Plant Establishment and Care

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Outline

• Soil preparation
• Soil amendments
• Plant establishment
• Sustainable turf maintenance practices
Soil preparation

- Assess the status of soil
- Add organic matter (25% of volume)
  - But not to tree planting holes
- Enhances
  - structure (loosens)
  - water infiltration
  - water retention
  - biological activity
Adding organic matter

- Compost – the perfect plant food, soil amendment and disease preventer
- Should not look like composed ingredients nor have an odor
- Composted manure okay – but not for flowering plants
- NEVER use raw manure (except in an unplanted area the season before planting)
Planting for erosion control

- Asymmetric spacing of perennials and low-growing shrubs (4 to 7 feet apart)
- Nonturf grasses in between
- Mulch the site lightly after planting
  - wood fiber
  - compost
  - no pine needles within 30 feet of structures
Plant establishment

• From seed
  • spring or fall after irrigation has been installed
• Lawns/conservation grasses
  • seed – if in fall, 4-6 weeks before first snow
  • Sod – any time
• Planting trees
  • Don’t plant a $50 tree in a $5 hole
Plant establishment - irrigation

- Very frequent watering (at least once a day) for the first 4 weeks;
- Every other day once seedlings are 3 to 4 inches high.
- In spring, remove pine needles only if they interfere with seedling establishment.
Planting a tree

cut and remove all sisal and synthetic twine
remove top one-third of wire basket
remove burlap from top one-third of rootball
rootball on undisturbed soil
root collar should be level or slightly above surrounding grade
2-4" of organic mulch -- avoid mounding mulch onto the trunk
2 to 3 times rootball diameter
backfill with soil removed from the hole
Percolation test for tree planting holes

• Dig the hole 3 to 5 times wider than the root ball.
• Fill the hole with water.
• Refill the hole once the water has drained.
• Start measuring drainage an hour after filling.
• Water should drain at a rate of ½ inch per hour. If water doesn’t drain after 24 hours, break through the hardpan layer or install drainage tile.
Percolation test
Mulch

• No widespread use of organic mulch within 30 feet of structures (LWF)
• Wood and bark chips – only in planters or on bare spots and separated by noncombustible groundcovers.
• Mulch where vegetation is not practical
• No pine needles within 30 feet of structures.
• NO RUBBER MULCH – EVER!
Sustainable turf maintenance

• Use fertilizers sparingly
  • the goal is to stimulate root growth
• Mow high
  • 2.5 to 3 inches
• Irrigate efficiently
  • Use hydrozones to separately irrigate planted areas with different water needs
• Core aerate (hollow-tine) at least annually
Turf fertilization

• No more than twice per year
• Use phosphorus free (except during seed establishment)
  • P-deficiency is rare in turfgrass
• Spring: slow-release
• Fall: quick-release
• Irrigate to 6-8 inches deep after fertilizing
  • results in quick spring green-up
• DO NOT USE weed-and-feed type fertilizers
Lawn fertilization

- Fall N fertilization is the most important
  - use quick-release N
  - apply when average daily temperature for 3 consecutive days is below 50 deg. F (late summer)
  - results in quick spring green-up
  - avoid “winterizer fertilizers”
- Spring fertilization (if clippings are not returned)
  - use slow-release in late spring (June on north-facing sites)
Phosphorus free lawn fertilizer
Mow high

• Set mowers to 2.5 to 3 inches
• Shades crown
• Reduces weeds
• Encourages deep rooting
• Leave clippings on the lawn – may be able to skip spring fertilization
Avoid “scalping”

Brown areas caused by cutting too low. Known as Scalping.
Irrigation of established turfgrass

- Sprinkler for lawn areas
- Drip irrigation for nonturf plantings
- Do not mix sprinkler and drip emitters on the same line
- Irrigate less frequently in spring and fall
- Up to 1.5 inches, 3 times per week in summer
- Cycle irrigation for Tahoe soils:
  - split total irrigation into 2-3 cycles with at least an hour between cycles
  - allows water to penetrate with runoff or leaching
Head-to-head coverage

"HEAD-TO-HEAD COVERAGE"
THE WATER FROM ONE SPRINKLER GOES ALL THE WAY TO THE NEXT SPRINKLER
Hydrozoning

• Organize plantings by water needs
• Irrigate zones on separate valves
• In general:
  • Plantings with shallow roots (turf areas) need shallower and more frequent irrigation
  • Plantings with deeper roots (esp. trees) need deeper and less frequent irrigation
Water audits

• Use catch cups
• Arrange in a grid pattern
• Look for uniformity of sprinkler coverage
• Average the inches in each cup to see how much water is applied