going beyond your player's expectations and jointly shared disappointment when Mother Nature gives them a wedgie, brings about camaraderie that should be cherished by one and all. Capture those bigger moments rather than the perennial cart traffic mark near the fourth tee.

A new season allows for fresh opportunities between you and the clubhouse and golf shop staff. With a solid 'head up' take time to notice the changes that will have an impact upon your season ahead. Perhaps a little admiration of the soft goods will win a future favor. Complementing the menu could elicit a special snack and mentioning the professionalism of your locker room attendant may very well earn a shoeshine. Why scurry through the building with your mind on auto focus? 'Head up', look for the obvious and share a kind word of acknowledgement.

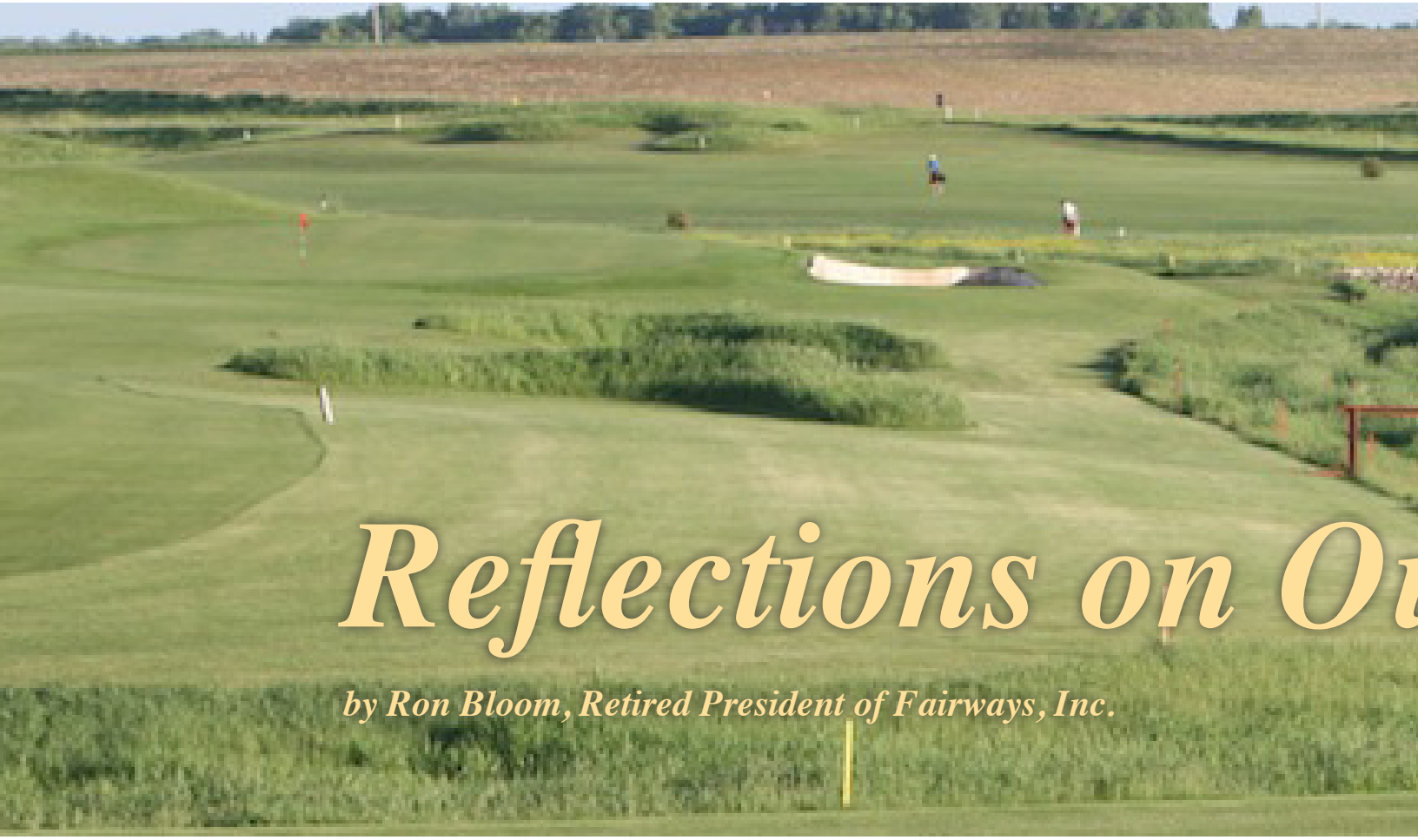
Is it an equilibrium thing or the fact that with your 'head up' you won't fall down as much on the lake, the ski slope or in life?

How about a 'head up' at home? While the course will take a large percent of your time and attention, it cannot become your focal point or there is a potential to fall down at your most important job, that of maintaining your family relationships. Indeed there will be times your turf requires great thought and angst. But look at the bigger picture and appreciate that turfgrass never made you laugh like you did at your kid's last birthday party. That pure bunker didn't bring the joy you felt when your wife announced she was pregnant. And in your heart, the attainment of a 13 on the stimpmeter during Men's Guest Day didn't provide the gratification of one more day fishing with your father especially after the close call last winter.

In my first marriage too often I spent my days 'head down' and after seven years, two kids and what I thought were good times, I fell down. That crash did give me pause for a change in posture. My 'head up' position has afforded me the clear vision of what is important…the totality of life and not the seemingly important teeniest of details which grew to distracting proportions.

Following my power sinus flush, complete with honking cough and the stinging, eye-weeping, sensation only experienced following the ingestion of water blasted up your nose and into your lungs, I replaced my feet into the awkward harness of the wakeboard. "HIT IT", I shouted. With renewed enthusiasm I was dragged around the lake in prime fashion.

Maybe not perfect, but with a 'head up' I was able to maintain my perspective and only went down comfortably on my own terms when my body was ready to take a break. Tired, yet extremely satisfied, my refined attitude allowed for an open-minded perspective and wholeness for I was living the complete experience with my head held high.



Reflections on Ou

by Ron Bloom, Retired President of Fairways, Inc.

Prairie View Golf Links, Su

Reflections; 45 Years of Golf Course Design and Construction

My name is Ron Bloom. I am now retired as the working president of Fairways, Inc. The company was organized in 1970 with the intention of designing and building golf courses. During the past 45 years, over 86 golf course projects were designed and developed by Fairways, Inc., resulting in over one million rounds of golf played yearly on courses in Minnesota and the surrounding four states.

A short while ago I was asked to write a brief article about what I thought was the biggest change in golf courses since I first began this career.

The obvious big change was the growth of golf itself. Perhaps the smallest change was the disappearance of the night watering man. Notwithstanding the above, I think the aesthetics of golf courses, because of turf research and the many varieties of grasses currently available now, along with the improved equipment and changes in mowing patterns are the biggest noticeable things.

I do remember the way rural courses were mowed. It was with an old Worthington fairway mower and a farm tractor with smooth tires or something very similar. It was usually straight lines and same heights; fairways and

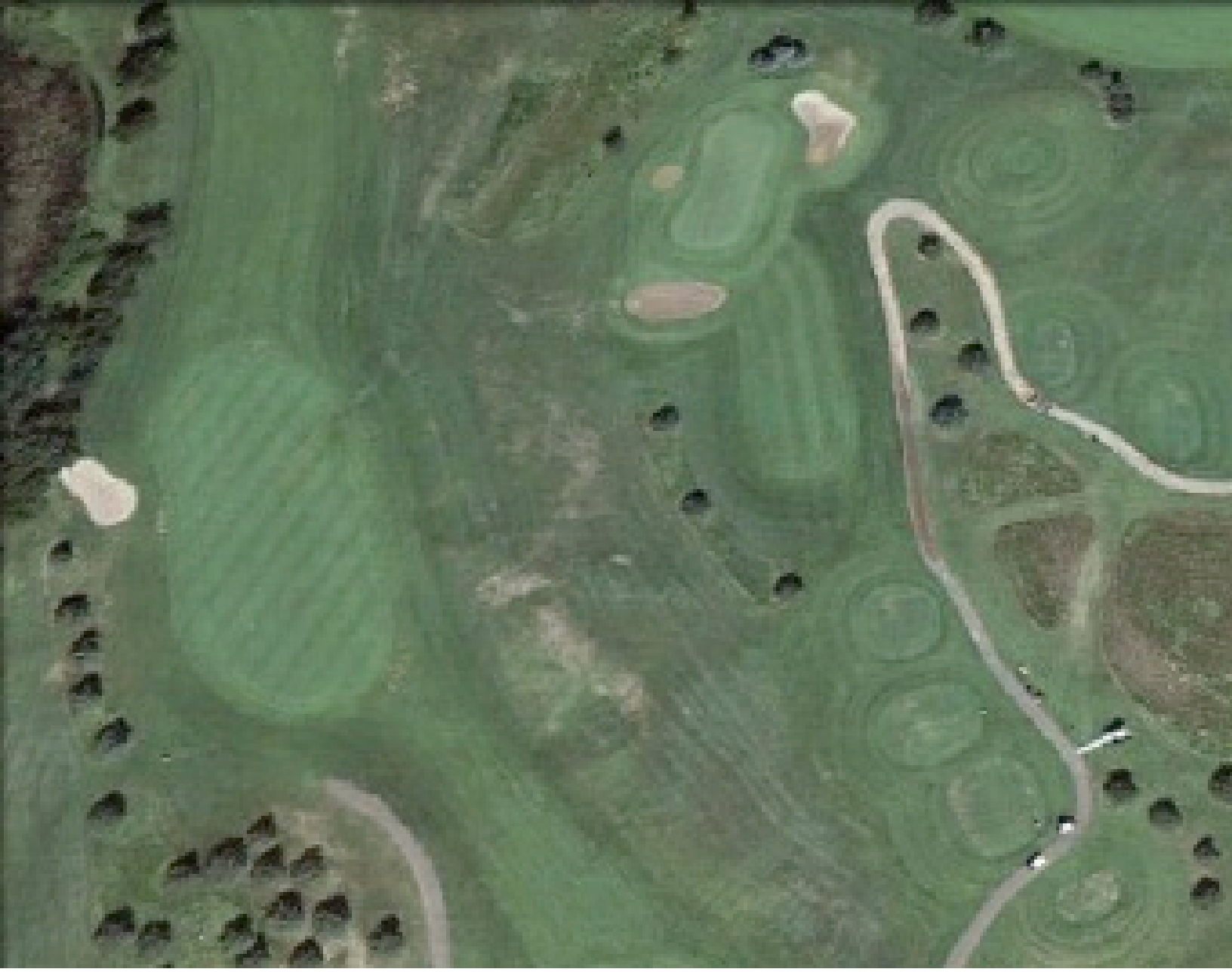
perintendent Kevin Black CGCS

roughs. Changes didn't occur very fast or very often. Budgets were the reason. This was a challenge as I got into the golf course architecture and construction. At the time almost all of our work was in rural towns in Minnesota with very limited budgets. As we progressed into the golf course work, Bill Johnson, the superintendent at Edina Country Club, who was a friend of mine, became my partner and mentor on the grasses and greens.

In 1970, Joel Goldstrand, a touring pro, joined our team. He had been playing on the best-groomed grass in the world and so his input was insurmountable. The challenge was to convert that knowledge to rural Minnesota courses with little or no cost. His suggestions put into practice changes in mowing patterns, which resulted in better contours to give the courses a better look.

As the years went by, construction began to flourish. As research and development of many elite grasses became available, we were able to create more ideas of our own in regard to the use of grasses, mowing patterns and lower costs of maintenance. It became an inexpensive goal of ours in the design and construction of golf courses.

In 1982, Joel designed a Reversible Golf Course. It was a unique design that the golf course can literally be reversed and



played in the other direction, thereby obtaining the variety of two courses for the construction costs of building only one. There was one fairway for two holes and thus they were uniquely mowed. The site was 80% wooded, so many trees were selected to stay or clear in designing tee locations for 18 holes and mowing to that specific fairway. It was the first one built in the world and named the Double Eagle Golf Club, Eagle Bend, Minnesota.

The creation of Target Fairways was an original design idea of Joel Goldstrand He came up with the idea of bent grass targets within the bluegrass fairways. Maintaining fairway grasses at a low height of cut necessary for superior playing conditions is a fragile and expensive procedure. Using his design plan, we originated the principle of preparing, seeding and maintaining to these extensive requirements only the landing area, so when the hole is properly played, the approach shot will be from ideal turf conditions.

These areas were surrounded by regular bluegrass fairways. This concept greatly reduces the cost of construction and maintenance, enhances the aesthetics of the course and gives players from all four sets of tees the optimum playing conditions if they hit their shots in the proper area. Willow Run Golf Club, located in Sioux Falls, South Dakota was the first course designed and built in the world with target fairways in 1986 by Fairways, Inc. The total target fairways area was approximately 4.5 acres. We have constructed several other golf courses in this unique fashion. Fox Hollow Golf Club in Rogers, Minnesota, Grand National in Hinkley, and Lake Geneva in Alexandria are three more of them.

Some other unique notes of interest we have practiced throughout the years, are the restoration of native prairie grasses for course aesthetics, shot definition, and decreased maintenance costs. We began this program in 1980 with the construction of Prairie View Golf Course in Worthington, Minnesota. The Wildflower Golf Club in Detroit Lakes is a hallmark of this design. We designed and built it in 1992 with many acres of tall fescues and wildflowers sown in strategic areas.

Over the past 45 years, the varieties of grass seed have become so specialized and numerous with the strains and colors available, that today an architect could be considered an artist with a brand new handful of paint brushes and imagination his only guide. The mowing patterns will follow. Renovations will be unique.

The fast growing technology of computer science continues to complement the superintendent's work, with more applications to solve problems regarding sun and shade, water and wind, etc. It seems the only vision remaining is robotic mowing by GPS. There will be less tennis shoes in the lunch room. That will be a shame.

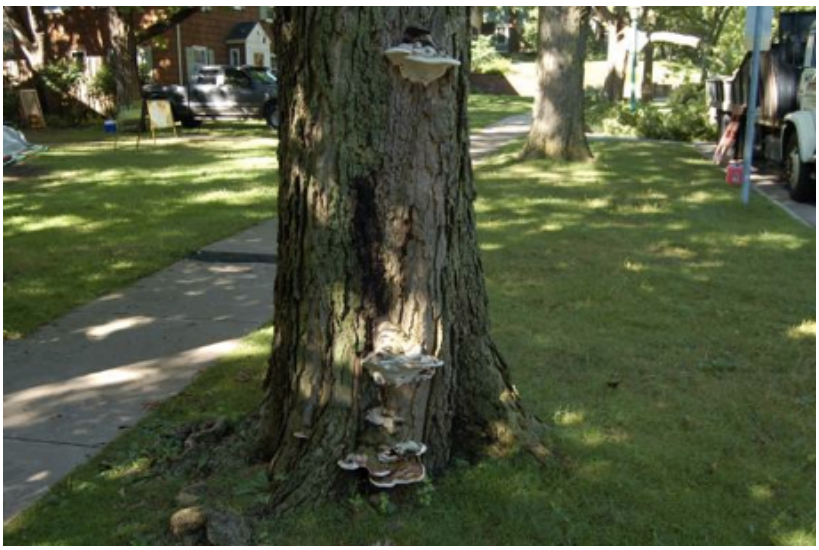
Opposite: Grand National in Hinkley. Superintendent Steven Benson

Below: Ron Bloom

The Seven Deadly Defects

Gary Johnson, Professor, Urban and Community Forestry
University of Minnesota Extension, Department of Forest Resources
March, 2013

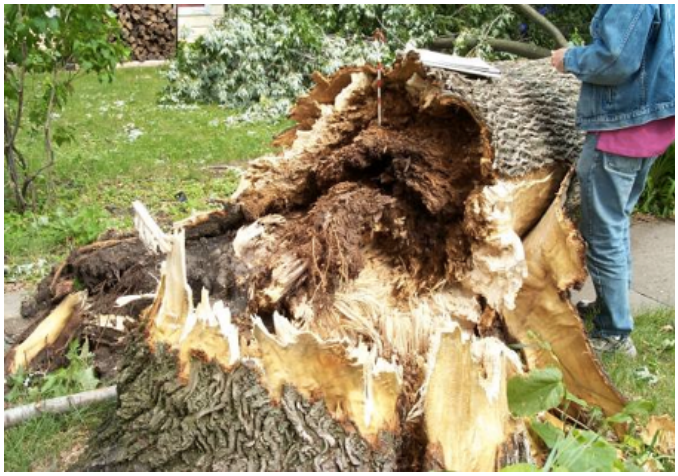
No, not wrath, greed, sloth, pride, lust, envy or gluttony. Those may be deadly but have nothing to do with hazardous trees. Think decay, cracks, root problems, weak branch unions, trunk cankers, poor tree architecture and dead wood. THOSE are the seven deadly defects that every conscientious land manager holds to heart!



This hackberry has extensive decay even though the cavity opening to the outside is small. The fungal fruiting structures indicate that decay is in the tree trunk and buttress roots. Photo: Gary Johnson

Tree *defects* are structural problems resulting from injury, disease, or poor architecture that makes it more likely the tree or branch will fail. Simply put, they are predictable, pre-existing weaknesses that when they fail usually cause significant damage or injury to targets. Knowing what these deadly defects look like will help property managers avoid or minimize that damage or injury.

Deadly Defect #1...Decay. If you tend to be paranoid, this is something that warrants paranoia. Decay is the most common pre-existing condition that leads to tree failures during loading events. Whether the loading event is wind,



This basswood only had about 1.5 inches of solid wood in the trunk with the decay extending from the ground line up 20' into the tree trunk.
Photo: Gary Johnson

ice or snow, tree branches, trunks or roots with decay are the first places that trees fail. If you see decay, get nervous.

Deadly Defect #2...Cracks. Cracks in branches or tree trunks seem so minor and there are trees all over with cracks in them that seem just fine. But cracks present two potential problems: 1. Weaknesses ("a chain is only as strong as its weakest link"), and 2. Internal decay. Cracks are outside indicators of damaged wood and the loss of the strength of a cylinder, in this case the tree trunk or major branch. Cracks can form when trees are twisted in severe winds and the wood fibers fail. They can also be the result of "frost cracks." Either way, internally the wood has been wounded and most often decay is beginning…out of sight and out of mind.

Note the crack in the trunk between the two leaders of this American elm. The crack extended almost to the ground line.
Photo: Gary Johnson

Deadly Defect #3...Root Problems. The problems you don't even know you have.

A close-up view of the crack and the internal damage that resulted from it. Soon, the wounded wood would begin decaying.
Photo: Gary Johnson

Root problems generally fall into two categories: roots that are dying because of root rots or structural roots that have been cut. Either way, tree stability is compromised and the entire tree can collapse during a wind loading event. One-sided root damage is bad but most trees eventually recover from that. Two to four-sided root damage leaves trees so unstable that they often fail long before the root systems can recover and stabilize the tree again.

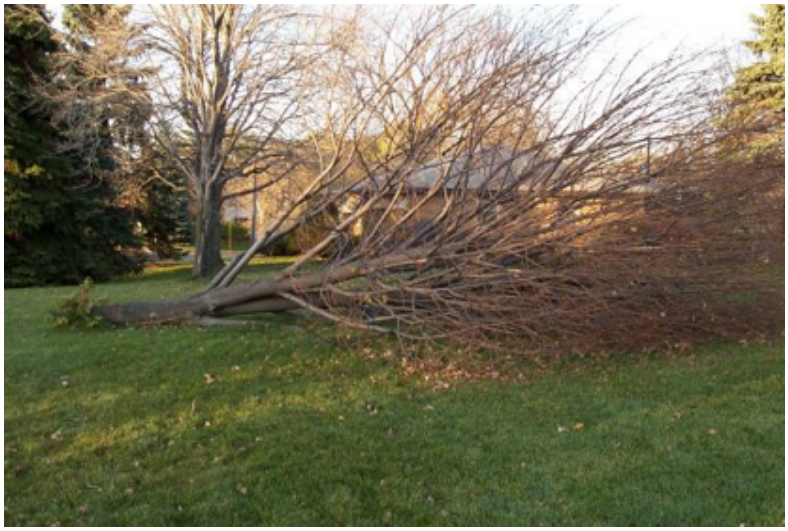
Another root problem is called Stem Girdling Roots, or SGRs. SGRs grow around or against tree trunks, usually below ground on trees that have their stems buried. As the roots enlarge and the tree trunks enlarge, the trunk is "girdled," or compressed. This is the most common, pre-existing condition that leads to complete tree failure in Minnesota, based on research at the University of Minnesota from 1995-2000.

Deadly Defect #4...Weak Branch Unions. The old adage is that narrow-angled branch attachments are weak, while wide attachments are strong. This is only a partial truth. A more accurate assessment of a strong vs. weak branch attachment is the presence of a

branch bark ridge (strong) or included bark in the branch attachment (weak). Branch attachments with included bark do not have complete branch wood to trunk wood unions and as the trees get larger and heavier, the weak attachments become more of a hazard.

Deadly Defect #5…Trunk Cankers. Cankers are areas

A close-up view of the buried tree trunk and the compressed, weakened portion below ground.
Photo: Dave Hanson

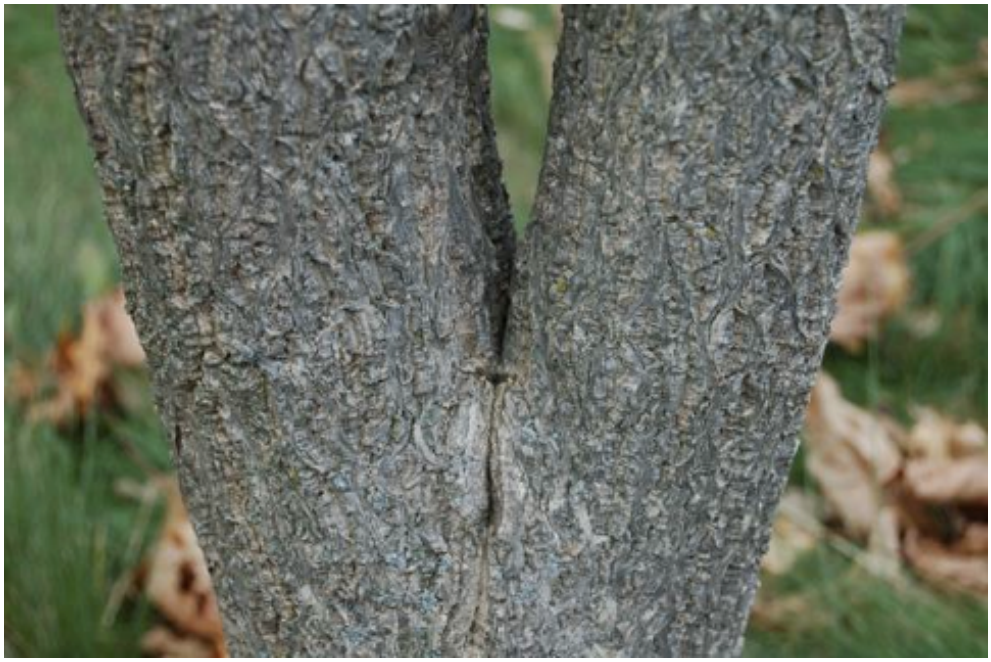


This little leaf linden failed suddenly in a wind storm, breaking off at the weak point of the tree trunk. The weakness was caused by stem compression from stem girdling roots. This tree was planted with the stem buried by more than 12" of soil.
Photo: Dave Hanson

of trunk and/or branch tissues that have been killed by either diseases, insects or non-living agents such as fire. A canker is a larger, diffused dead area in the (previously) living bark that poses the same danger as a bark or wood crack. The canker weakens the tree trunk or branch because the solid cylinder of sapwood strength has been broken and quite often, decay is associated with cankers. As opposed to the previous defects, cankers cause failures more commonly with younger tree trunks. Younger tree trunks are more supple and flexible

which allows them to bend and flex in wind storms. If there is a weak spot due to a canker, the tree trunk or branch is most likely to break at that point.

Deadly Defect #6… Poor Tree Architecture. There can be a lot of architectural problems with unmaintained or poorly-maintained trees, but multiple leaders is the most dangerous, especially if the tree is large or will become large. Medium to large trees (30 feet and taller) that have multiple leaders (the vertical branches a.k.a. leaders) bear too much weight as the tree matures, especially if the leaders begin close to the ground (less than 10 feet from the ground). The tremendous amount of weight in each leader combined with the movement of the tree in a



A good example of a branch union with included bark, literally, bark included in the attachment. This is weak.
Photo: Gary Johnson

These branch attachments are strong. Note the prominent branch bark ridges, indicating strong branch unions.
Photo: Gary Johnson