A Guide for Development of Pruning
(Version 1.0)

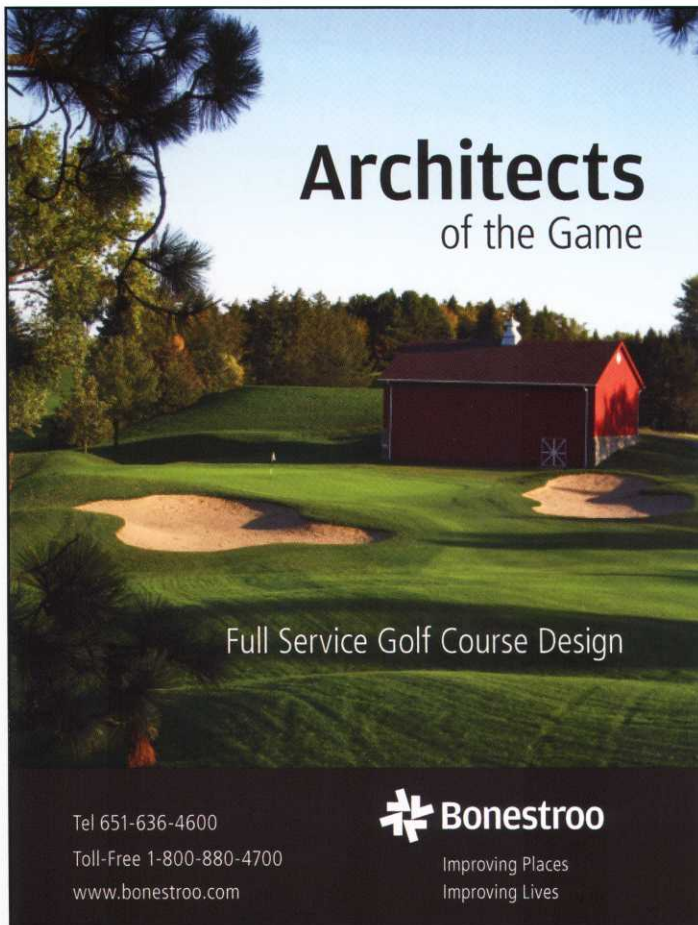**By CHAD GIBLIN and JEFFREY GILMAN**
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- All pruning cuts should be made to minimize wounding, preferably at a right angle to the main stem.
- Flush- and stub-cuts should be strictly avoided.
- Select and maintain a strong, healthy, central leader.
- This should have already been done after the pruning in the nursery; however, future co-dominant leaders should be scouted for and carefully removed if they appear.
- Overly aggressive central leaders may have to be headed back to a lower branch or node if they appear to bend away from the central position.
- Establish guidelines for a temporary branch zone.
- Temporary branches are those which appear below the height of the final canopy.
- American and hybrid elms should tolerate a lower live crown ratio (LCR) than the recommended 60% LCR.
- Lower LCRs at or shortly after planting reduce the need to remove large, temporary branches later or after long pruning cycles.
- Remove branches with narrow crotches or visibly poor attachment in the temporary branch zone.
- Simultaneous removal of "Clustered Branching" appearing at a single point on the main stem can cause poor compartmentalization and internal decay.
- Clustered branches may have to be removed in phases depending on their diameter.
- Use suppression pruning cuts to slow growth until removal.
- Suppress growth of competing side branches that may compete with central leader.
- Always make heading back cuts to an existing branch crotch or dormant bud to avoid excessive water-sprouting at the wound site.
- Remove lower, temporary branches before they reach a branch aspect ratio of 1:3 *(before the temporary branch reaches a diameter 1/3 that of the stem where they are attached)*.
- If temporary branches cannot be removed in one pruning event, the branches should be suppressed using heading-back cuts to an existing branch crotch or bud to slow their growth at the point of attachment.
- Sterilize tools at frequent intervals to minimize spread and outbreak of bacterial wetwood diseases.

GENERAL PRUNING GUIDELINES

Removal of Co-dominant Leaders

- Co-dominant leaders compete for valuable resources and a place in the mature crown of any tree.
- Due to the nature of this species and previous maintenance on them, co-dominant leaders should be scouted for, and removed, on an annual basis.
- Co-dominant leaders occasionally appear during the growing season and may overtake the existing central leader.
- If co-dominant leaders cannot be removed in one pruning cycle, they should be suppressed back to a lower bud or side branch.
- Don't worry about "proper" pruning cuts at this time; suppressed co-dominant leaders can still form a branch protection zone (BPZ) and should be removed at the main stem within a year or two.
- Extremely sharp, fine-toothed pruning saws and shears are required for any type of summer pruning on elms.

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Figure 1: Severe decurrent growth after "tipping-back" in the nursery (U. americana 'Princeton')

Figure 2: (above) After co-dominant removal and suppression of side branches (U. americana 'Princeton'). This tree still requires several suppression cuts on co-dominant leaders.

Figure 3: Overgrown Accolade™ elm (U. japonica x wilsoniana 'Morton') in boulevard.

Figure 4: After crown raising and suppression of co-dominant leaders.