the plant. Provide ball sizes complying with the latest edition of the "American Standard for Nursery Stock". Cracked or mushroomed balls, or signs of circling roots are not acceptable.
2. Container-grown stock: Grown in a container for sufficient length of time for the roots to have developed to hold its soil together, firm and whole.
  - a. No plants shall be loose in the container.
  - b. Container stock shall not be pot bound.
3. Plants planted in rows shall be matched in form.
4. Plants larger than those specified in the plant list may be used when acceptable to the Landscape Architect.
  - a. If the use of larger plants is acceptable, increase the spread of roots or soil ball in proportion to the size of the plant.
5. The height of the trees, measured from the crown of the roots to the top of the top branch, shall not be less than the minimum size designated in the plant list.
6. No pruning wounds shall be present on the diameter of main stems and pruning wounds must show vigorous bark on all edges.
7. Evergreen trees shall be branched to the ground or as specified in plant list.
8. Shrubs and small plants shall meet the requirements of spread and height indicated in the plant list.
  - a. The measurements for height shall be taken from the ground level to the height of the top of the plant and not the longest branch.
  - b. Single stemmed or thin plants will not be accepted.
  - c. Side branches shall be vigorous, well-twigged.
  - d. Plants shall be free of rot, vigorous, free from dead wood, bruises, or other root or branch damage.

#### CESSORIES

Soil: Shall be Fertile, loamy, natural top soil of loamy character, without admixture of subsoil material, freed from a well-drained, suitable soil reasonably free from clay, lumps, coarse sands, stones, roots, and other foreign materials, with acidity range of between pH 6.0 and 6.8.

Note: Planting areas shall be cleaned of construction debris (ie. Concrete, rubble, stones, building materials) prior to grading and spreading of the top soil.

1. Soil shall be spread a minimum 4" layer of top soil and rake smooth.
2. Planting bed areas: Spread a minimum 4" layer of top soil and rake smooth.

3. Landscape Islands/Medians: Fracture/loosen existing subgrade to a minimum 24" depth. Remove and replace any subgrade unsuitable for planting. Once subgrade is clean of debris and loosened, add topsoil to a minimum berm 6"-8" height above island curbing.
4. Annual/Perennial bed areas: Add a minimum of 4" organic matter and fill to a minimum 12" depth.

Mulch: Type selected dependent on region and availability; see landscape plans for type of mulch to be used. Hold mulch 4" from tree trunk and shrub stems.

1. Hardwood: 6 month old well rotted double shredded native hardwood bark mulch not larger than 4" in length and 1/2" in width, free of wood chips and sawdust. Install minimum depth of 3".
2. Pine Straw: Pine straw to be fresh harvest, free of debris, bright in color. Bales to be wired and tightly bound. Needles to be dry. Install minimum depth of 3".
3. River Rock: (color) light gray to buff to dark brown, washed river rock, 1" - 3" in size. Install in shrub beds to an even depth of 3". Weed control barrier to be installed under all rock mulch areas. Use caution during installation not to damage plant material.
4. Mini Nuggets: Install to a minimum depth of 2"-3" at all locations of annual and perennial beds. Lift the stems and leaves of the annuals and carefully spread the mulch to avoid injuring the plants. Gently brush the mulch off the plants.

#### Guying/Staking:

1. Arborize: Green (or white) staking and guying material to be flat, woven, polypropylene material, 3/4" wide 500 lb. break strength. Arborize shall be fastened to stakes in a manner which permits tree movement and supports the tree.
2. Remove Guying/Staking after one year from planting.

Tree Wrap: Tree wraps should be used on young, newly planted thin-barked trees (Cherry, Crabapple, Honey Locust, Linden, Maple, Mountain Ash, Plum) that are most susceptible to sun scald/Sunburn. Standard waterproofed tree wrapping paper, 2-1/2" wide, made of 2 layers of crepe Draft paper weighing not less than 30 lbs. per ream, cemented together with asphalt. Wrap the tree in the fall and leave the wrap in place throughout the winter and early spring. Tree wraps are temporary and no longer needed once trees develop corky bark.

### PART 3 - EXECUTION

#### INSPECTION

Prior to beginning work, the Landscape Contractor shall inspect the subgrade, general site conditions, utility elevations, utility locations, irrigation, approve top soil provided by the General Contractor and observe the site conditions under which the work is to be done. Notify the General Contractor of any unsatisfactory conditions, and work shall not proceed until such conditions have been corrected and are acceptable to the Landscape Contractor.

#### PREPARATION

Planting shall be performed only by experienced workmen familiar with planting procedures under the supervision of a qualified superintendent.

Locate plants as indicated on the plans or as approved in the field after staking by the Landscape Contractor. If obstructions are encountered that are not shown on the drawings, do not proceed with planting operations until alternate plant locations have been selected and approved by the Landscape Architect; spacing of plant material shall be as shown on the landscape plan.

Excavate circular plant pits with vertical sides, except for plants specifically indicated to be planted in beds. Provide shrub pits at least 2" greater than the diameter of the root system and 24" greater for trees. Depth of pit shall accommodate the root system. Provide undisturbed sub grade to hold root ball at nursery grade as shown on the drawings.

#### INSTALLATION

Set plant material in the planting pit to proper grade and alignment. Set plants upright, plumb, and faced to give the best appearance or relationship to each other or adjacent structures. Set plant material 2" - 3" above the finish grade. No filling will be permitted around trunks or stems. Backfill the pit with topsoil mix and excavated material. Do not use frozen or muddy mixtures for backfilling. Form a ring of soil around the edge of each planting pit to retain water.

After balled and wrapped in burlap plants are set, muddle planting soil mixture around bases of balls and fill all voids.

1. Remove all burlap, ropes, and wires from the top 1/3 of the root ball

#### Mulching:

1. Mulch tree and shrub planting pits and shrub beds with required mulching material (see landscape plan for mulch type); depth of mulch as noted above. **Hold mulch back 4" away from tree trunks and shrub stems.** Thoroughly water mulched areas. After watering, rake mulch to provide a uniform finished surface.

#### Decorative Stone: (where indicated on landscape plan)

1. Install weed control barrier over sub-grade prior to installing stone. Lap 6" on all sides.
2. Place stone without damaging weed barrier.
3. Arrange stones for best appearance and to cover all weed barrier fabric.

#### Wrapping, guying, staking:

1. Inspect trees for injury to trunks, evidence of insect infestation, and improper pruning before wrapping.
2. Wrapping:
  - a. Wrap trunks of all young newly planted trees known to have thin bark. Wrap spirally from bottom to top with specified tree wrap and secure in place.
  - b. Overlap 1/2 the width of the tree wrap strip and cover the trunk from the ground to the height of the second branch.
  - c. Secure tree wrap in place with twine wound spirally downward in the opposite direction, tied around the tree in at least 3 places in addition to the top and bottom.
3. Wrap the trees in the fall and leave the wrap in place throughout the winter and early spring.
4. Tree wraps are temporary and no longer needed once the trees develop corky bark.

#### Staking/Guying:

- a. Stake/guy all trees immediately after staking operations and prior to final acceptance.
- b. Stake deciduous trees 2" over and 1/2" stake evergreen trees under 7'-0" tall.
  1. Stakes are placed in the soil with prevailing wind direction and driven into undisturbed soil.
  2. Ties are attached to the tree usually at the lowest branch.
  3. Guy wires to be attached to the stakes driven into undisturbed soil, with one stake placed in the direction of the prevailing wind.
  4. Ties are attached to the wire as high as practical.
  5. The axis of the stakes should be at 90 degree angle to the axis on the pull of the wire.
4. Remove guying and staking after one year from planting.

#### Pruning:

1. Prune deciduous trees and evergreens only to remove broken or damaged branches.

#### WORKMANSHIP

During landscape/irrigation installation operations, all areas shall be kept neat and clean. Precautions shall be taken to avoid damage to existing structures. All work shall be performed in a safe manner to the operators, the occupants and any pedestrians.

Upon completion of installation operations, all excess materials, equipment, debris and waste material shall be cleaned up and removed from the site, unless provisions have been granted by the owner to use on-site trash receptacles. Sweep parking and walks clean of dirt and debris. Remove all plant tags and other debris from lawns and planting areas.

Any damage to the landscape, the structure, or the irrigation system caused by the landscape contractor shall be repaired by the landscape contractor without charge to the owner.

#### MAINTENANCE

Contractor shall provide maintenance until work has been accepted by the Owner's Representative.

Maintenance shall include mowing, fertilizing, mulching, pruning, cultivation, weeding, watering, and application of appropriate insecticides and fungicides necessary to maintain plants and lawns free of insects and disease.

1. Re-set settled plants to proper grade and position. Restore planting saucer and adjacent material and remove dead material.
2. repair guy wires and stakes as required. Remove all stakes and guy wires after 1 year.
3. Correct defective work as soon as possible after deficiencies become apparent and weather and season permit.
4. Water trees, plants and ground cover beds within the first 24 hours of initial planting, and not less than twice per week until final acceptance.

## LANDSCAPE MAINTENANCE SPECIFICATIONS

The Contractor shall provide as a separate bid, maintenance for a period of 1 year after final acceptance of the project landscaping. The Contractor must be able to provide continued maintenance if requested by the Owner or provide the name of a reputable landscape contractor who can provide maintenance.

#### STANDARDS

All landscape maintenance services shall be performed by trained personnel using current, acceptable horticultural practices.

All work shall be performed in a manner that maintains the original intent of the landscape design.

All chemical applications shall be performed in accordance with current county, state and federal laws, using EPA registered materials and methods of application. These applications shall be performed under the supervision of a Licensed Certified applicator.

#### APPROVALS

Any work performed in addition to that which is outlined in the contract shall only be done upon written approval by the Owner's Representative (General Manager of the restaurant).

All seasonal color selections shall be approved by the General Manager prior to ordering and installation.

#### SOIL TESTING

The maintenance contractor shall perform soil tests as needed to identify imbalances or deficiencies causing plant material decline. The owner shall be notified of the recommendation for approval, and the necessary corrections made at an additional cost to the owner.

#### Acceptable Soil Test Results

Landscape Tree and Shrubs	Turf
<b>pH Range</b>	6.0-7.0
<b>Organic Matter</b>	>1.5%
<b>Magnesium (Mg)</b>	100-lbs./acre
<b>Phosphorus (P2O5)</b>	150-lbs./acre
<b>Potassium (K2O)</b>	120-lbs./acre
<b>Sulfate Sulfur</b>	Not to exceed 750ppm/1.9 mmoles/cm in soil, not to exceed 1400 ppm/2.5 mmoles/cm in high organic mix
<b>Conductivity</b>	Not to exceed 750ppm/0.75 mmoles/cm in soil, not to exceed 2000 ppm/2.0 mmoles/cm in high organic mix

For unusual soil conditions, the following optional tests are recommended with levels not to exceed:

Boron	3 pounds per acre
Manganese	50 pounds per acre
Potassium (K2O)	450 pounds per acre
Sodium	20 pounds per acre

#### WORKMANSHIP

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Upon completion of maintenance operations, all debris and waste material shall be cleaned up and removed from the site, unless provisions have been granted by the owner to use on-site trash receptacles.

Any damage to the landscape, the structure, or the irrigation system caused by the maintenance contractor, shall be repaired by the maintenance contractor without charge to the owner.

### TURF

#### GENERAL CLEAN UP

Prior to mowing, all trash, sticks, and other unwanted debris shall be removed from lawns, plant beds, and paved areas.

#### MOWING

Warm season grasses (ie. Bermuda grass) shall be maintained at a height of 2" during the growing season.

Cool season grasses, including blue grass, tall fescue, perennial ryegrass, etc. shall be maintained at a height of 2" - 3" in spring and fall. From June 1st to September 1st, mowing height shall be maintained at 1" to less than 1 1/2".

The mowing operation includes mowing around all obstacles, raking excessive grass clippings and removing debris from walks, curbs, and parking areas. Caution: Weed eaters should NOT be used around trees because of potential damage to the bark.

#### EDGING

Edging of all sidewalks and other paved areas shall be performed once every other mowing. Debris from the edging operations shall be removed and the areas swept clean. Caution shall be used to avoid injury to debris.

#### LIMING & FERTILIZING

A soil test shall be taken to determine whether an application of limestone in late fall is necessary. If limestone is required, the landscape contractor shall specify the rate, obtain approval from the owner and apply it at an additional cost. A unit price for liming of turf shall also be included in the bid based on a rate of 50 pounds per 1000 square feet.

Fertilizer shall be applied in areas based on the existing turf species.

#### LAWN WEED CONTROL: HERBICIDES

Selection and proper use of herbicides shall be the landscape contractor's responsibility. All chemical applications shall be performed under the supervision of a Licensed Certified Applicator. **Read the label prior to applying any chemical.**

#### INSECT & DISEASE CONTROL FOR TURF

The contractor shall be responsible for monitoring the site conditions on each visit to determine if any insect pest or disease problems exist. The contractor shall identify the insect pest or disease, as well as the host plant, and then consult the most current edition of the Cooperative Extension Service's "Commercial Insecticide Recommendation for Turf" for control. The licensed applicator shall be familiar with the label provided for the selected product prior to application.

Inspection and treatment to control insect pests shall be included in the contract price.

### TREES, SHRUBS, & GROUND COVER

#### PRUNING

All ornamental trees, shrubs and ground cover shall be pruned when appropriate to remove dead or damaged branches, develop the natural shapes. **Do not shear trees or shrubs.** If previous maintenance practice has been to shear and ball, then a natural shape will be restored gradually.

#### Pruning Guidelines:

1. Prune those that flower before the end of June immediately after flowering. Flower buds develop during the previous growing season. Fall, winter or spring pruning would reduce the spring flowering display.
2. Prune those that flower in summer or autumn in winter or spring before new growth begins, since these plants develop flowers on new growth.
3. Delay pruning plants grown for ornamental fruits, such as clematites, pyracantha and viburnums.
4. Hollies and other evergreens may be pruned during winter in order to use their branches for seasonal decoration. However, severe pruning of evergreens should be done in early spring only.
5. Broadleaf evergreen shrubs shall be hand-pruned to maintain their natural appearance after the new growth hardens off.
6. Hedges or shrubs that require shearing to maintain a formal appearance shall be pruned as required. Dead wood shall be removed from sheared plants before the first shearing of the season.
7. Conifers shall be pruned, if required, according to their genus.
  - A. Yews, junipers, hemlocks, arborvitae, and false-cypress may be pruned after new growth has hardened off in late summer. If severe pruning is necessary, it must be done in early spring.
  - B. Fir and spruces may be lightly pruned in late summer, fall, or winter after completing growth. Leave side buds. Never cut central leader.
  - C. Pines may be lightly pruned in early June by reducing candles.
8. Groundcover shall be edged and pruned as needed to contain it within its borders.

9. Thinning: Remove branches and water sprouts by cutting them back to their point of origin on parent stems. This method results in a more open plant, without stimulating excessive growth. Thinning is used on crepe myrtles, lilacs, viburnums, smoke bush, etc.
10. Renewal pruning: Remove oldest branches of shrub at ground, leaving the younger, more vigorous branches. Also remove weak stems. On overgrown plants, this method may be best done over a three-year period. Renewal pruning may be used on abelia, forsythia, deutzia, spiraea, etc.

Plants overhanging passageways and parking areas and damaged plants shall be pruned as needed.

Shade trees that cannot be adequately pruned from the ground shall not be included in the Maintenance Contract. A certified arborist under a separate contract shall perform this type of work.

#### SPRING CLEANUP

Plant beds shall receive a general cleanup before fertilizing and mulching. Cleanup includes removing debris and trash from beds and cutting back herbaceous perennials left standing through winter, e.g. ornamental grasses, Sedum Autumn Joy.

#### FERTILIZING

For trees, the rate of fertilization depends on the tree species, tree vigor, area available for fertilization, and growth stage of the tree. Mature specimens benefit from fertilization every 3 to 4 years; younger trees shall be fertilized more often during rapid growth stages.

The current recommendation is based on the rate of 1000 square feet of area under the tree to be fertilized. For deciduous trees, 2 to 6 pounds of Nitrogen per 1000 square feet, for narrow-leaf evergreens, 1 to 4 pounds of Nitrogen per 1000 square feet, for broadleaf evergreens, 1 to 3 pounds of Nitrogen per 1000 square feet.

Shrubs and groundcover shall be top-dressed with compost 1" deep, or fertilized once in March with 10-6-4 analysis fertilizer at the rate of 3 pounds per 100 square feet of bed area. Eraceous material shall be fertilized with an eraceous fertilizer at the manufacturer's recommendation rate. If plants are growing poorly, a soil sample should be taken.

#### MULCHING

Annually, all tree and shrub beds will be prepared and mulched, to a minimum depth of 3" with quality mulch to match existing. Bed preparation shall include removing all weeds, cleaning up said bed, edging and cultivating decayed mulch into the soil. Debris from edging shall be removed from beds where applicable. If deemed necessary, a pre-emergent herbicide may be applied to the soil to inhibit the growth of future weeds.

Organically maintained gardens shall not receive any pre-emergent herbicide. Mulch thickness of 4" will be removed from paved areas. SPG shall be taken as a precautionary operation not to over-mulch or cover the base of trees and shrubs. This can be detrimental to the health of the plants.

#### WEEDING

All beds shall be weeded on a continuous basis throughout the growing season to maintain a neat appearance at all times.

Pre-emergent (soil-applied) and post-emergent (foliar-applied) herbicides shall be used where and when applicable and in accordance with the product label.

#### INSECT & DISEASE CONTROL: TREES, SHRUBS & GROUNDCOVER

The maintenance contractor shall be responsible for monitoring the landscape site on a regular basis. The monitoring frequency shall be monthly except for growing season, which will be bi-monthly. Trained personnel shall monitor for plant damaging insect activity, plant pathologic diseases and potential cultural problems in the landscape. The pest or cultural problem shall be identified under the supervision of the contractor.

Following damage to insects and mites identified in the landscape, the contractor shall consult the recommendations of the most current edition of the state Cooperative Service Extension on insect control on landscape plant material.

Plant pathogenic disease problems identified by the contractor that can be resolved by pruning or physical removal of damaged plant parts will be performed as part of the contract. For an additional charge, plant pathogenic diseases that can be resolved through properly timed applications of fungicides shall be made when the owner authorizes it.

If the contractor notes an especially insect-or disease-prone plant species in the landscape, he/she will suggest replacement with a more pest-resistant cultivar or species that is consistent with the intent of the landscape design.

NOTE: For identification of plant-damaging insects and mites, a reference textbook that can be used is *Insects that feed on Trees and Shrubs* by Johnson and Lyon, Comstock Publishing Associates. For plant pathogenic diseases, two references are suggested: *Scouting and Controlling Woody Ornamental Diseases in Landscapes and Nurseries*, authorized by Gary Mooman, published by Penn State College of Agricultural Sciences, and *Diseases of Trees and Shrubs* by Sinclair and Lyon, published by Comstock Publishing Press.

#### TRASH REMOVAL

The maintenance contractor shall remove trash from all shrub and groundcover beds with each visit.

#### LEAF REMOVAL

All fallen leaves shall be removed from the site in November and once in December. If requested by the owner, the maintenance contractor, at an additional cost to the owner shall perform supplemental leaf removals.

#### WINTER CLEAN-UP

The project shall receive a general clean-up once during each of the winter months, i.e., January, February, and March.

#### Clean-up includes:

- Cleaning curbs and parking areas
- Removing all trash and unwanted debris
- Turning mulch where necessary
- Inspection of grounds

### SEASONAL COLOR: PERENNIALS, ANNUALS, AND BULBS

The installation of perennials, annuals, and bulbs, unless specified herein, shall be reviewed with the owner, and, if accepted, installed and balled to the owner.

#### SEASONAL COLOR MAINTENANCE

##### Perennialization of Bulbs:

1. After flowering, cut off spent flower heads.
2. Allow leaves of daffodils and hyacinths to remain for six weeks after flowers have faded. Cut off at base.
3. Allow leaves of other bulbs to yellow naturally and then cut off at base.
4. Apply fertilizer after flowering in spring, possibly again in fall. Apply 10-10-10 at the rate of 2 pounds per 1000 square feet, or top-dress with compost 1" deep. Fall fertilization with a ball fertilizer or mulching with 1" of compost is optional.

##### Flower Rotation:

1. Bulbs: Remove the entire plant and bulb after flowers have faded or at the direction of the owner, and install new plants if included in contract.
2. Summer Annuals or Fall Plants:
  - a. Dead heading: Pinch and remove dead flower heads on annuals as necessary.
  - b. Fertilizing Summer Annuals: Fertilize using one or two methods: Apply a slow-release fertilizer in May following manufacturer's recommendations. A booster such as 10-10-10 may be necessary in late summer. Or, apply liquid fertilizations of 20-20-20 water-soluble fertilizers, not to exceed 2 pounds of 20-20-20 per 100 gallons of water, monthly, or mulch with compost 1" deep.
  - c. Removal: If fall plants are to be installed, summer annuals shall be left in the ground until the first killing frost and then removed, unless otherwise directed by the owner.

#### Perennials:

1. After initial installation, if a time-released fertilizer has been incorporated during plant installation, no more fertilizer need be applied the first growing season.
2. The following year:
  - a. Fertilize perennials with a slow-release fertilizer or any 50% organic fertilizer, or mulch perennials with compost 1" deep.
  - b. Cut all deciduous perennials flush to the ground by March 1, if this was not done the previous fall, to allow new growth to develop freely.
  - c. Mulch the perennial bed once in early spring at 1"-2" depth. If soil is bared in late fall, re-mulch lightly after ground is frozen to protect perennials.
  - d. Inspect for insect or disease problems on perennials. Monitor and control slugs on hostas and liliatris. Powdery mildew on phlox, monardas, and asters can be prevented with properly timed fungicides or use of disease-resistant varieties.
  - e. Weed perennial bed as specified