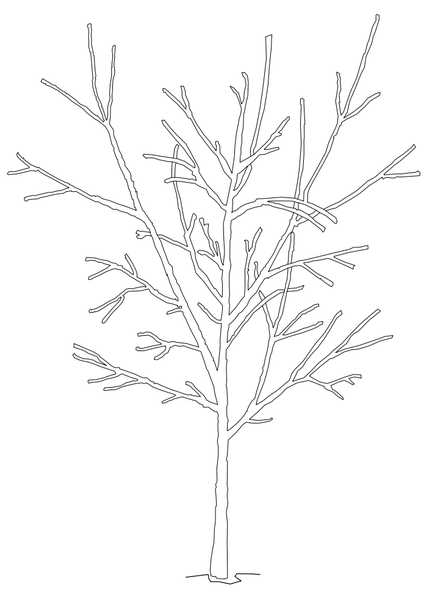
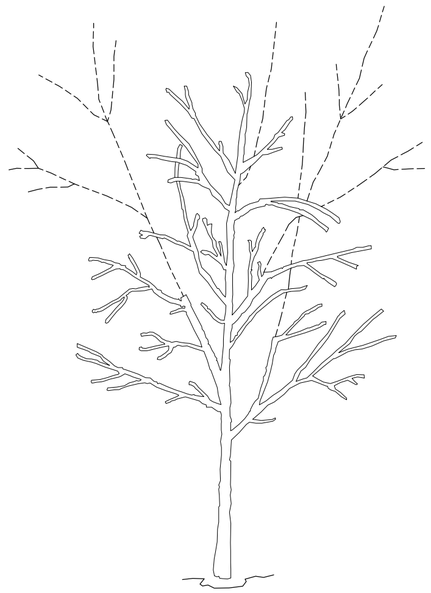
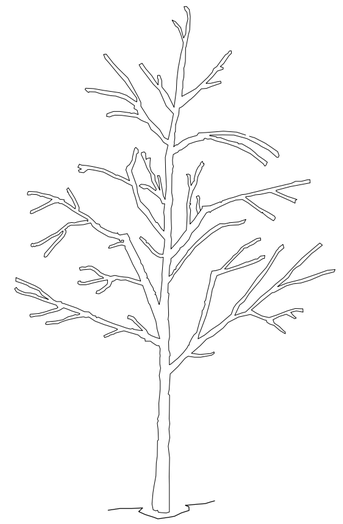


Before planting, tree has three codominant stems. The two that compete with the one in the center should be pruned to supress their growth.



Two competing stems were reduced substantially, in this case remvoing about 70% of their foilage using reduction cuts.



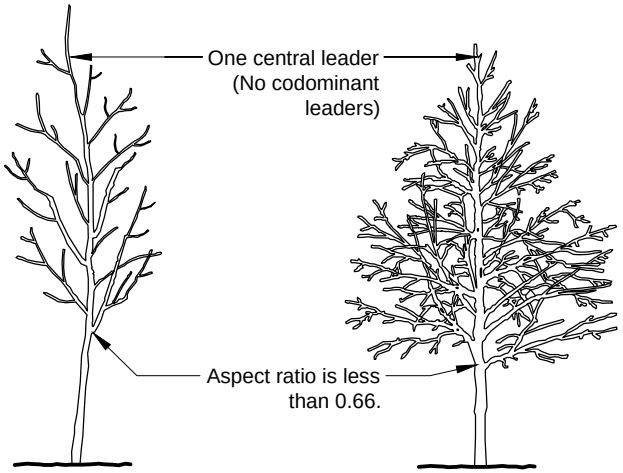
After pruning, tree has only one dominant stem.

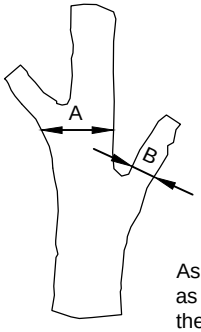
Notes:
1- All trees shown are rejectable unless they undergo recommended treatment.
2- Tree shall meet crown observation detail following correction.

S-X

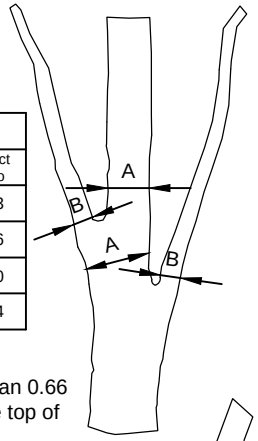
CROWN CORRECTION DETAIL

ACCEPTABLE



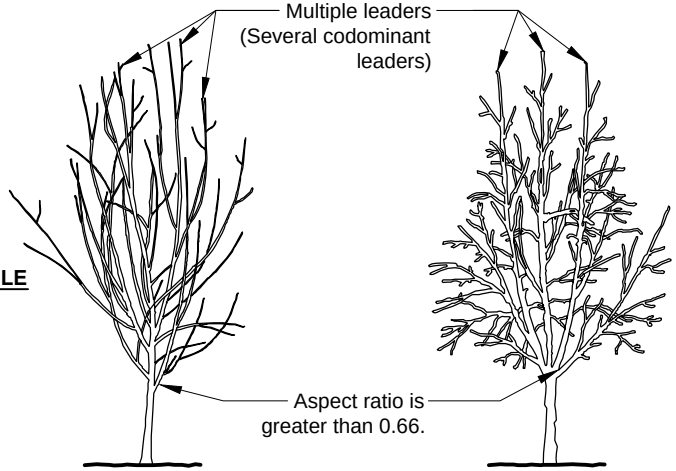


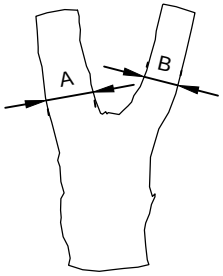
Example		
A	B	Aspect Ratio
1.50"	0.50"	0.33
2.50"	0.90"	0.36
2.0"	1.00"	0.50
2.50"	1.60"	0.64



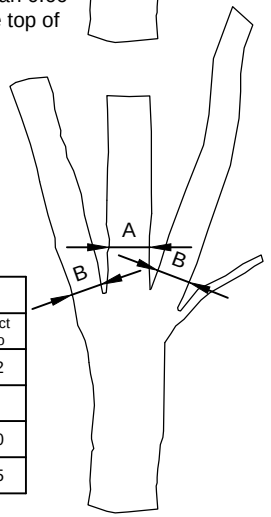
Aspect ratio of B:A less than 0.66 as measured 1" above the top of the branch union.

REJECTABLE





Example		
A	B	Aspect Ratio
2.50"	1.80"	0.72
2.0"	2.0"	1.0
2.50"	2.0"	0.80
4.0"	3.0"	0.75



Aspect ratio of B:A greater than or equal to 0.66 as measured 1" above the top of the branch union.

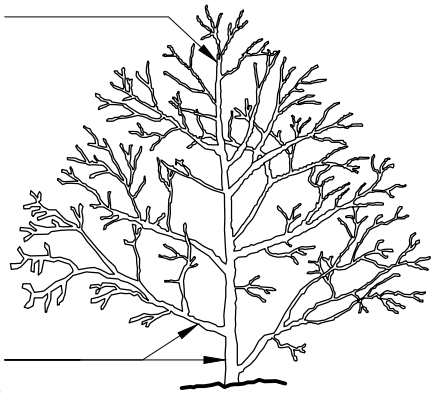
Notes:

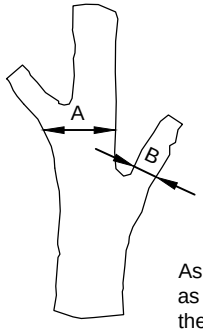
1- Aspect ratio shall be less than 0.66 on all branch unions. Aspect ratio is the diameter of branch (B) divided by the diameter of the trunk (A) as measured 1" above the top of the branch union.

2- Any tree not meeting the crown observations detail may be rejected.

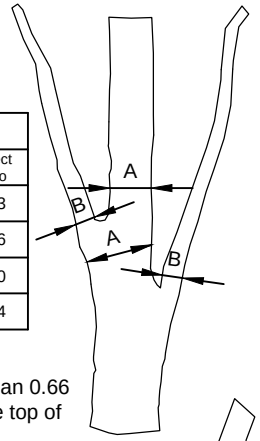
P-X CROWN OBSERVATIONS - HIGH BRANCHED

ACCEPTABLE



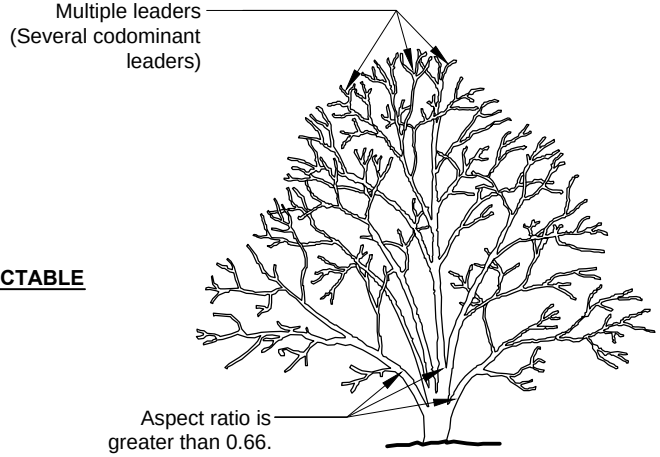


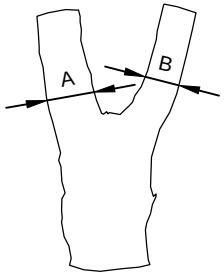
Example		
A	B	Aspect Ratio
1.50"	0.50"	0.33
2.50"	0.90"	0.36
2.0"	1.00"	0.50
2.50"	1.60"	0.64



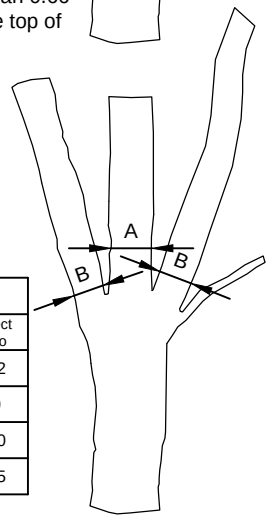
Aspect ratio of B:A less than 0.66 as measured 1" above the top of the branch union.

REJECTABLE





Example		
A	B	Aspect Ratio
2.50"	1.80"	0.72
2.0"	2.0"	1.0
2.50"	2.0"	0.80
4.0"	3.0"	0.75



Aspect ratio of B:A greater than or equal to 0.66

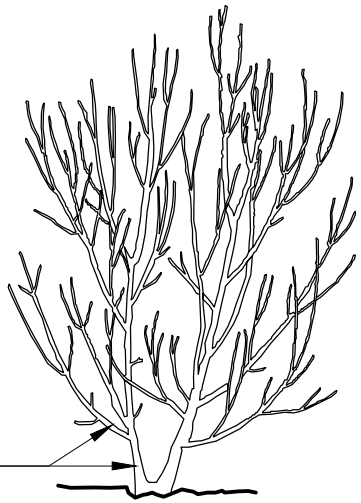
Notes:

1- Aspect ratio shall be less than 0.66 on all branch unions. Aspect ratio is the diameter of branch (B) divided by the diameter of the trunk (A) as measured 1" above the top of the branch union.

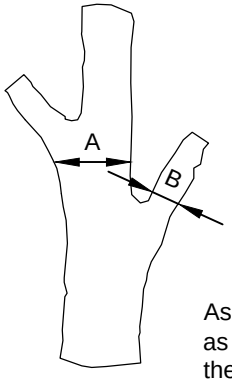
2- Any tree not meeting the crown observations detail may be rejected.

P-X CROWN OBSERVATIONS - LOW BRANCHED

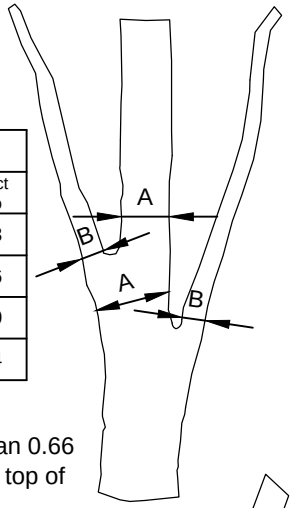
ACCEPTABLE



Aspect ratio is less than 0.66.



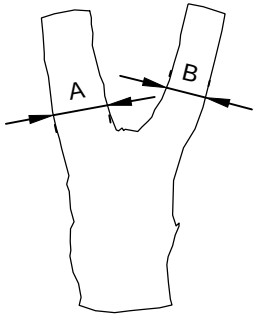
Example		
A	B	Aspect Ratio
1.50"	0.50"	0.33
2.50"	0.90"	0.36
2.0"	1.00"	0.50
2.50"	1.60"	0.64



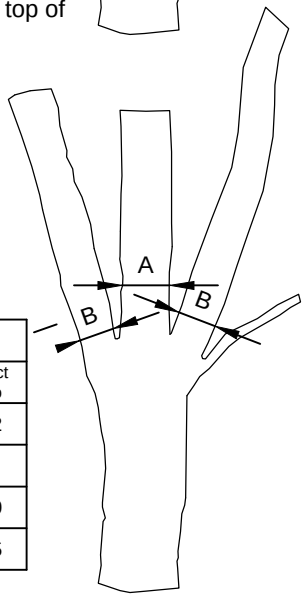
Aspect ratio of B:A less than 0.66 as measured 1" above the top of the branch union.

REJECTABLE

Aspect ratio is greater than 0.66.



Example		
A	B	Aspect Ratio
2.50"	1.80"	0.72
2.0"	2.0"	1.0
2.50"	2.0"	0.80
4.0"	3.0"	0.75



Aspect ratio of B:A greater than or equal to 0.66 as measured 1" above the top of the branch union.

Notes:

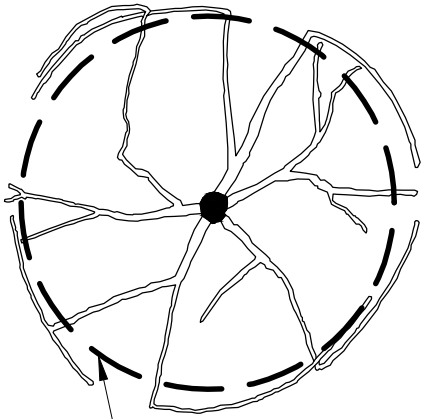
1- Aspect ratio shall be less than 0.66 on all branch unions. Aspect ratio is the diameter of branch (B) divided by the diameter of the trunk (A) as measured 1" above the top of the branch union.

2- Any tree not meeting the crown observations detail may be rejected.

P-X

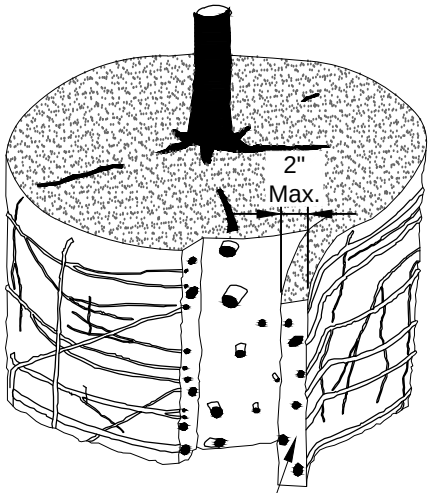
CROWN OBSERVATION DETAIL - MULTI

BEFORE SHAVING



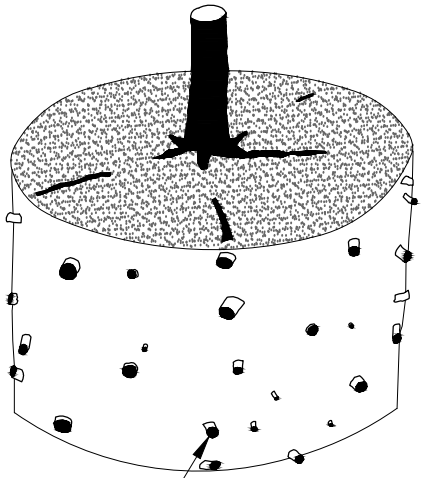
Shave root ball here to remove all roots growing on periphery.

SHAVING PROCESS



Shave outer periphery of the root ball a maximum of 2" thick.

SHAVING COMPLETE



Root tips exposed at periphery of root ball. All roots growing around periphery are removed.

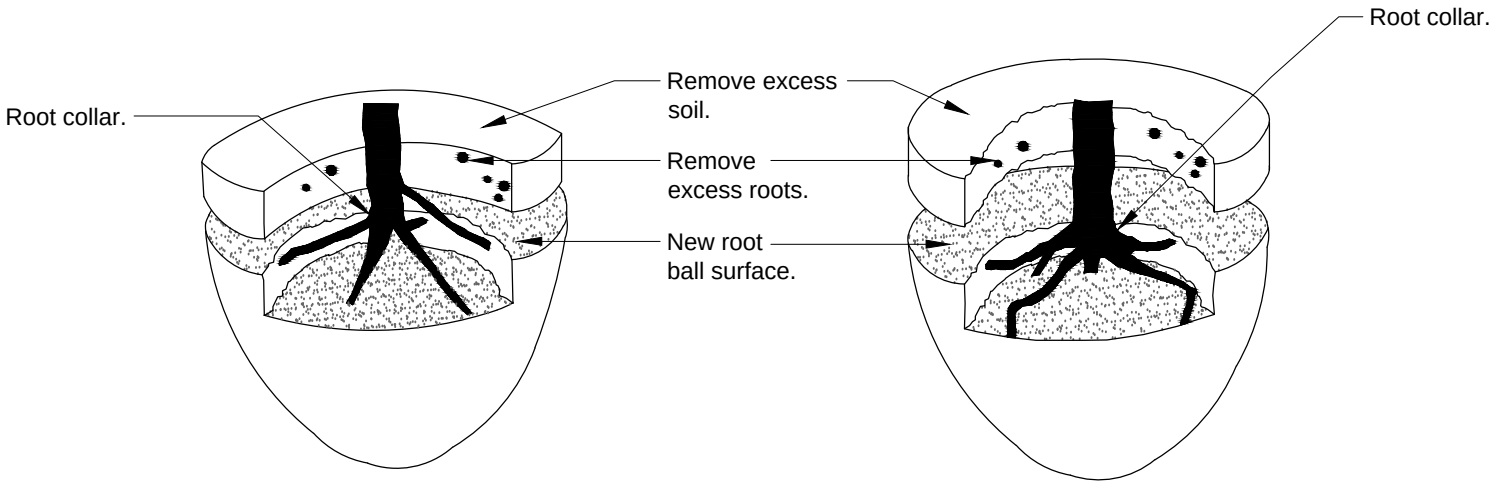
Notes:
1- Shaving to be conducted using a sharp blade or hand saw eliminating no more than needed to remove all roots on the periphery of root ball.

2- Shaving can be performed just prior to planting or after placing in the hole.

P-X

ROOT BALL SHAVING CONTAINER DETAIL

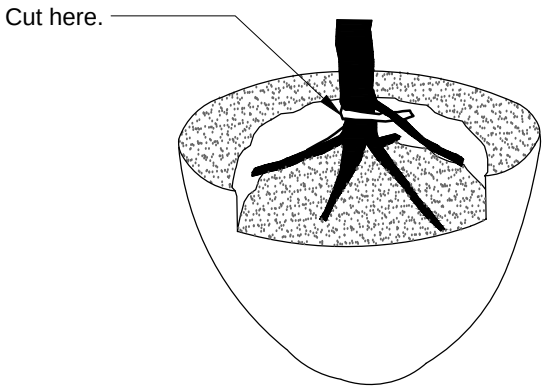
Step 1 - Remove soil and roots over the root collar.



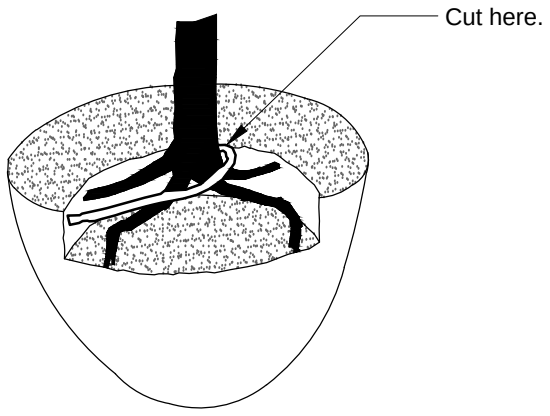
Tree planted too deeply in root ball. Remove excess soil and roots to meet root inspection detail.

Tree planted too deeply in root ball. Remove excess soil and roots to meet root inspection detail.

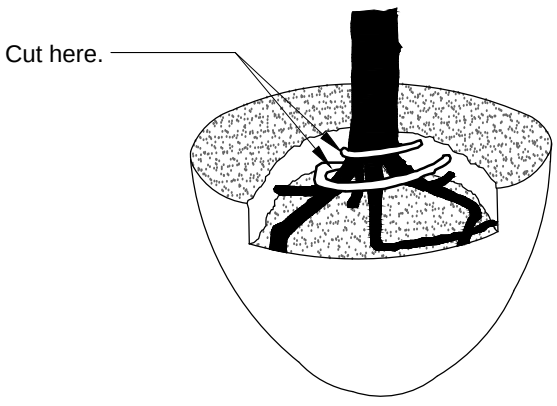
Step 2 - Remove defects.



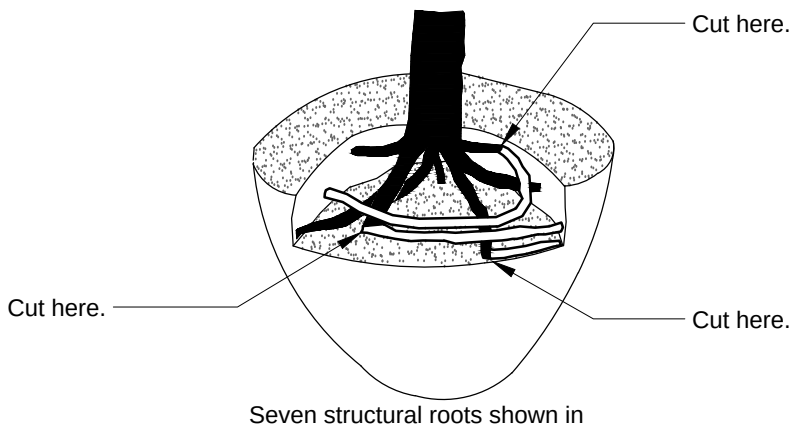
Five structural (large) roots shown in black. Remove structural (white) root wrapping root collar.



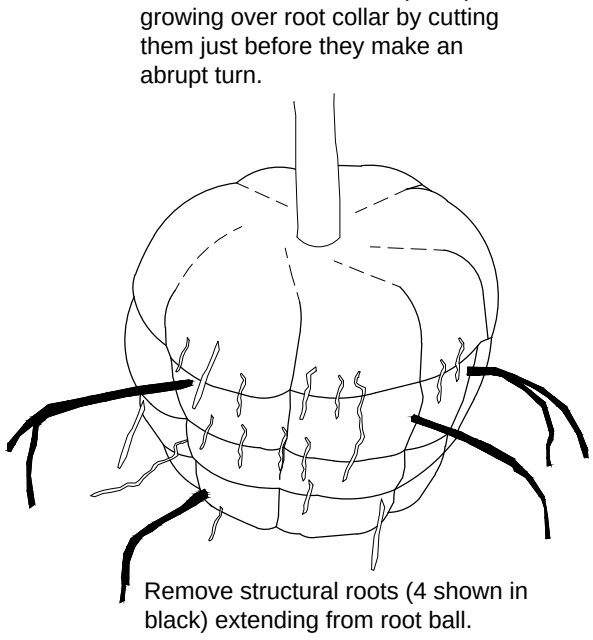
Four structural roots shown in black. Remove root (white) growing over structural roots.



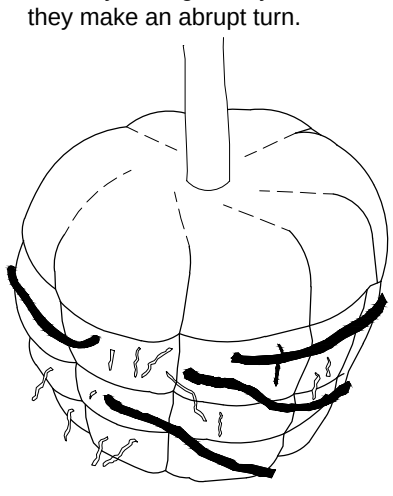
Six structural roots shown in black. Remove structural roots (white) growing over root collar by cutting them just before they make an abrupt turn.



Seven structural roots shown in black. Remove structural roots (white) growing around or over root collar by cutting them just before they make an abrupt turn.



Remove structural roots (4 shown in black) extending from root ball.



Remove structural roots (4 shown in black) deflected on root ball periphery. Small roots (¼" or less) at the periphery of the root ball are not defined as defects and do not need to be removed.

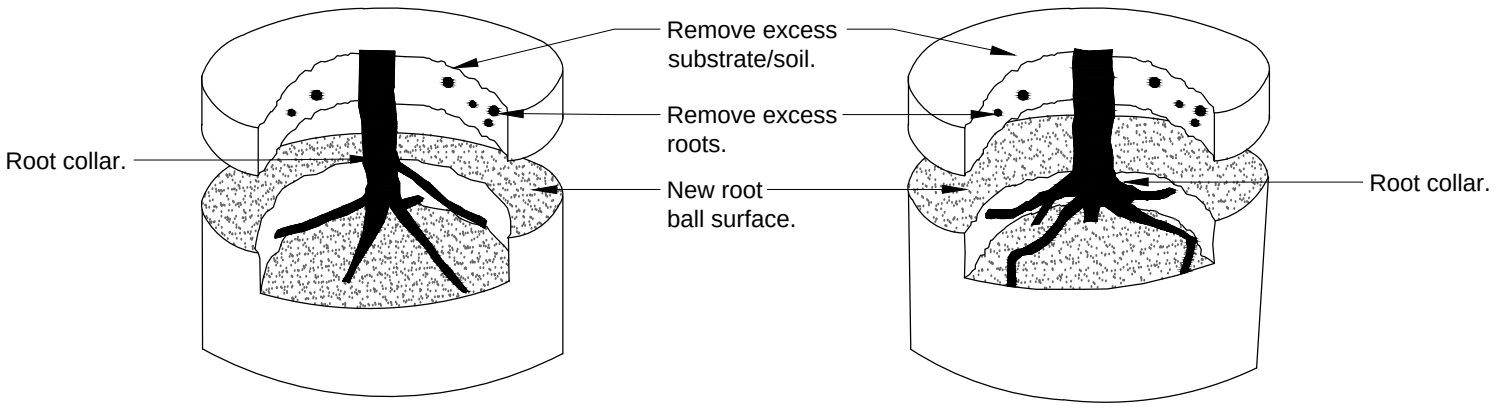
Notes:

1- All trees shown are rejectable unless they undergo recommended correction.
2- First step 1, then step 2. Adjust hole depth to allow for the removal of excess soil and roots over the root collar.
3- Roots and soil may be removed during the correction process; substrate/soil shall be replaced after the correction has been completed.
4- Trees shall pass root observations detail following correction.

P-X

ROOT CORRECTION DETAIL - BALLED AND BURLAPPED

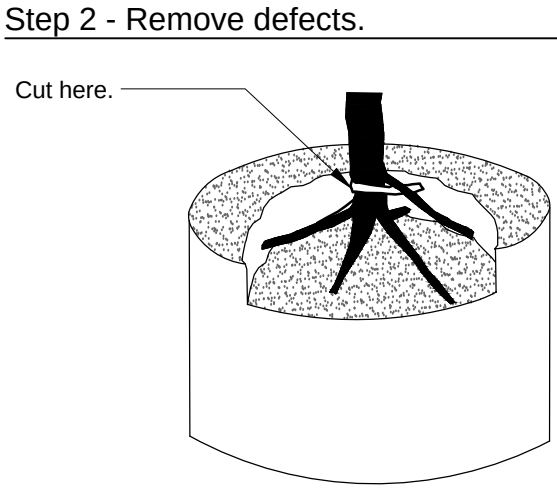
Step 1 - Remove substrate over root collar.



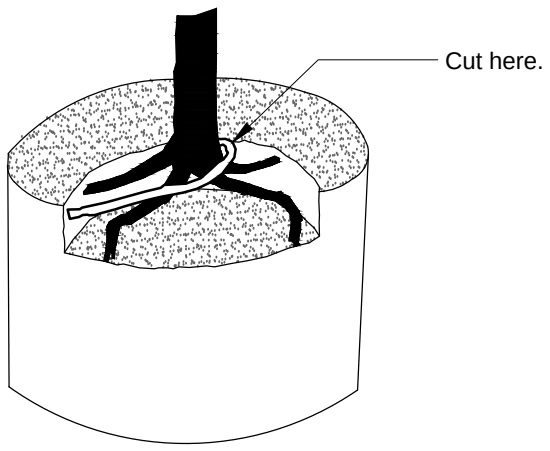
Tree planted too deeply in root ball. Remove excess substrate and roots to meet root inspection detail.

Tree planted too deeply in root ball. Remove excess substrate and roots to meet root inspection detail.

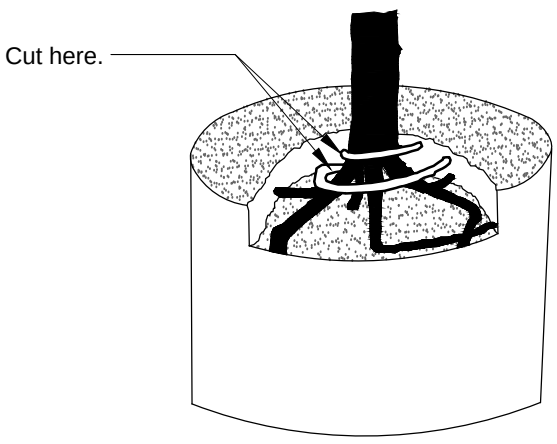
Step 2 - Remove defects.



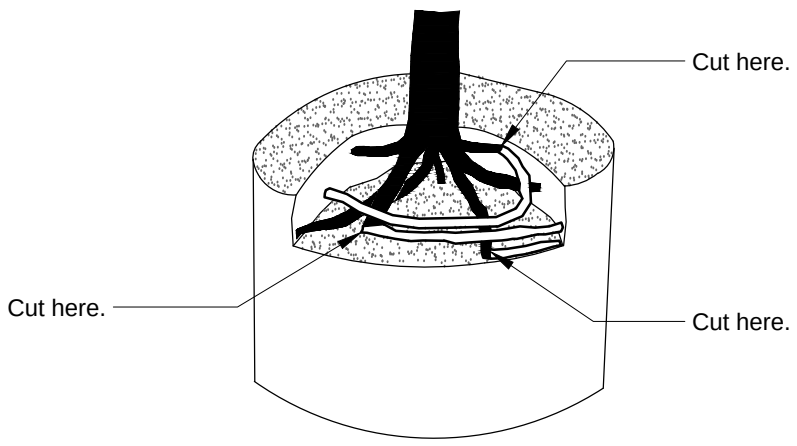
Five structural (large) roots shown in black. Remove structural root (white) wrapping root collar.



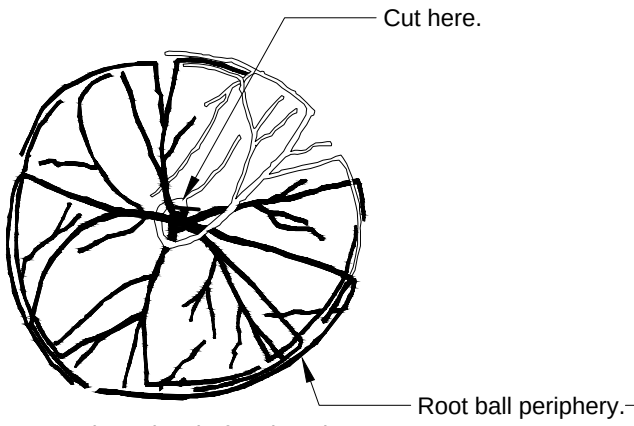
Four structural roots shown in black. Remove root (white) growing over structural roots.



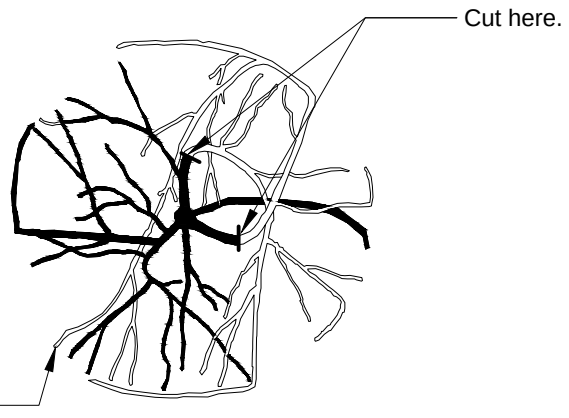
Six structural roots shown in black. Remove roots (white) growing over root collar by cutting them just before they make an abrupt turn.



Seven structural roots shown in black. Remove structural roots (white) growing around or over root collar by cutting them just before they make an abrupt turn.



Cut structural root just before it makes abrupt turn. Pruning cut should be made tangent (parallel) to the trunk.



Cut structural roots just before they make abrupt turn by cutting tangent (parallel) to the trunk (two cuts shown).

Notes:

1- All trees shown are rejectable unless they undergo recommended correction.

2- First Step 1, then Step 2. Roots and soil may be removed during the correction process; substrate/soil shall be replaced after correction has been completed.

3- Trees shall meet root observations detail following correction.

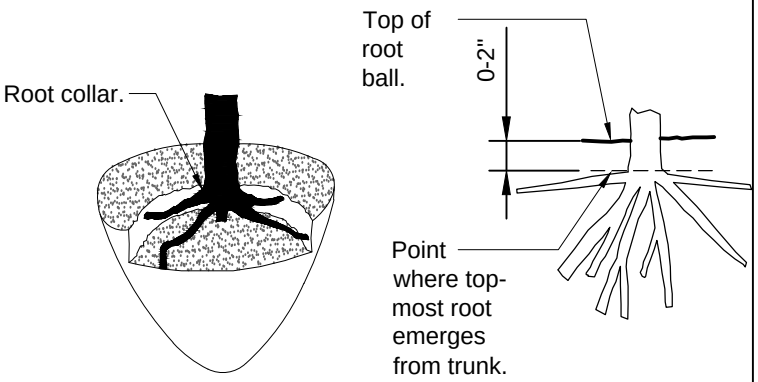
4- Small roots (1/4" or less) on the periphery of the root ball are common with container plant production. These small roots are not defined as "defects" and can be addressed at the time of installation (See root ball shaving container detail).

P-X

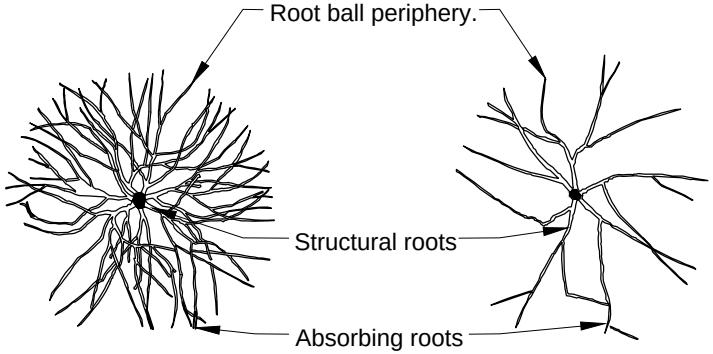
ROOT CORRECTION DETAIL - CONTAINER

FROM http://www.urbantree.org/details_specs.shtml

ACCEPTABLE

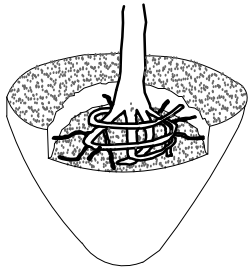


The point where top-most root(s) emerges from the trunk (root collar) should be within the top 2" of substrate. The root collar and the root ball interior should be free of defects including circling, kinked, ascending, and stem girdling roots. Structural roots shall reach the periphery near the top of the root ball.

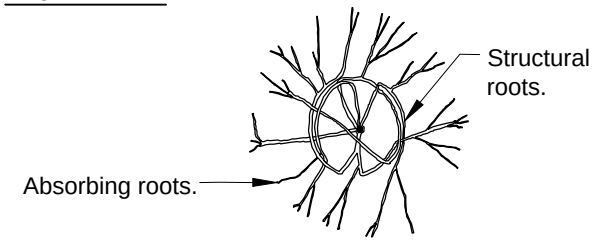


Roots radiate from trunk and reach side of root ball without defecting down or around.

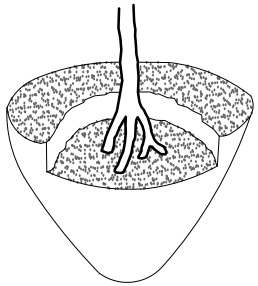
REJECTABLE



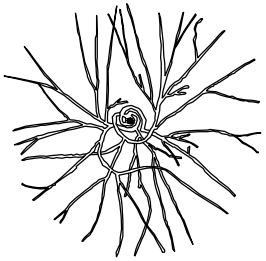
Structural roots circle interior of root ball. No structural roots are horizontal and reach the root ball periphery near the top of the root ball.



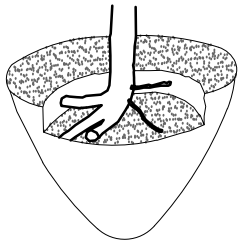
Only absorbing roots reach the periphery near the top of the root ball. Structural roots mostly wrap or are deflected on the root ball interior.



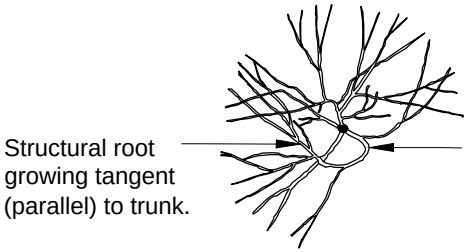
Structural roots descend into root ball interior. No structural roots are horizontal and reach the root ball periphery near the top of the root ball.



Structural roots circle and do not radiate from the trunk.



Structural roots primarily grow to one side.



Structural roots missing from one side, and/or grow tangent to trunk.

Notes:

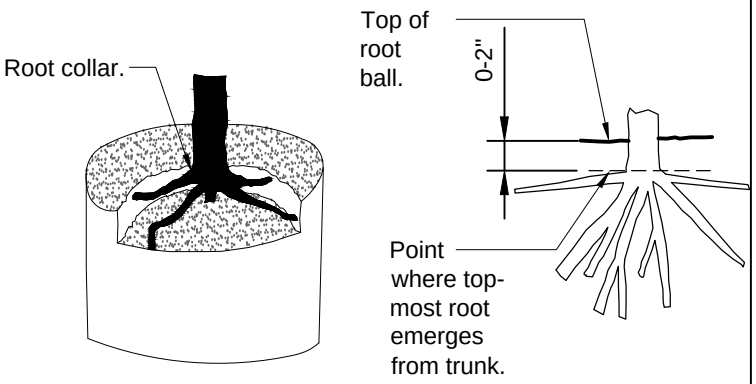
1- Observations of roots shall occur prior to acceptance. Roots and soil may be removed during the observation process; substrate/soil shall be replaced after the observations have been completed.

2- See specifications for observation process and requirements.

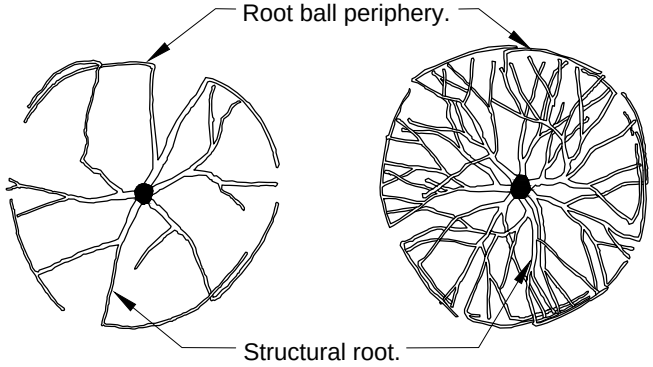
P-X

ROOT OBSERVATIONS DETAIL - BALLED AND BURLAPPED

ACCEPTABLE

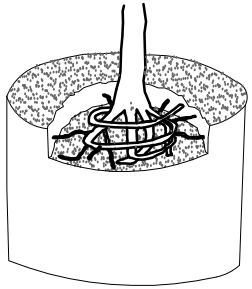


The point where top-most root(s) emerges from the trunk (root collar) should be within the top 2" of substrate. The root collar and the root ball interior should be free of defects including circling, kinked, ascending, and stem girdling roots. Structural roots shall reach the periphery near the top of the root ball.

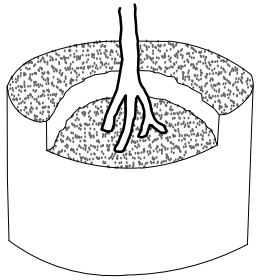


Roots radiate from trunk and reach side of root ball without deflecting down or around.

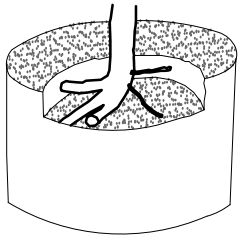
REJECTABLE



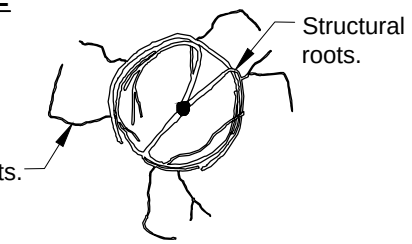
Structural roots circle interior of root ball. No structural roots are horizontal and reach the root ball periphery near the top of the root ball.



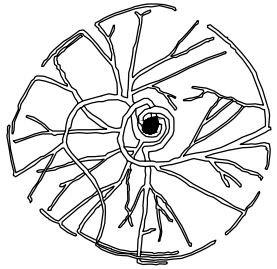
Structural roots descend into root ball interior. No structural roots are horizontal and reach the root ball periphery near the top of the root ball.



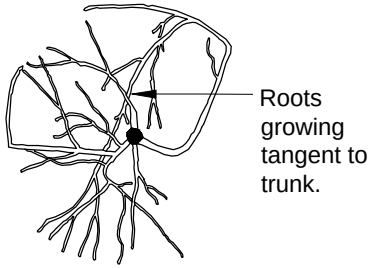
Structural roots primarily grow to one side.



Only absorbing roots reach the periphery near the top of the root ball. Structural roots mostly wrap or are deflected on the root ball interior.



Structural roots circle and do not radiate from the trunk.



Structural roots missing from one side, and/or grow tangent to trunk.

Notes:

1- Observations of roots shall occur prior to acceptance. Roots and substrate may be removed during the observation process; substrate/soil shall be replaced after observation has been completed.

2- Small roots (¼" or less) that grow around, up, or down the root ball periphery are considered a normal condition in container production and are acceptable however they should be eliminated at the time of planting. Roots on the periperhy can be removed at the time of planting. (See root ball shaving container detail).

3- See specifications for observation process and requirements.

P-X

ROOT OBSERVATIONS DETAIL - CONTAINER