

ADDRESSING PROPER SUPPORT FOR PALMS

Oasis Tree Care Products



Palm Tree Anchoring Systems

ANCHORING SYSTEMS, CONSULTING & APPRASING

Horticultural Consultants Inc. and Oasis Tree Care Products Inc. provide the best of both worlds when it comes to Palms, Bamboo and Cycads. We specialize in specimen quality cold hardy plant material and equipment needed for professional installations.

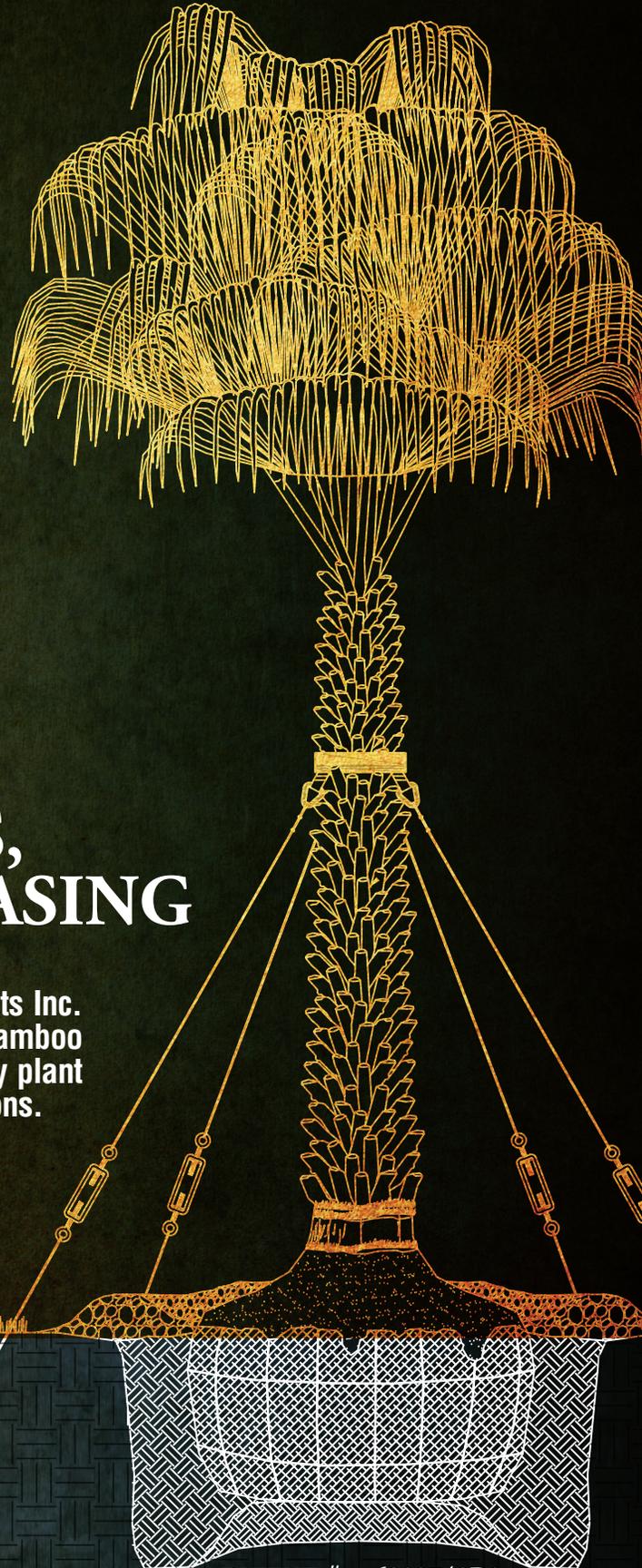
HORTICULTURAL
CONSULTANTS,
INC.



PALMS, BAMBOO, & CYCADS

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PATENT #US 6389743B1



US006389743B1

(12) **United States Patent**
Stephenson

(10) Patent No.: **US 6,389,743 B1**

(45) Date of Patent: **May 21, 2002**

(54) **TREE SUPPORTING SYSTEM**

(57) **ABSTRACT**

(76) Inventor: **Grant L. Stephenson, 5321 1/2
Westpark, Houston, TX (US) 77056**

A tree supporting system includes a non-elastic flexible tree collar belt which encircles the tree trunk with movable belt loops thereon, adjustable cables attached at one end to the loops, and ground anchors at the other end that are driven lengthwise into the ground and pulled into a flat transverse position in the ground. The belt and the belt loops are formed flat non-elastic webbing. The belt loops having an upper loop eye at an upper end slidably mounted on the belt and a lower loop eye at a lower end sized and shaped to receive an end of the cable. A cam type or ratchet type cinching buckle on the belt allows passage of one end of the belt therethrough for tightly cinching the belt about the circumference of the tree trunk and releasably grips the belt in the encircled position. The belt loops are selectively spaced apart in circumferential relation to one another on the belt in its encircled position prior to cinching it about the tree trunk and are secured against the circumference of the tree trunk in the circumferentially spaced relation when it is cinched and gripped by the buckle. Each ground anchor is driven into the ground in an upright position to the desired depth by a driving rod. The driving rod is removed, and the cable is then pulled upward to rotate the anchor until it is positioned transverse to the hole formed when it was driven into the ground. The cables extend radially outward and downward from the belt loops to the ground anchors to support the tree trunk from selected directions.

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

(21) Appl. No.: **09/708,340**

(22) Filed: **Nov. 8, 2000**

(51) Int. Cl.⁷ **A01G 17/14**

(52) U.S. Cl. **47/43**

(58) Field of Search **47/42, 43, 32.4,
47/32.5, 32.6; 248/523**

(56) **References Cited**

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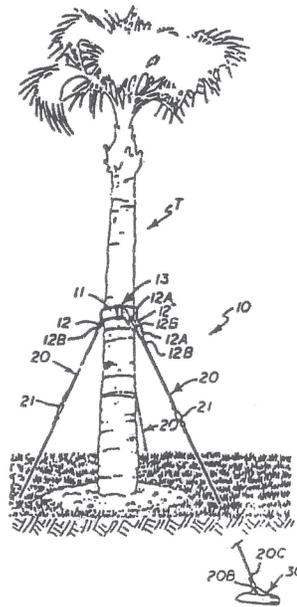
* cited by examiner

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8 Claims, 3 Drawing Sheets



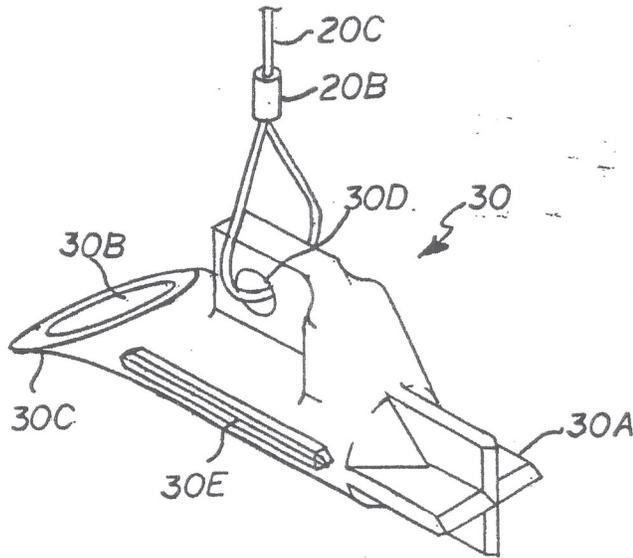


Fig. 4

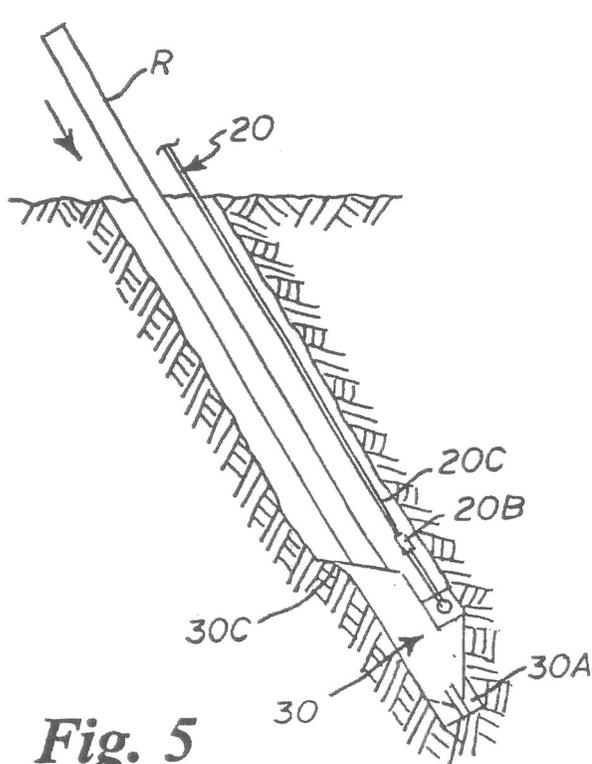


Fig. 5

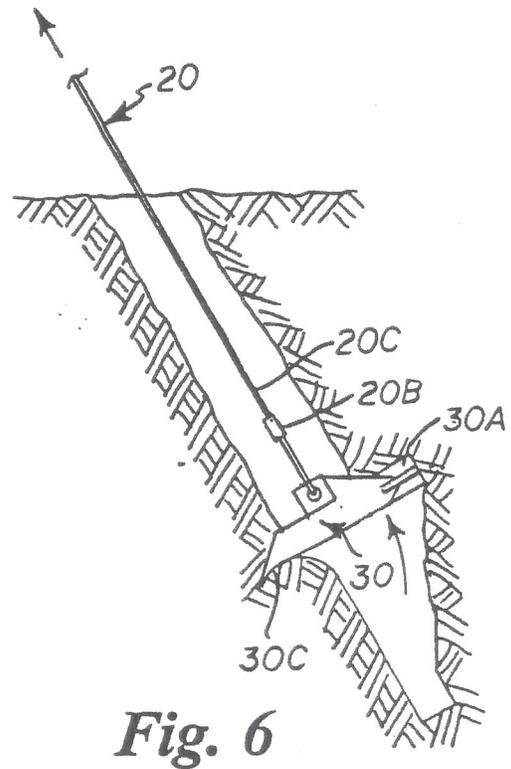


Fig. 6

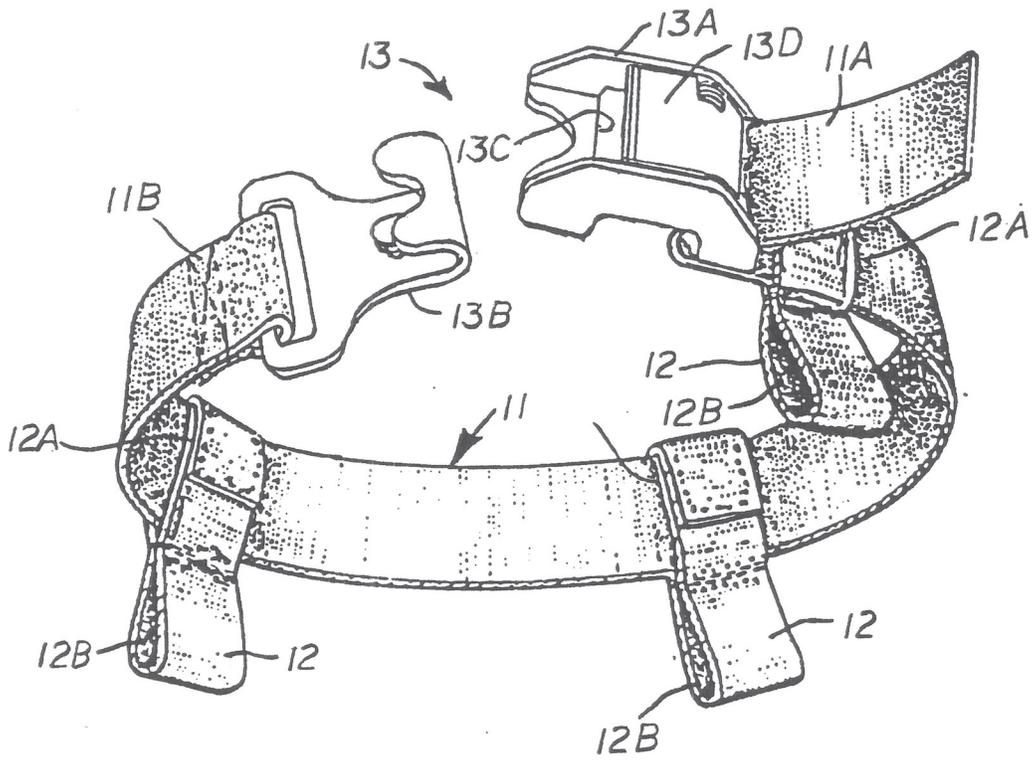


Fig. 2

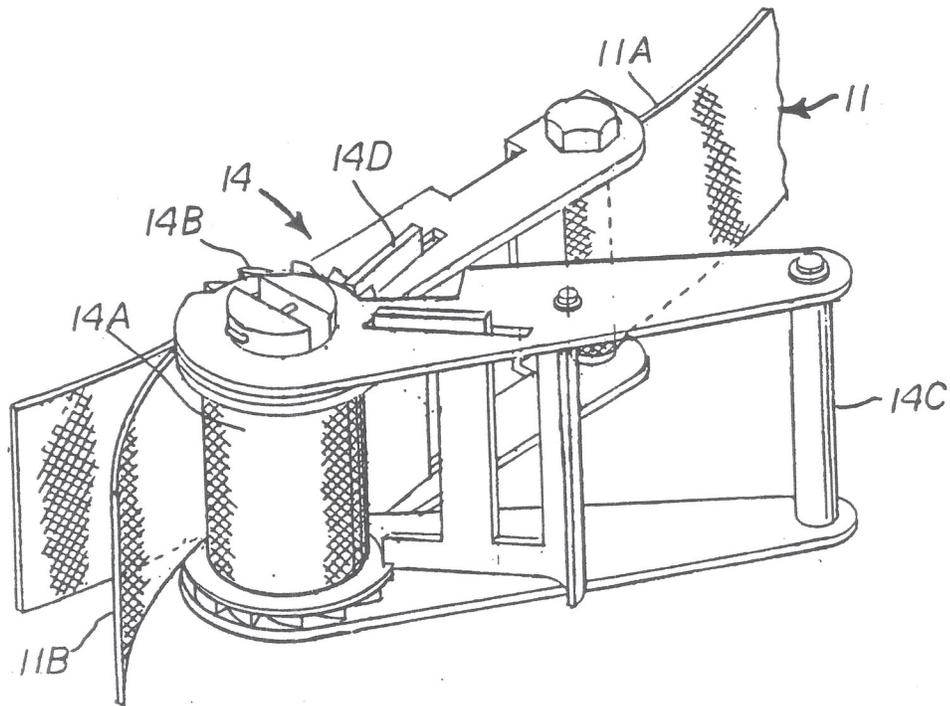


Fig. 3

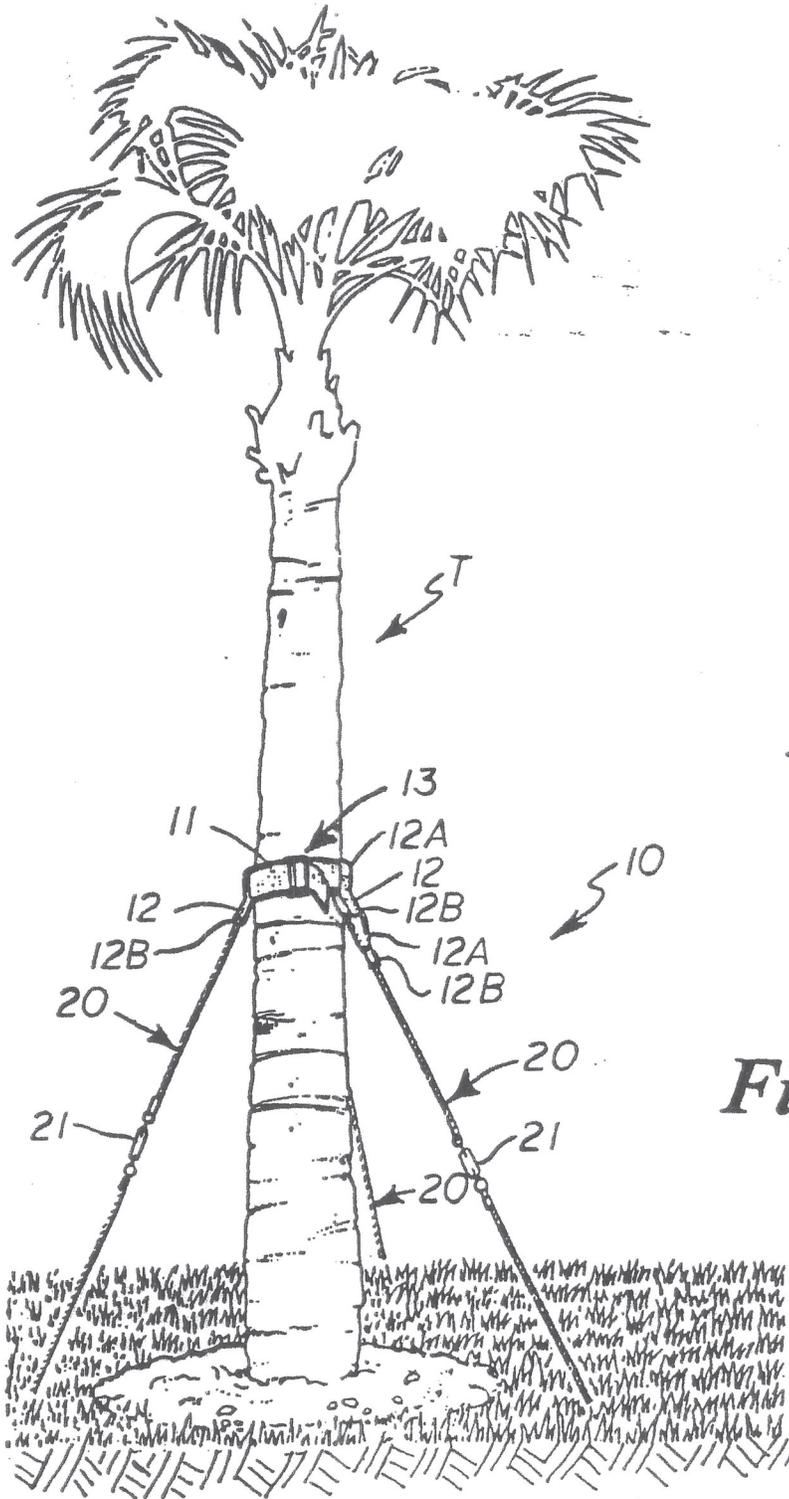
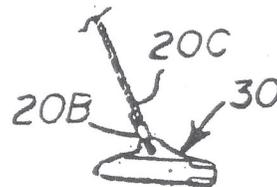


Fig. 1



ABSTRACT

A tree supporting system includes a non-elastic flexible tree collar belt which encircles the tree trunk with movable belt loops thereon, adjustable cables attached at one end to the loops, and ground anchors at the other end that are driven lengthwise into the ground and pulled into a flat transverse position in the ground. The belt and the belt loops are formed flat non-elastic webbing. The belt loops having an upper loop eye at an upper end slidably mounted on the belt and a lower loop eye at a lower end sized and shaped to receive an end of the cable. A cam type or ratchet type cinching buckle on the belt allows passage of one end of the belt therethrough for tightly cinching the belt about the circumference of the tree trunk and releasably grips the belt in the encircled position. The belt loops are selectively spaced apart in circumferential relation to one another on the belt in its encircled position prior to cinching it about the tree trunk and are secured against the circumference of the tree trunk in the circumferentially spaced relation when it is cinched and gripped by the buckle. Each ground anchor is driven into the ground in an upright position to the desired depth by a driving rod. The driving rod is removed, and the cable is then pulled upward to rotate the anchor until it is positioned transverse to the hole formed when it was driven into the ground. The cables extend radially outward and downward from the belt loops to the ground anchors to support the tree trunk from selected directions.

8 Claims, 3 Drawing Sheets



Oasis Tree Care

Products Inc.

Palm & Tree Anchoring Systems Patent

US 6,389,743 B-1

The time has come to address proper support for Palm Trees when first transplanted

My name is Grant Stephenson and I own Horticultural Consultants Inc. & Oasis Tree Care Products Inc. Back in the mid 1990's I had an Idea to create a system of securing palm trees when they are first transplanted, that would not interfere with the structural integrity of the tree itself. As they are, palms are monocots with a somewhat woody arborescent stem. They do not have the capacity to heal over wounds in their trunk or stem as dicots do. When the trunk or stem of a palm is punctured or wounded by a nail or spike to secure it at transplanting, it is a permanent wound and therefore will never heal. I devised a system that is not bulky or cumbersome looking while doing its job in keeping the trees secure and upright.

The Oasis Palm Tree Anchoring Systems are superior to anything made when it comes to securing Palms with an aesthetically pleasing appearance. The Oasis Palm Tree Anchoring Systems have many anchoring and support application depending on the specific planting site environments. There are nineteen Auto-CAD details with thirty-nine different configurations to accommodate secure support for most any site application.

If your project is on or near the water or in coastal areas where very corrosive salt crystallite is in the air, Oasis Tree Care Products can supply all system components in Stainless steel for corrosion resistance. These stainless-steel systems will be noted with an SS after the Part number. As well all components can be supplied in a heavy duty 5,000, 10,000 and 15,000 Lbs. size for high wind and high-rise applications noted with an HD after the Part number

We have had clients harvest and re use our systems as many as twelve times in a fifteen-year time frame, so Our Quality stands out amongst other that have bootlegged the market with lesser quality hardware.

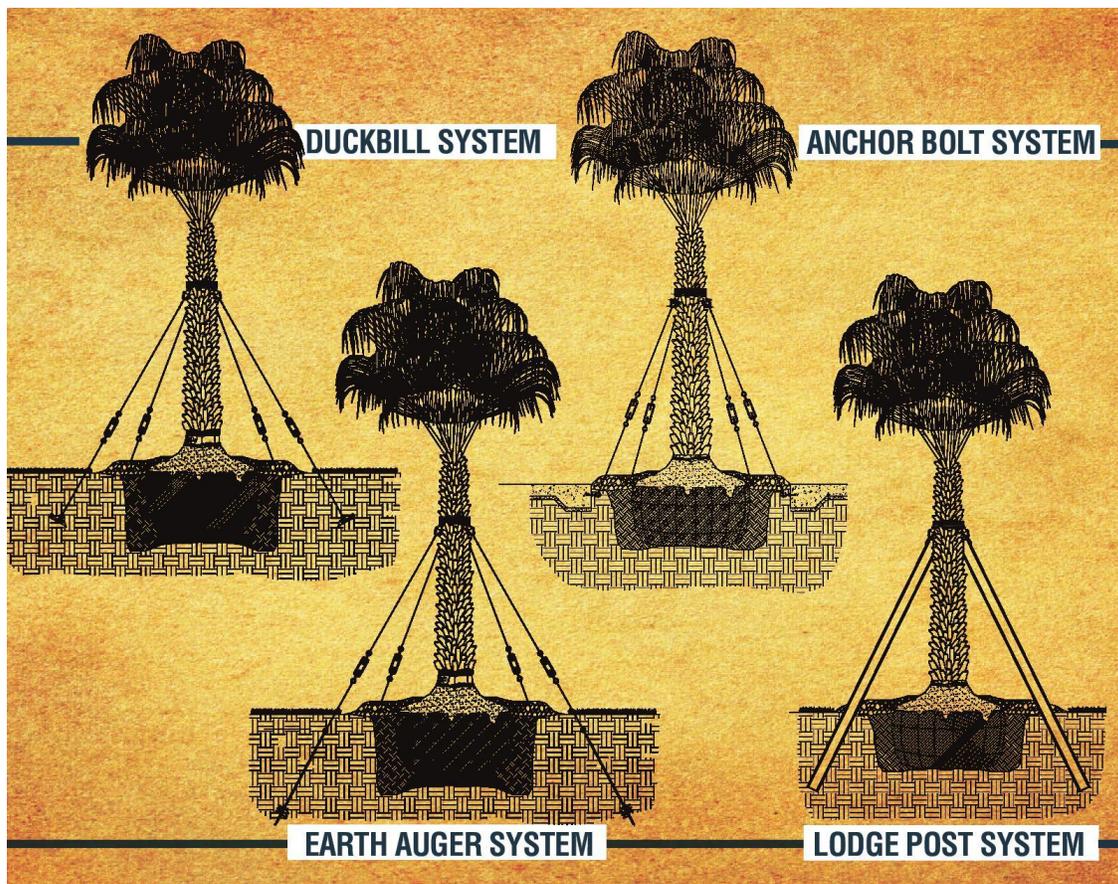
The anchoring systems are comprised of a Palm collar of neutral color in 1", 2" or 3" heavy Polyester webbing. This Palm collar straps around the tree trunk and is fitted with an equal size heavy duty anodized or stainless steel ratchet buckle ranging from 4,500 to 15,000 LBS capacity securing it to the tree. The Palm collars can have 3, 4 or more adjustable Loops and D-rings.

The triangle style or D-rings come in a standard 5,000, 10,000 capacity or heavy duty 15,000 LBS size in anodized steel or stainless steel of equal size to the webbing. The loops and triangle style D-rings can be adjusted in equal circumferential difference to create balanced leverage points between the Palm Collar cables and anchor points, all the while offering a low-profile presence to the secured tree.

The Guying part of the system consists of 3, 4 or more 7X19 galvanized or stainless steel aircraft cables that can range in size from 1/8", 3/16", 3/8" to 1/2" inch and larger if needed. Each cable will accommodate one 5/16", 3/8" or 1/2" inch and larger if needed, Stainless steel, aluminum or Drop forged galvanized eye in eye turn buckle with an adequate 4", 6", 9" or 12" take up for proper tensioning as this is what keeps the integrity of the system intact.

The cables are attached from the Palm Collar D-rings to the turn buckles and finally the anchor points with aluminum, zinc plated, drop forged and galvanized or stainless steel cable clamps or sleeves in adequate sizes and strength in accordance with the cable size.

All systems can be customized. All hardware sizes on details can be specified based on the tree size and specific load requirements. Steel components are either zinc plate, malleable, drop forged galvanized or may be specified in stainless steel if desired.



The Oasis palm and tree anchoring systems are:

For trees, up to 30' feet (CTH) clear trunk height we suggest **The Earth Anchor System** with #68, #88 or #138 earth anchors driven 4' to 8' feet deep in undisturbed loam and clay type soils. This system is connected by adequately sized drop forged and galvanized cable clamps, turnbuckles and cables leading from the Palm Collar D-rings down to the anchor point. **Detail #1 = (OEAS-3)**
Detail #2 = (OEAS-4)

For extremely large trees 35' to 60' feet and up **The Oasis Manta Ray Earth Anchor Systems** #MR1, #MR2, #MR3 or the #MR4 is used by driving these large anchors in 5' to 10' feet deep or more in undisturbed loam and clay type soils. Attached are drop forged and galvanized shackles and turnbuckles with cables leading from the Palm Collar D-rings down to the anchor point. No Detail at this Time **(OMREAS)**

The Oasis Earth Augers System for sandy type soils and trees up to 40'. These can have 4", 6", 8" or larger helix bits on hardened drop forged steel rods with welded eyes and screwed to depths of 4' to 10' feet or deeper if needed. This system is connected by adequately sized drop forged and galvanized cable clamps, turnbuckles and cables leading from the Palm Collar D-rings down to the anchor. **Detail #3 = (OEAUGS-3)** **Detail #4 = (OEAUGS-4)**

If your planting near concrete cutouts or in concrete planters, we have **The Oasis Anchor Bolt systems** with threaded power or wedge bolts in heavy duty drop forged and galvanized or stainless steel from 3/8" to 5/8" and larger if needed for the appropriate depth of wall thickness. Included are heavy duty drop forged and galvanized or stainless steel eye nuts and chain shackles of appropriate size for attaching the Palm Collar D-rings turnbuckles and cables to the anchor bolt. **Detail #5 = (OABS-TM)** for a top mount **Detail #6 = (QABS-SM)** for a side mount.

Next, we have **The Oasis planter system** that accompanies the above Anchor Bolt or Eye Bolt system into or through the inside planter walls. **Detail # 7= (OPS)**

There is **The Oasis Anchor Bolt System** Alternate Detail as well where Eye Bolts and lag bolts would have applications in wood or steel posts See **Detail #8 = (OABS-AD-L)** for lag Bolt and **(OABS-AD-E)**

The Oasis Root Ball Systems. This design is used for trees up to 25' of trunk. It accommodates an earth anchors **Detail # 9 = (ORBEAS)** or earth augers **Detail #10 = (ORBEAUGS)** or anchor bolts **Detail #17 (ORBABS)** system and they are comprised of 2- two 2" or 3" wide rootball collars in neutral color webbing with heavy duty anodized or stainless steel ratchet buckles with three latching hooks or chain shackles each to secure to four anchor points either Earth anchor, Earth auger or Anchor bolt.

When you are working in heavy compacted rock, shale, lime stone or cap rock we have **The Oasis Rock Anchor System** These threaded wedge type screw anchors are comprised of a 1/2" to 1" wide shaft and in lengths from 9" to 30" or larger if needed in drop forged and galvanizes protective coating. The wedge tip will spread out from 3/4" to 2.5" or larger if needed

for secure anchoring capacity. **Detail # 11 = (ORAS)** For below grade applications where pedestrian traffic or visibility is of concern we have

For ridged above ground supports instead of using turnbuckles and cables, we can accommodate you with the **Oasis Lodge Post System** using 3,4 or more treated wood timbers(WD) **Detail # 12 = OLPS-3 -WD or SP)** as well as round or square steel posts (SP) **Detail # 13 = (OLPS-4-WD or SP)** in painted zinc plate, galvanized or stainless steel in widths appropriate for the height of the tree ranging from 4"x4", 4"x6", 6"x6", to 8"x8" or larger if needed. They can have lengths of 10', 14', 16', 18' or larger if necessary. These are used by sinking the post 1' to 2' foot deep in the ground at right angle of the tree and positioning up under the Oasis palm collar Loop and D-ring with a chamfered end. For larger systems they can be back filled with concrete if needed. They are attached to the post by securing the Palm Collar D-rings with a galvanized or stainless steel hex headed 3/8" to 1/2" x 3" wood lag screw and washer or self-taping metal screw and washer if using a steel post,

The next system is the **Oasis Stationary Post System** with 2, 3, 4 or more stationary posts. These systems can have treated wood posts (WD) **Detail # 14 = (OSPS-2-WD)** as well as round or square steel posts (SP) **Detail #15 (OSPS-3-WD or SP)** as well as **Detail # 16 = (OSPS-4-WD or SP)** in widths appropriate for the height of the tree ranging from 4"x4", 4"x6", 6"x6", to 8"x8" or larger if needed and in lengths of 10', 14', 16', 18' or larger if necessary. The Posts are sunk in the ground to depths from 2' to 5' feet or more and back filled in concrete if needed.

The top of the posts will have the appropriate sized drop forged and galvanized or stainless steel threaded Eye Bolt. Between the tree and eye bolted post are the appropriate sized cables, turn buckles and cable clamps attached to the Palm Collar D rings.

Finally, we get into the **Oasis Storm Systems** with both above and below ground support. These systems were created for High rise plantings and coastal areas that would be subject to high wind storms such as Santa Anna's and Hurricanes. The first one is the **Oasis Storm Planter System** with an above ground Anchor Bolt System and a below ground Rootball Anchor Bolt System **Detail # 17= (OSPS)** This system is comprised of the same components with threaded power or wedge bolts in heavy duty drop forged and galvanized or stainless steel from 3/8" to 5/8" and larger if needed for the appropriate depth of wall thickness. Included are heavy duty drop forged and galvanized or stainless steel eye nuts and chain shackles of appropriate size for attaching the Palm Collar

D-rings turnbuckles and cables to the anchor bolt. The below ground part of the system is comprised of 2- two 1", 2" or 3" wide rootball collars in neutral color webbing with heavy duty anodized or stainless steel ratchet buckles with three chain shackles, double J hooks or latching hooks each to secure to four anchor bolt points at the bottom of the planter.

The **Oasis Storm Earth Auger System** with an above ground Earth Anchor System and a below ground Rootball Earth Anchor System **Detail # 18 = (OSEAUGS)** This system is connected by adequately sized drop forged and galvanized cable clamps, turnbuckles and cables leading from the Palm Collar D-rings down to the Earth anchor point. The below ground part of the system is comprised of 2- two 1", 2" or 3" wide rootball collars in neutral color webbing with heavy duty

anodized or stainless steel ratchet buckles with three chain shackles, double J hooks or latching hooks each to secure to four earth augers.

The Last is our **Oasis Storm Earth Anchor System** with an above ground Earth Anchor System and a below ground Rootball Earth Anchor System **Detail #19 = (OSEAS)** This has a #68, #88 or #138 earth anchors driven 4' to 8' feet deep in undisturbed loam and clay type soils. This system is connected by adequately sized drop forged and galvanized cable clamps, turnbuckles and cables leading from the Palm Collar D-rings down to the anchor point. The below ground part of the system is comprised of 2- two 1", 2" or 3" wide rootball collars in neutral color webbing with heavy duty anodized or stainless steel ratchet buckles with three chain shackles, double J hooks or latching hooks each to secure to four earth anchor points.

For now, this is all of the systems we have for your pallet though we have been exposed to many site applications and that is why we have around thirty-nine different configurations of them to date. If you have a unique application, we will be happy to accommodate you with a detail and components to secure your palms.

The code for the Oasis Anchoring Systems consist of:

Oasis Earth Anchor Systems

Detail #1 = (OEAS-3) = three earth anchor points with # 68,88,138 anchors.

Detail #2 = (OEAS-4) = four earth anchor points

The Oasis Earth Augers Systems

Detail #3 = (OEAUGS-3) with three earth auger Points with 4",6',8" helix

Detail # 4= (OEAUGS-4) with four earth auger Points with 4",6',8" helix

The Oasis Anchor Bolt system

Detail # 5 = (OABS-TM) for a top mount

Detail #6 = (QABS-SM) for side mount

The Oasis planter system

Detail # 7= (OPS)

The Oasis Anchor Bolt System

Detail #8 = (OABS-AD-L) for lag bolt and (OABS-AD-E) for Eye bolt

The Oasis Root Ball Systems

Detail # 9 = (ORBEAS) earth anchors

Detail #10 = (ORBEAUGS) earth augers

Detail #17 (ORBABS) anchor bolts

Oasis Rock Anchor System

Detail # 11 = (ORAS)

Oasis Lodge Post System

Detail # 12 = OLPS-3 -WD or SP) wood timbers(WD) as well as round or square steel posts (SP)

Detail # 13 = (OLPS-4-WD or SP) wood timbers(WD) as well as round or square steel posts (SP)

Oasis Stationary Post System

Detail # 14 = (OSPS-2-WD or SP) 2, wood timbers(WD) as well as round or square steel posts (SP)

Detail #15 = (OSPS-3- WD OR SP) 3 wood timbers(WD) as well as round or square steel posts (SP)

Detail # 16 = (OSPS-4-WD or SP)4 wood timbers(WD) as well as round or square steel posts (SP)

Oasis Storm Planter System

Detail # 17= (OSPS) with a surface and bottom Planter Anchor Bolt System

Oasis Storm Earth Auger System

Detail # 18 = (OSEAUGS) with an above cable and below ground Rootball Earth Auger System

Oasis Storm Earth Anchor System

Detail #19 = (OSEAS) with an above cable and a below ground Rootball Earth Anchor System

Horticultural Consultants Inc. and Oasis Tree Care Products Inc. provide the best of both worlds when it comes to Palms, Bamboo and Cycads. We specialize in specimen quality cold hardy plant material and equipment needed for professional installations.

Horticultural Consultants Inc. is my first company that I do consulting for botanical gardens, zoo's, arboretums and commercial settings. I help developers and architects plan projects as well as preform appraisals for valuation for banks and real estate company's and damages for attorneys and insurance company's. I've been supplying some of the most coldhardy specimen palms for close to thirty years now and absolutely love the passion I found so many years ago.

Did you know that Palms have the largest seed, the longest leaf and the longest bloom of any plant in the world? They get to two hundred and eighty feet and have trunks measuring twelve and a half feet wide? Petrified Palm is the state stone of Texas and the state fossil of Louisiana and the silhouette of Phoenix canariensis is the most recognized symbol of any plant in the world.

I have been on the board of directors of the International palm society for nine years now and going on my third term. I work with the most incredible minds in the world when it comes to Palms and I enjoy teaching on an academic level both nationally and internationally. I enjoy our biennials as we tour people around the world to see palms in their native habitats of the most remote jungles to the most spectacular locations on earth. We go to the most exclusive private gardens the general public would never be able to see as well as tour the most beautiful botanical gardens in the world. I don't know what your plans are but all it takes is going to Palms.org.

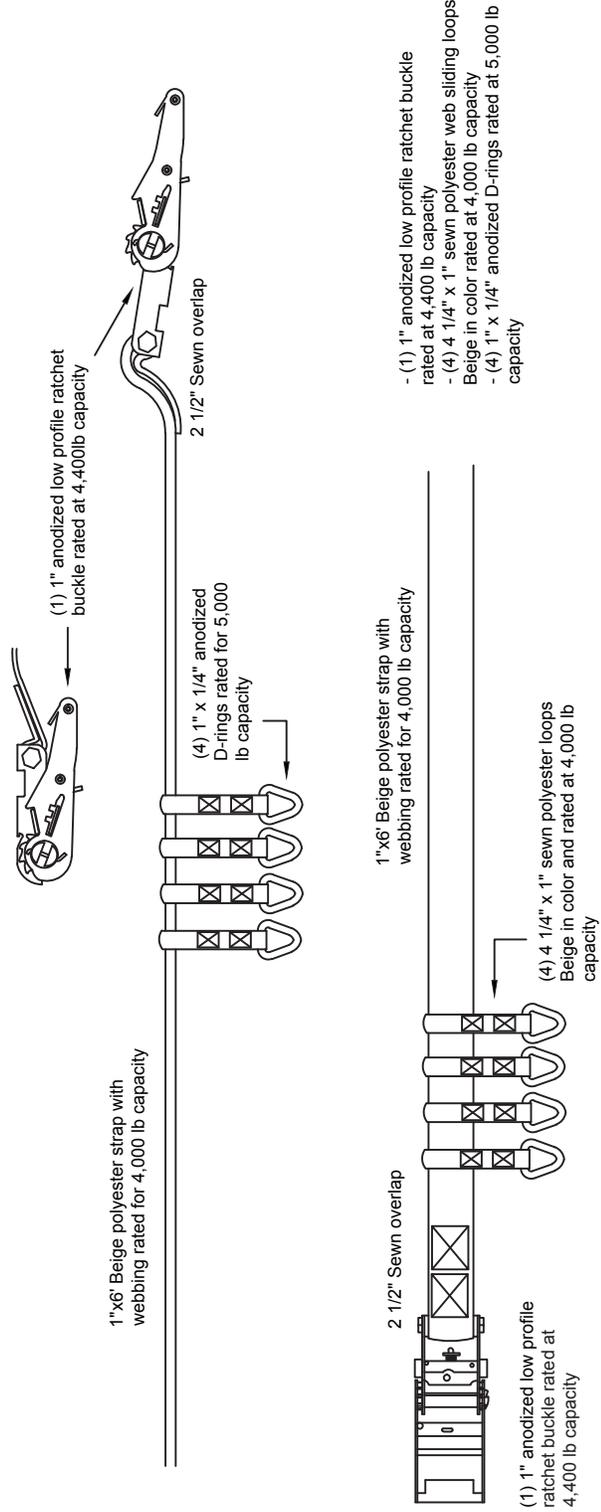
**Don't let hurricanes, tornados or the Santa Anas winds blow you away,
Use Oasis Anchoring Systems Today!**





Palm & Tree Anchoring Systems
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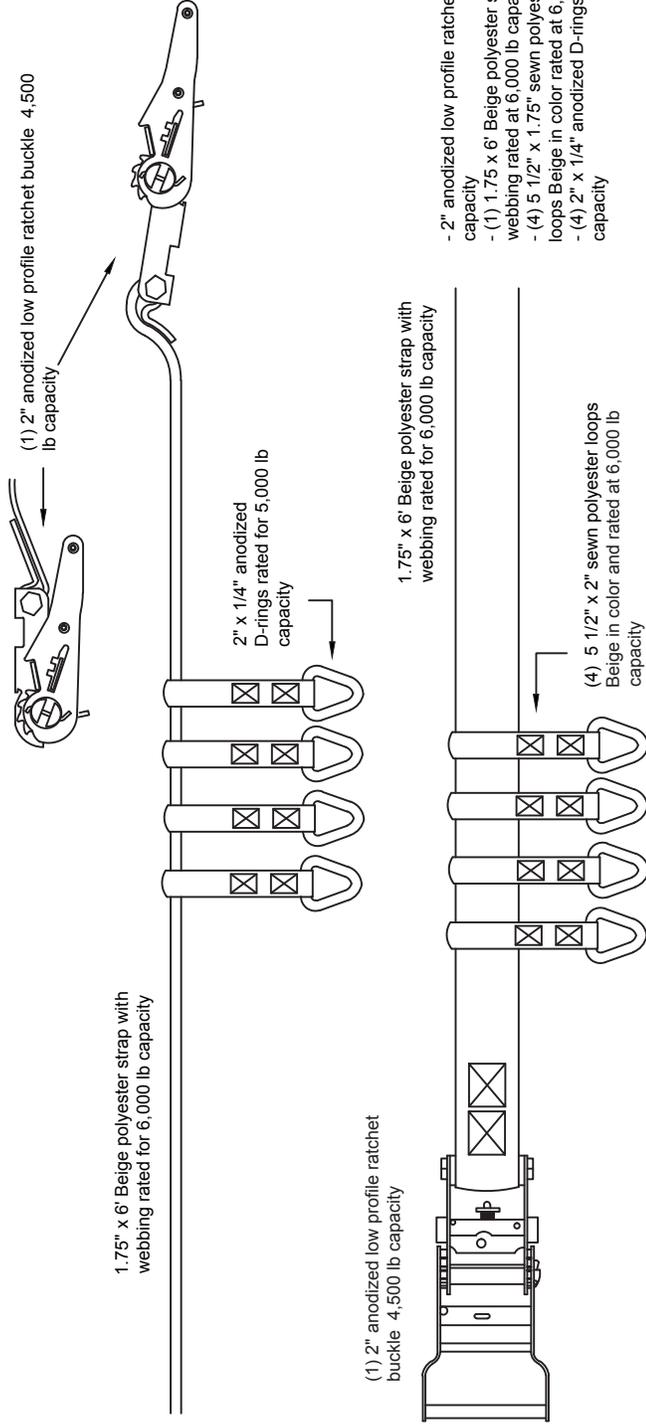
Oasis 1" Ratchet Buckle Collar





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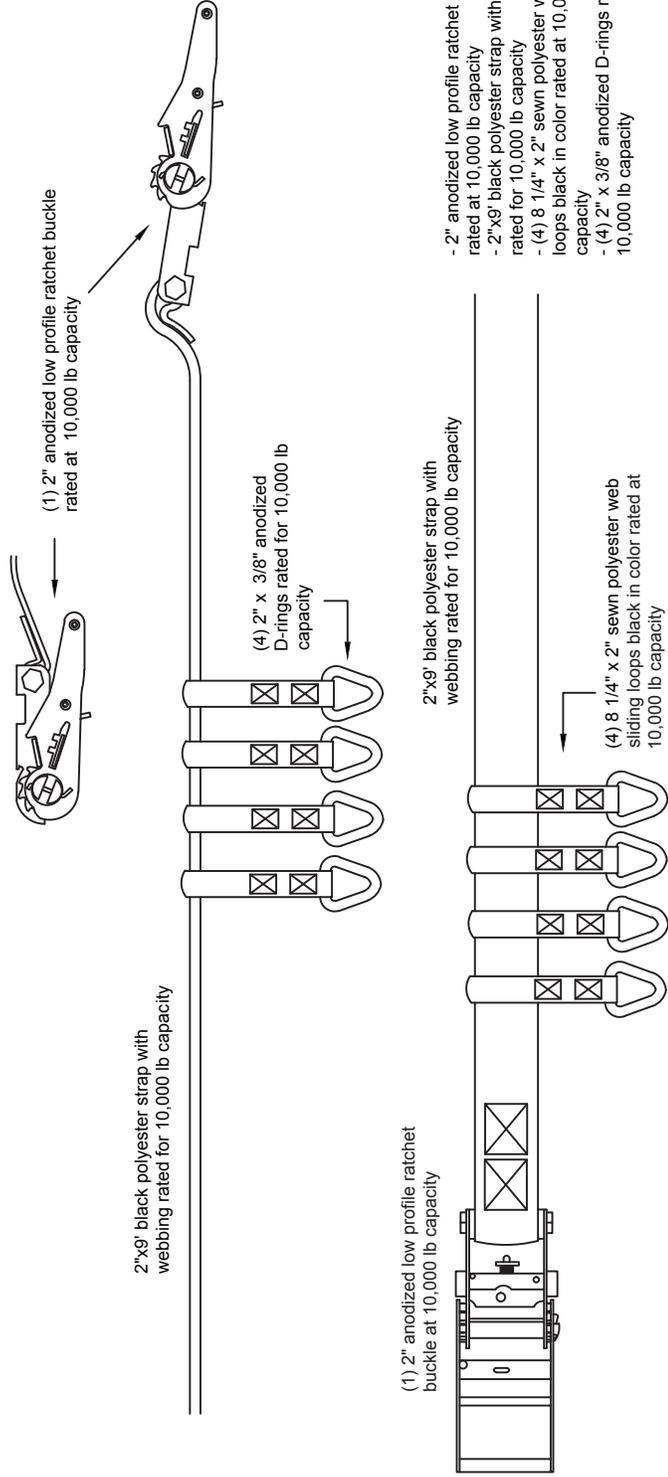
Oasis 2" Light Duty Ratchet Buckle Collar





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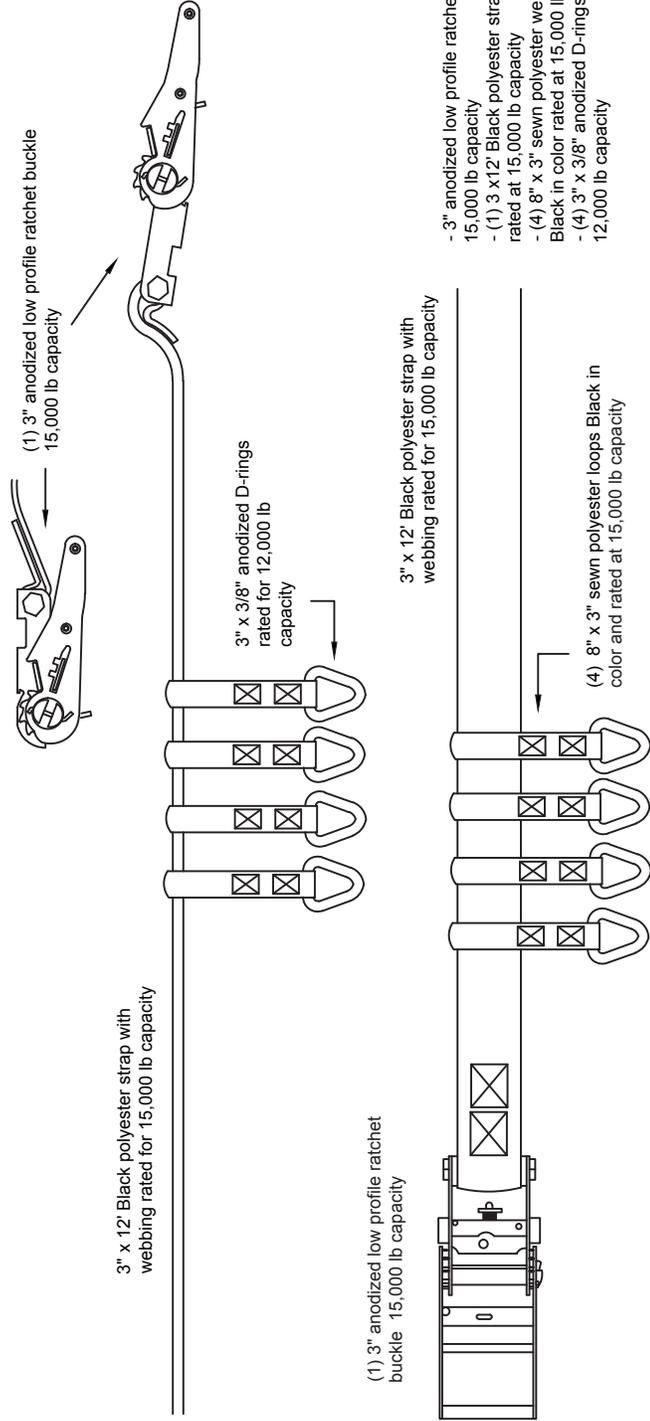
Oasis 2" Heavy Duty Ratchet Buckle Collar





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Oasis 3" Heavy Duty Ratchet Buckle Collar





Palm & Tree Anchoring Systems

U.S. Patent US 6,389,743 B1

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Oasis 2" Root Ball Straps

(1) 2" anodized flat snap hook rated at 10,000 lb capacity and sewn web end loop

2"x3' black polyester strap with webbing rated for 10,000 lb



2"x14' black polyester strap with webbing rated for 10,000 lb

(1) 2" anodized flat snap hook rated at 10,000 lb capacity and sewn web end loop

(1) 2" low profile ratchet buckle at 10,000 lb capacity

2"x3' black polyester strap with webbing rated for 10,000 lb



2"x14' black polyester strap with webbing rated for 10,000 lb

- (1) 2" anodized low profile ratchet buckle rated at 10,000 lb capacity
- 2" x 3' black polyester strap with webbing rated for 10,000 lb
- 2" x 14' black polyester strap with webbing rated for 10,000 lb
- (2) 2" anodized flat snap hooks rated at 10,000 lb capacity
- (1) 2" anodized twisted snap hook rated at 10,000 lb capacity



Palm & Tree Anchoring Systems

U.S. Patent US 6,389,743 B1

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Oasis 3" Root Ball Straps

(1) 3" anodized flat snap hook rated at 15,000 lb capacity and sewn web end loop

3"x3' black polyester strap with webbing rated for 15,000 lb

(1) 3" anodized twisted snap hook rated at 15,000 lb capacity

3"x14' black polyester strap with webbing rated for 15,000 lb

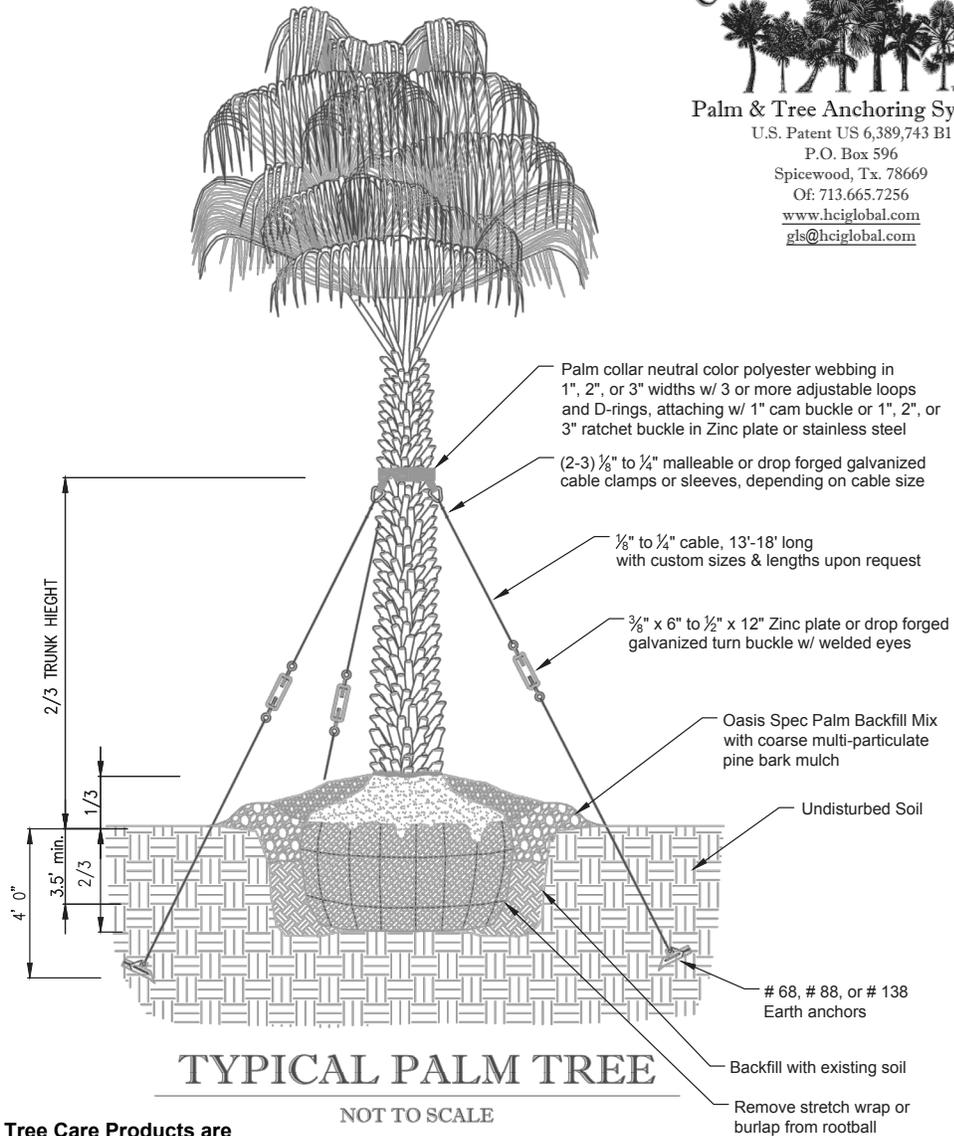
(1) 3" anodized flat snap hook rated at 15,000 lb capacity and sewn web end loop

(1) 3" low profile ratchet buckle at 15,000 lb capacity

3"x3' black polyester strap with webbing rated for 15,000 lb

3"x14' black polyester strap with webbing rated for 15,000 lb

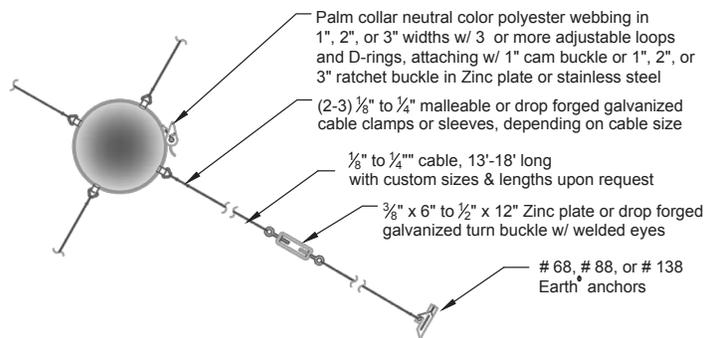
- (1) 3" anodized low profile ratchet buckle rated at 15,000 lb capacity
- 3" x 3' black polyester strap with webbing rated for 15,000 lb
- 3" x 14' black polyester strap with webbing rated for 15,000 lb
- (2) 3" anodized flat snap hooks rated at 15,000 lb capacity
- (1) 3" anodized twisted snap hook rated at 15,000 lb capacity



TYPICAL PALM TREE

NOT TO SCALE

NOTES: All Oasis Tree Care Products are superior quality multipart systems which include everything for the secure anchoring of palms and other trees. The systems consist of neutral color high strength polyester webbing in 1", 2", and 3" widths. Attached are 3-4 or more adjustable loops & D-rings in compatible sizes to the webbing with a 1" cam buckle or a 1", 2", or 3" Ratchet buckle. Cabling is 7x19 galvanized aircraft cable from 1/8" to 1/4" or larger, if needed, including a 3/8" x 6" to 1/2" x 12" turnbuckles. Completing the systems are 1/8" to 1/2" cable clamps. All hardware sizes on details can be specified based on the tree size and specific load requirements. As well all steel components are either zinc plate, Malleable, drop forged galvanized or may be specified in Stainless steel if desired.



OASIS EARTH ANCHOR SYSTEM-3

U.S. Patent No. US 6,389,743 B1

DETAIL 1-U.S.



Palm & Tree Anchoring Systems

U.S. Patent US 6,389,743 B1

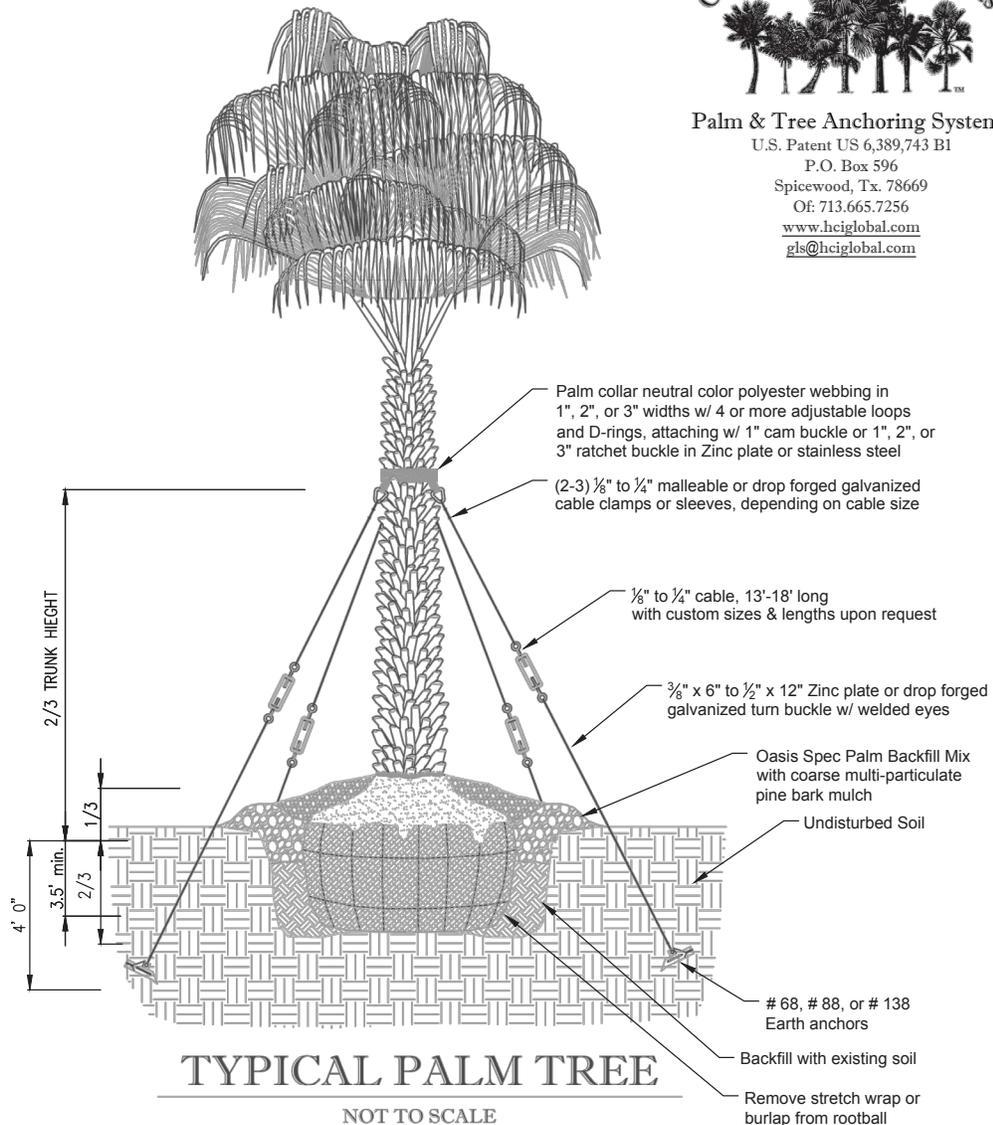
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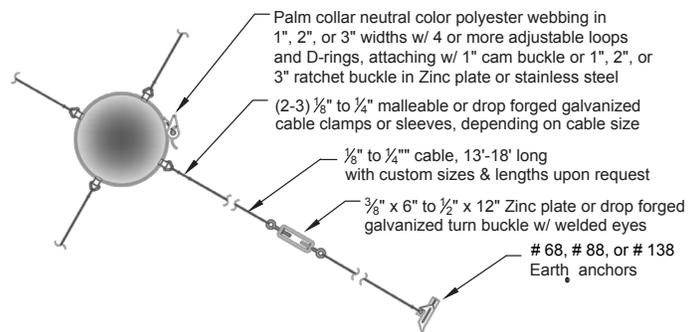
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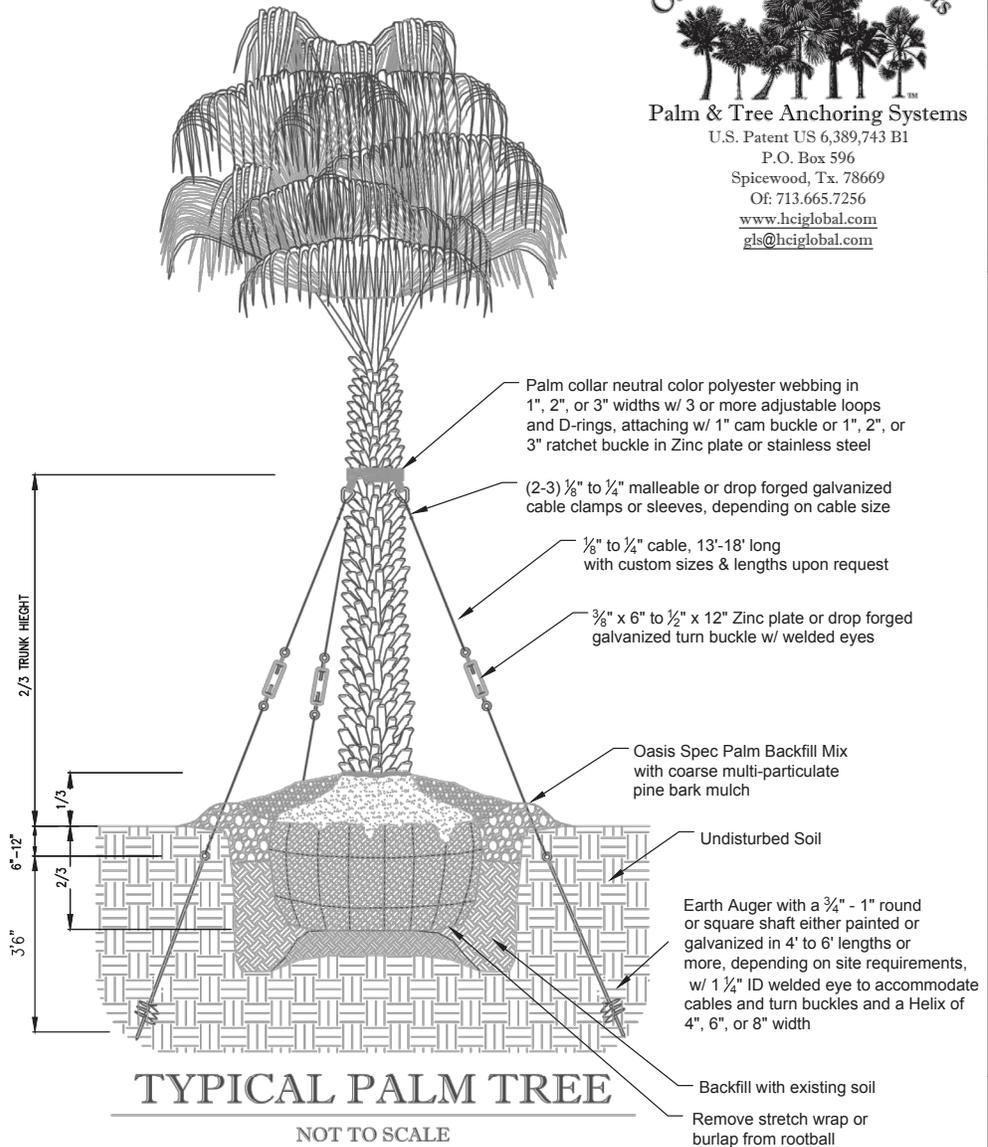
NOTES: All Oasis Tree Care Products are superior quality multipart systems which include everything for the secure anchoring of palms and other trees. The systems consist of neutral color high strength polyester webbing in 1", 2", and 3" widths. Attached are 3-4 or more adjustable loops & D-rings in compatible sizes to the webbing with a 1" cam buckle or a 1", 2", or 3" Ratchet buckle. Cabling is 7x19 galvanized aircraft cable from 1/8" to 1/4" or larger, if needed, including a 3/8" x 6" to 1/2" x 12" turnbuckles. Completing the systems are 1/8" to 1/2" cable clamps. All hardware sizes on details can be specified based on the tree size and specific load requirements. As well all steel components are either zinc plate, Malleable, drop forged galvanized or may be specified in Stainless steel if desired.



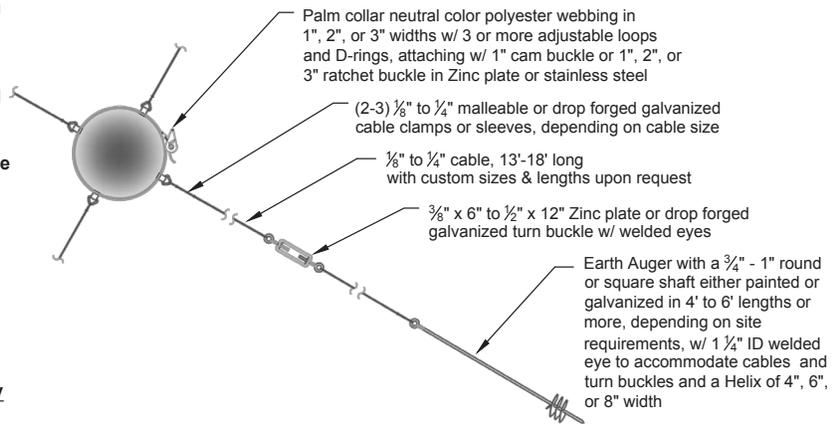
OASIS EARTH ANCHOR SYSTEM-4

U.S. Patent No. US 6,389,743 B1

DETAIL 2-U.S.



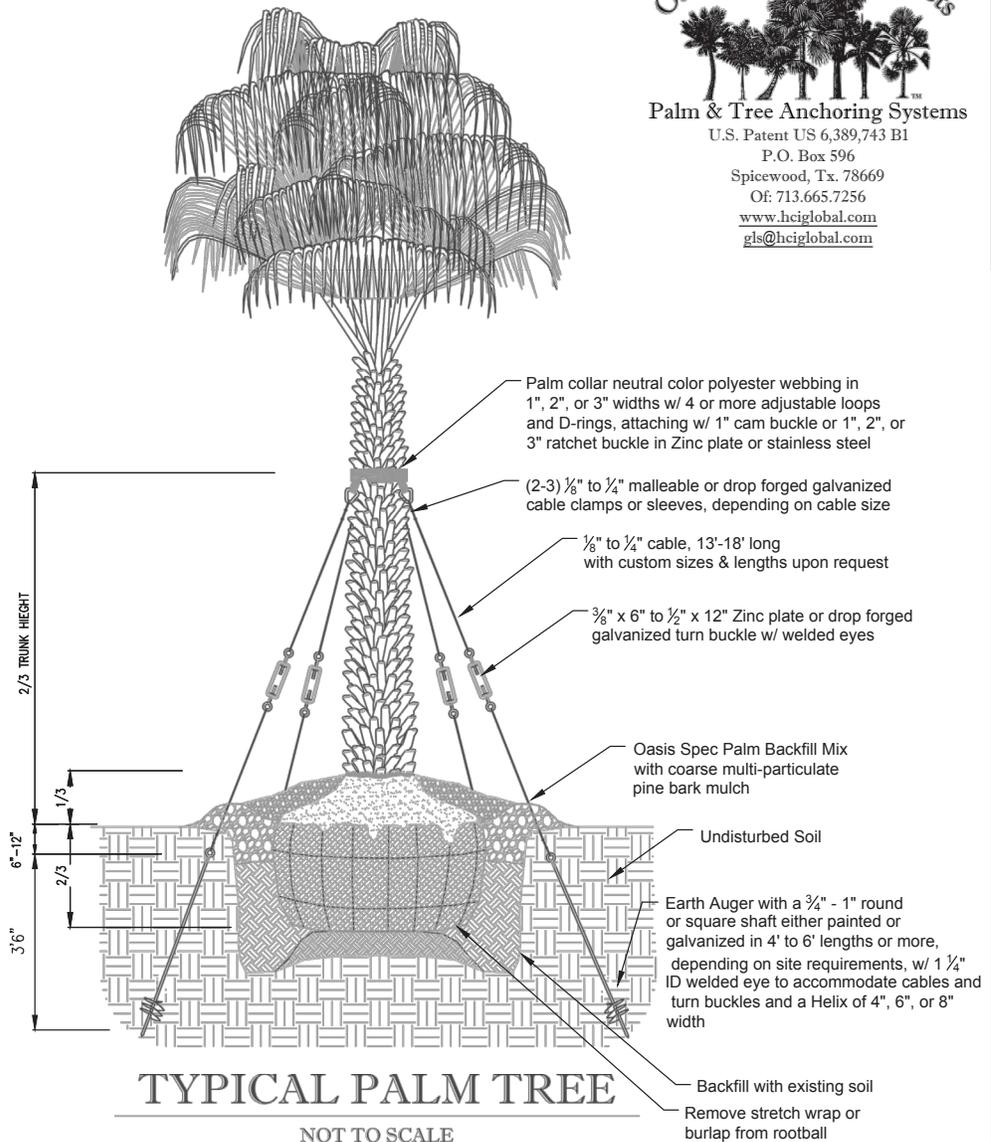
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OASIS EARTH AUGER SYSTEM - 3

U.S. Patent No. US 6,389,743 B1

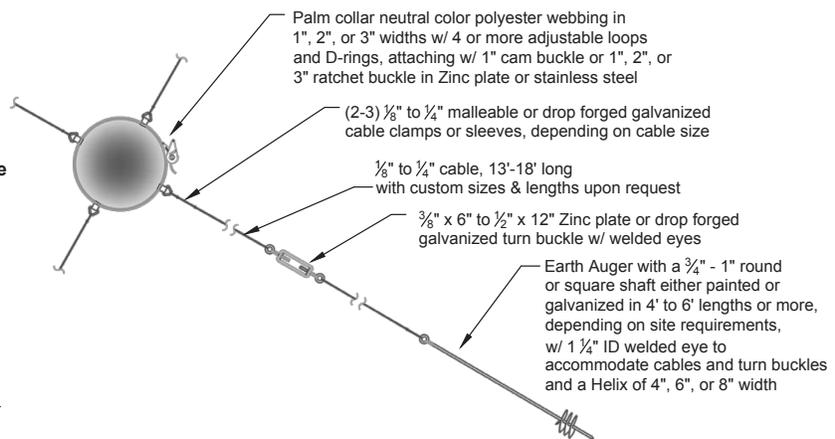
DETAIL 3-U.S.



TYPICAL PALM TREE

NOT TO SCALE

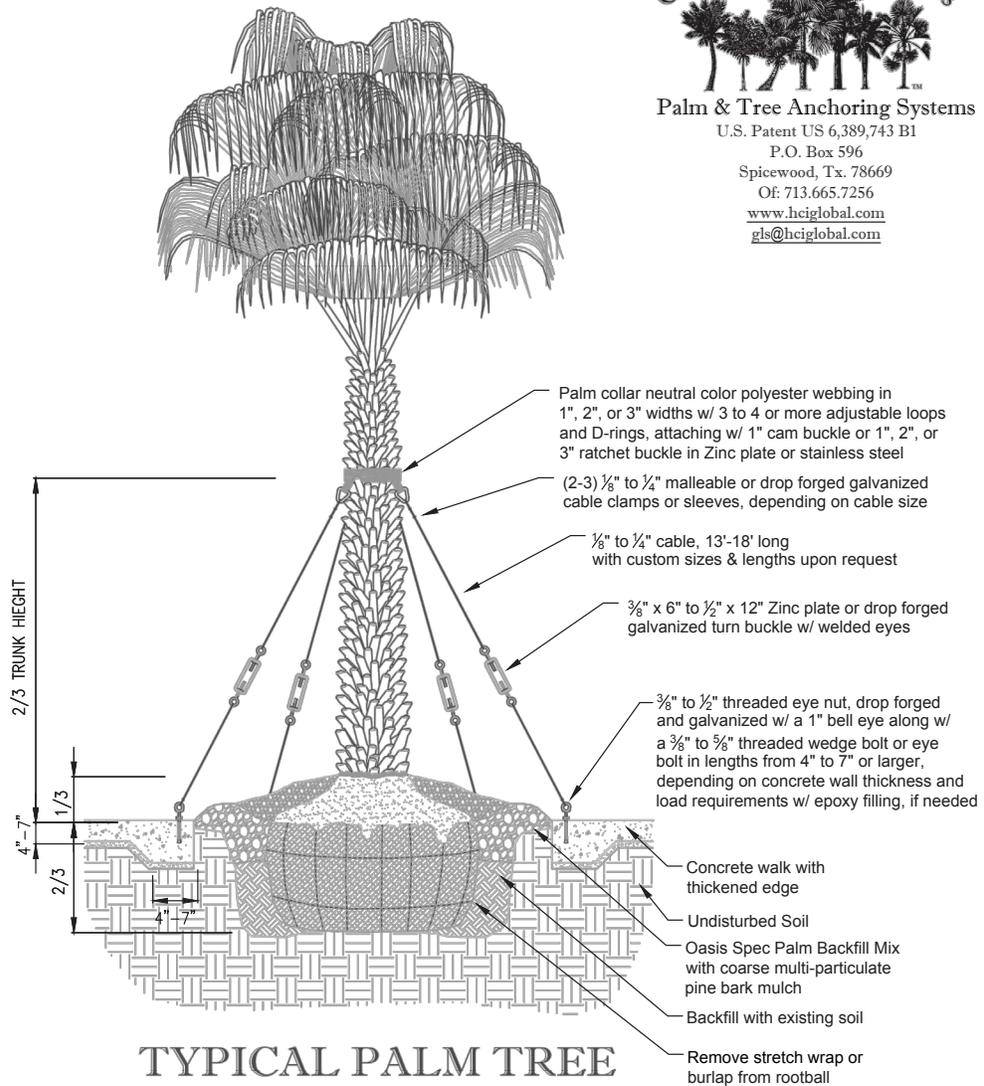
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OASIS EARTH AUGER SYSTEM - 4

U.S. Patent No. US 6,389,743 B1

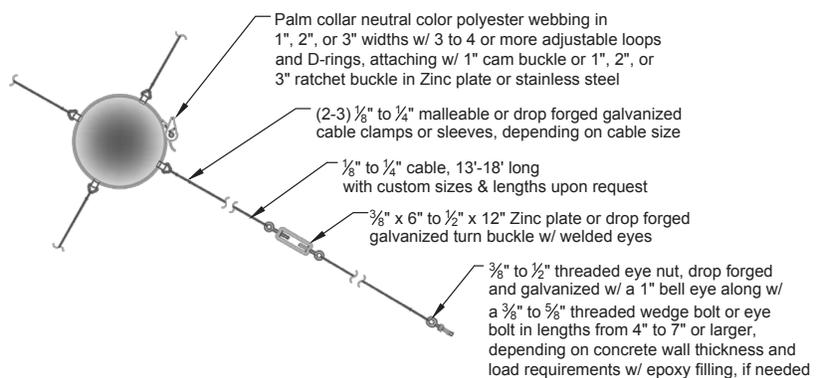
DETAIL 4-U.S.



TYPICAL PALM TREE

NOT TO SCALE

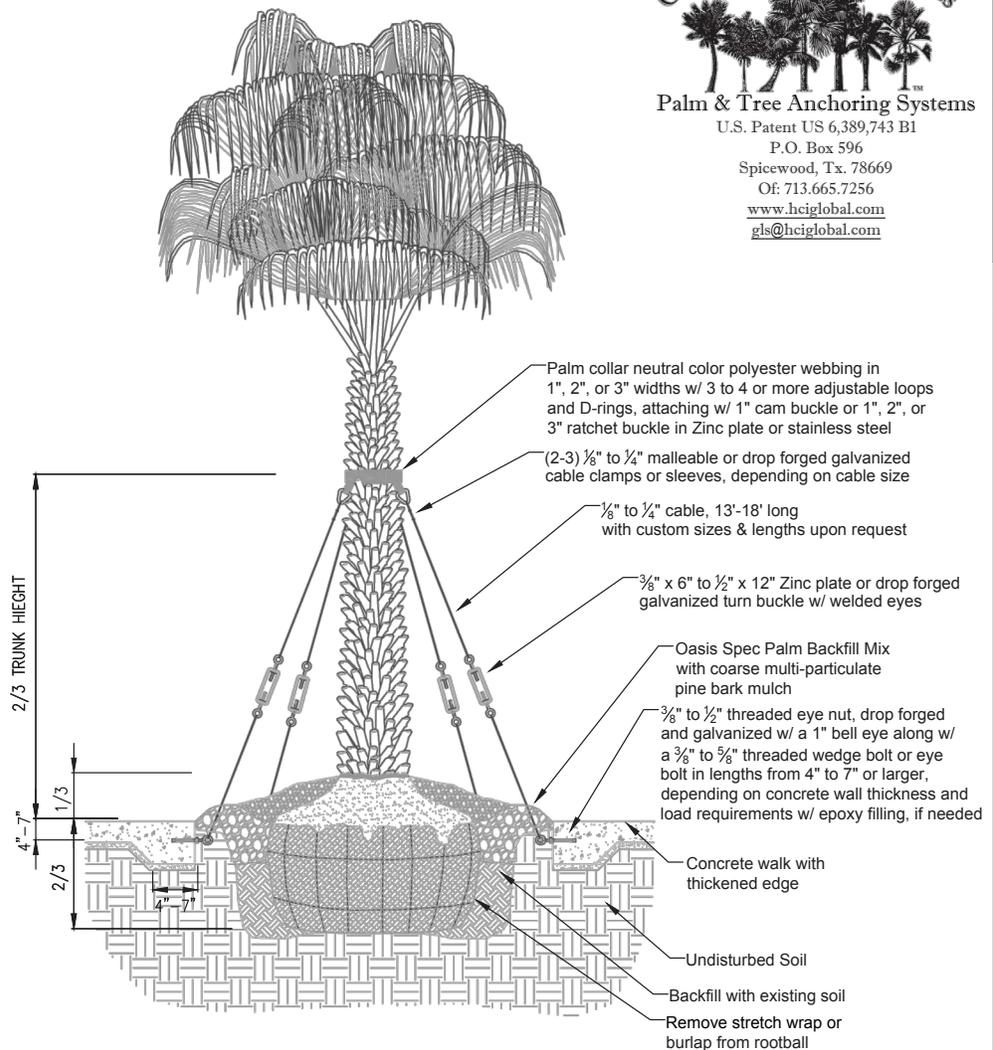
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OASIS ANCHOR BOLT SYSTEM - TOP MOUNT

U.S. Patent No. US 6,389,743 B1

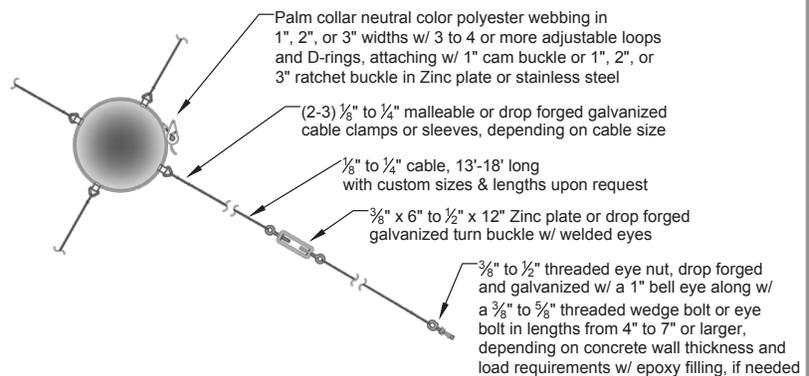
DETAIL 5-U.S.



TYPICAL PALM TREE

NOT TO SCALE

NOTES: All Oasis Tree Care Products are superior quality multipart systems which include everything for the secure anchoring of palms and other trees. The systems consist of neutral color high strength polyester webbing in 1", 2", and 3" widths. Attached are 3-4 or more adjustable loops & D-rings in compatible sizes to the webbing with a 1" cam buckle or a 1", 2", or 3" Ratchet buckle. Cabling is 7x19 galvanized aircraft cable from 1/8" to 1/4" or larger, if needed, including a 3/8" x 6" to 1/2" x 12" turnbuckles. Completing the systems are 1/8" to 1/2" cable clamps. All hardware sizes on details can be specified based on the tree size and specific load requirements. As well all steel components are either zinc plate, Malleable, drop forged galvanized or may be specified in Stainless steel if desired.



OASIS ANCHOR BOLT SYSTEM - SIDE MOUNT

U.S. Patent No. US 6,389,743 B1

DETAIL 6-U.S.



Palm & Tree Anchoring Systems

U.S. Patent US 6,389,743 B1

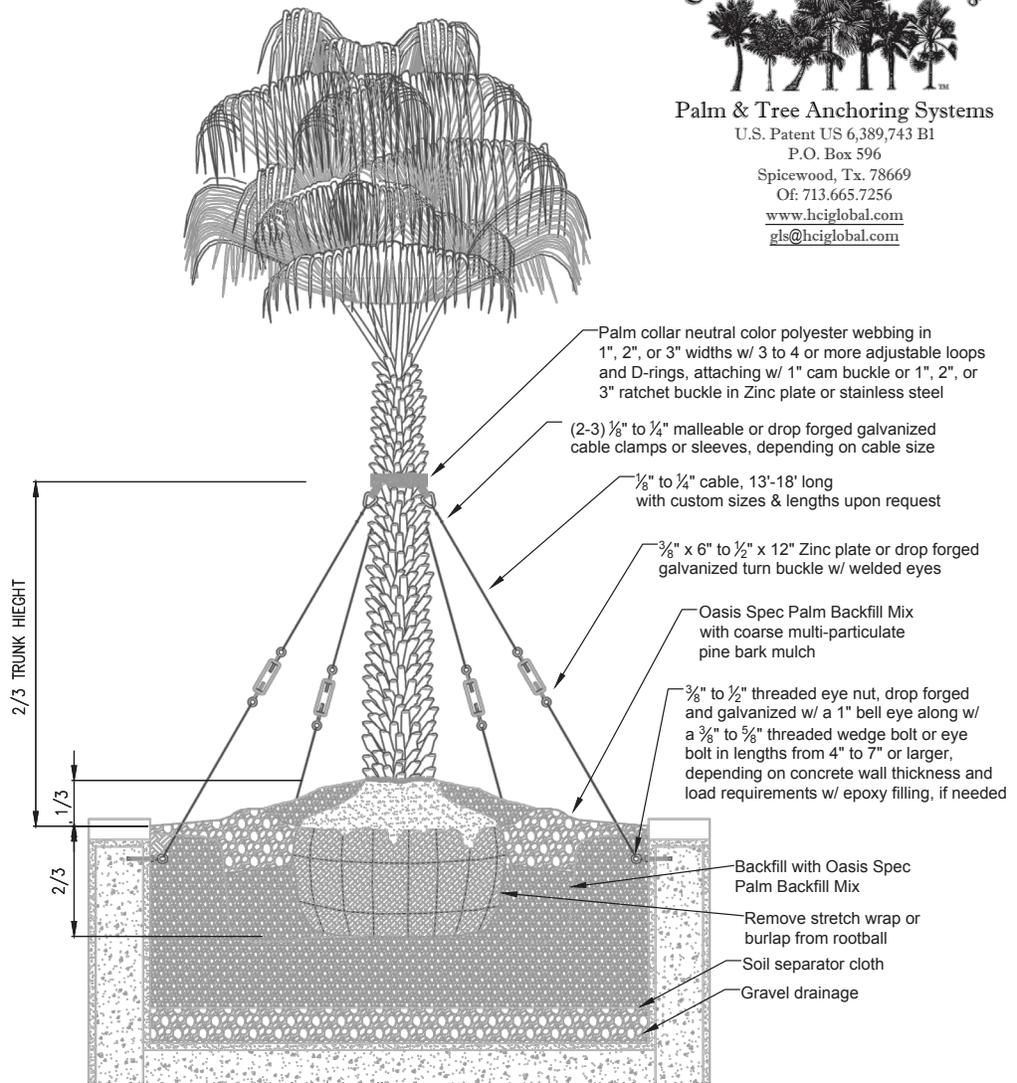
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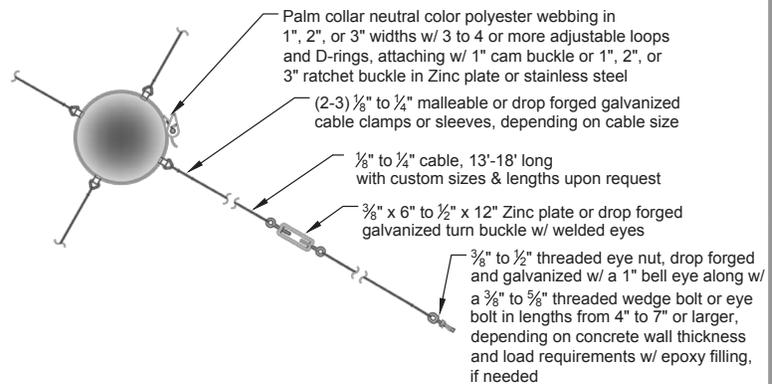


TYPICAL PALM TREE

NOT TO SCALE

NOTES: All Oasis Tree Care Products are superior quality multipart systems which include everything for the secure anchoring of palms and other trees. The systems consist of neutral color high strength polyester webbing in 1", 2", and 3" widths. Attached are 3-4 or more adjustable loops & D-rings in compatible sizes to the webbing with a 1" cam buckle or a 1", 2", or 3" Ratchet buckle. Cabling is 7x19 galvanized aircraft cable from 1/8" to 1/4" or larger, if needed, including a 3/8" x 6" to 1/2" x 12" turnbuckles. Completing the systems are 1/8" to 1/2" cable clamps.

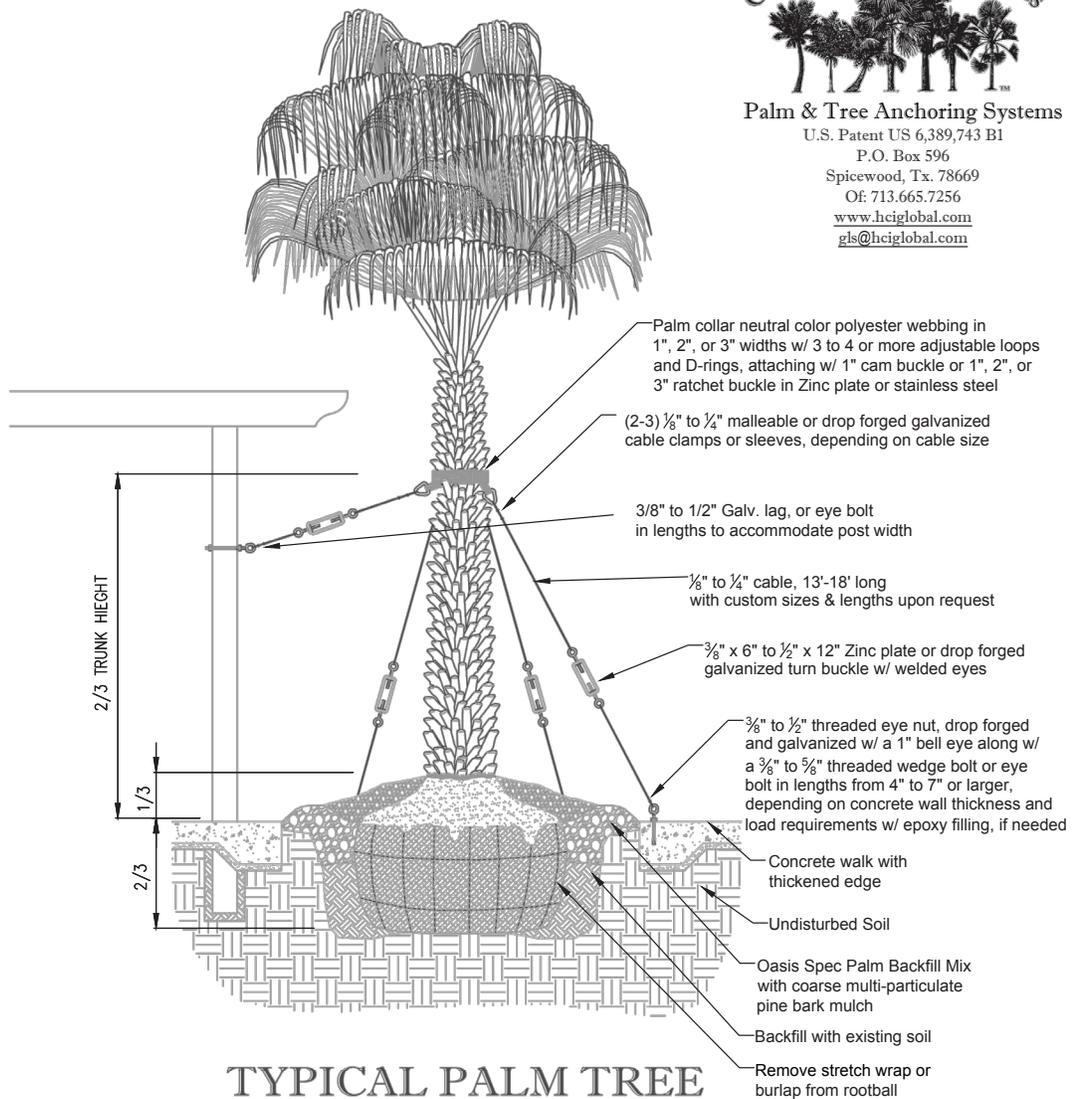
All hardware sizes on details can be specified based on the tree size and specific load requirements. As well all steel components are either zinc plate, Malleable, drop forged galvanized or may be specified in Stainless steel if desired.



OASIS ANCHOR BOLT SYSTEM - PLANTER MOUNT

U.S. Patent No. US 6,389,743 B1

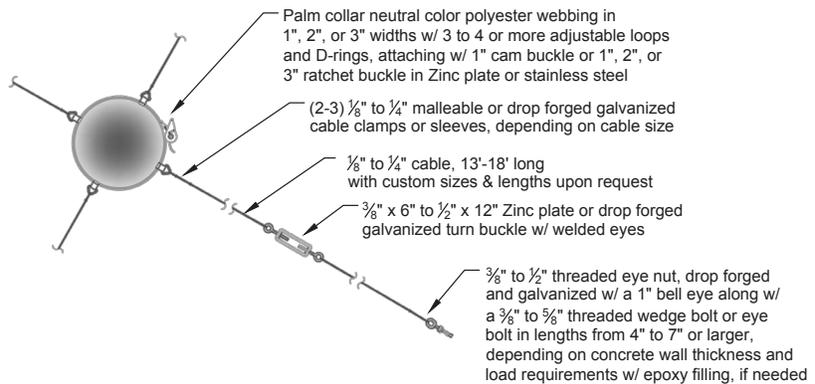
DETAIL 7-U.S.



TYPICAL PALM TREE

NOT TO SCALE

NOTES: All Oasis Tree Care Products are superior quality multipart systems which include everything for the secure anchoring of palms and other trees. The systems consist of neutral color high strength polyester webbing in 1", 2", and 3" widths. Attached are 3-4 or more adjustable loops & D-rings in compatible sizes to the webbing with a 1" cam buckle or a 1", 2", or 3" Ratchet buckle. Cabling is 7x19 galvanized aircraft cable from 1/8" to 1/4" or larger, if needed, including a 3/8" x 6" to 1/2" x 12" turnbuckles. Completing the systems are 1/8" to 1/2" cable clamps. All hardware sizes on details can be specified based on the tree size and specific load requirements. As well all steel components are either zinc plate, Malleable, drop forged galvanized or may be specified in Stainless steel if desired.



OASIS ANCHOR BOLT SYSTEM - ALT. MOUNT

U.S. Patent No. US 6,389,743 B1

DETAIL 8-U.S.



Palm & Tree Anchoring Systems

U.S. Patent US 6,389,743 B1

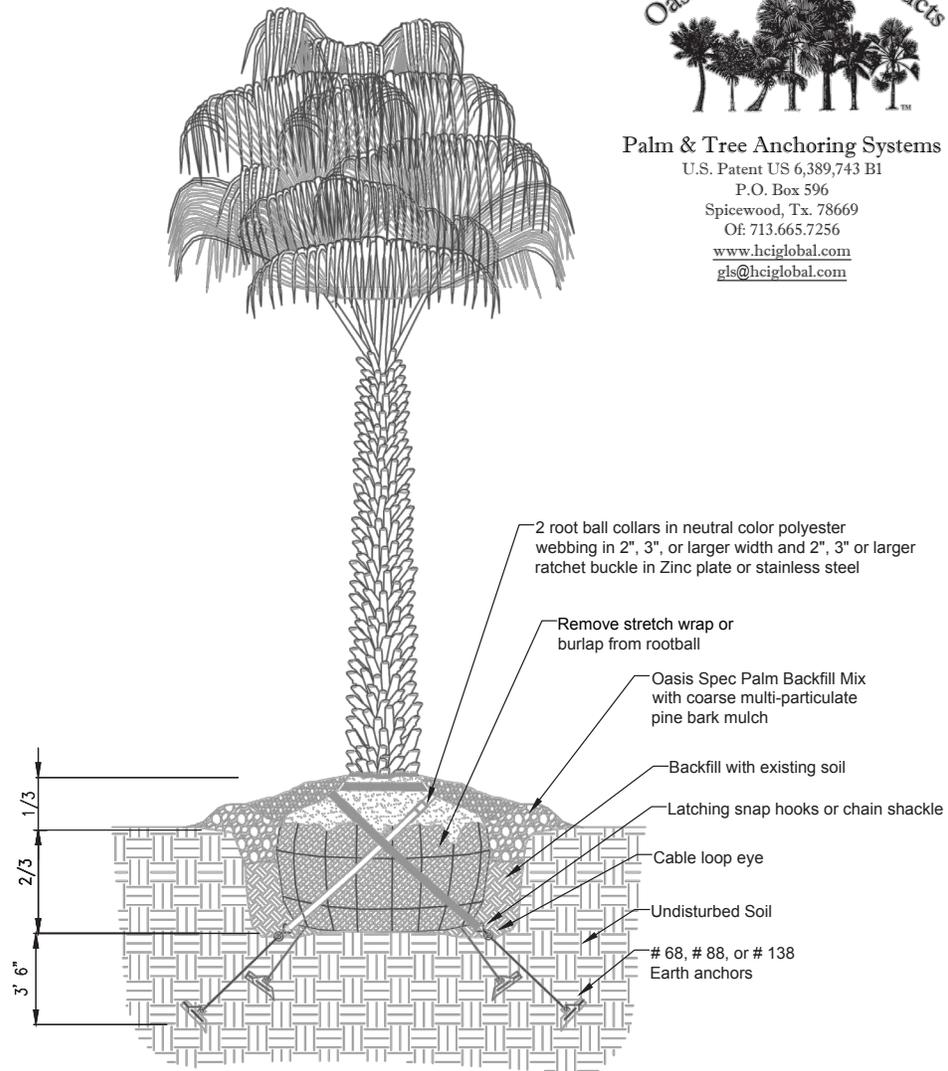
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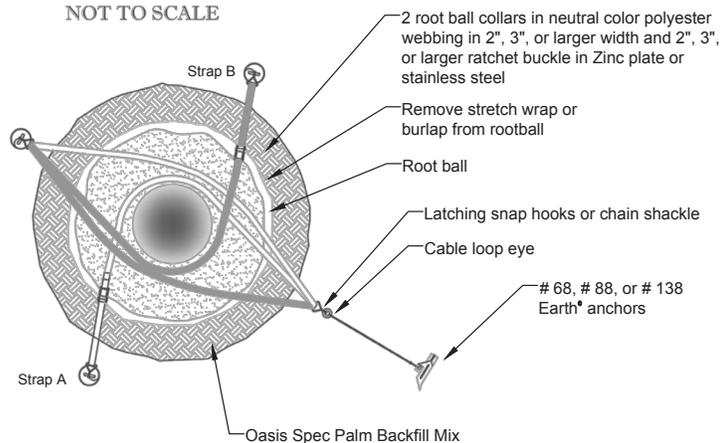
gl@hciglobal.com



TYPICAL PALM TREE

NOT TO SCALE

NOTES: All Oasis Tree Care Products are superior quality multipart systems which include everything for the secure anchoring of palms and other trees. The systems consist of neutral color high strength polyester webbing in 2", 3", or larger widths. Attached are 3 flat and/or twisted latching snap hooks to the webbing with a 2", 3", or larger Ratchet buckle. Cabling is 7x19 galvanized aircraft cable from 1/8" to 1/4" or larger, if needed, including a 3/8" x 6" to 1/2" x 12" turnbuckles. Completing the systems are 1/8" to 1/2" cable clamps. All hardware sizes on details can be specified based on the tree size and specific load requirements. As well all steel components are either zinc plate, Malleable, drop forged galvanized or may be specified in Stainless steel if desired.



OASIS ROOT BALL EARTH ANCHOR SYSTEM

U.S. Patent No. US 6,389,743 B1

DETAIL 9-U.S.



Palm & Tree Anchoring Systems

U.S. Patent US 6,389,743 B1

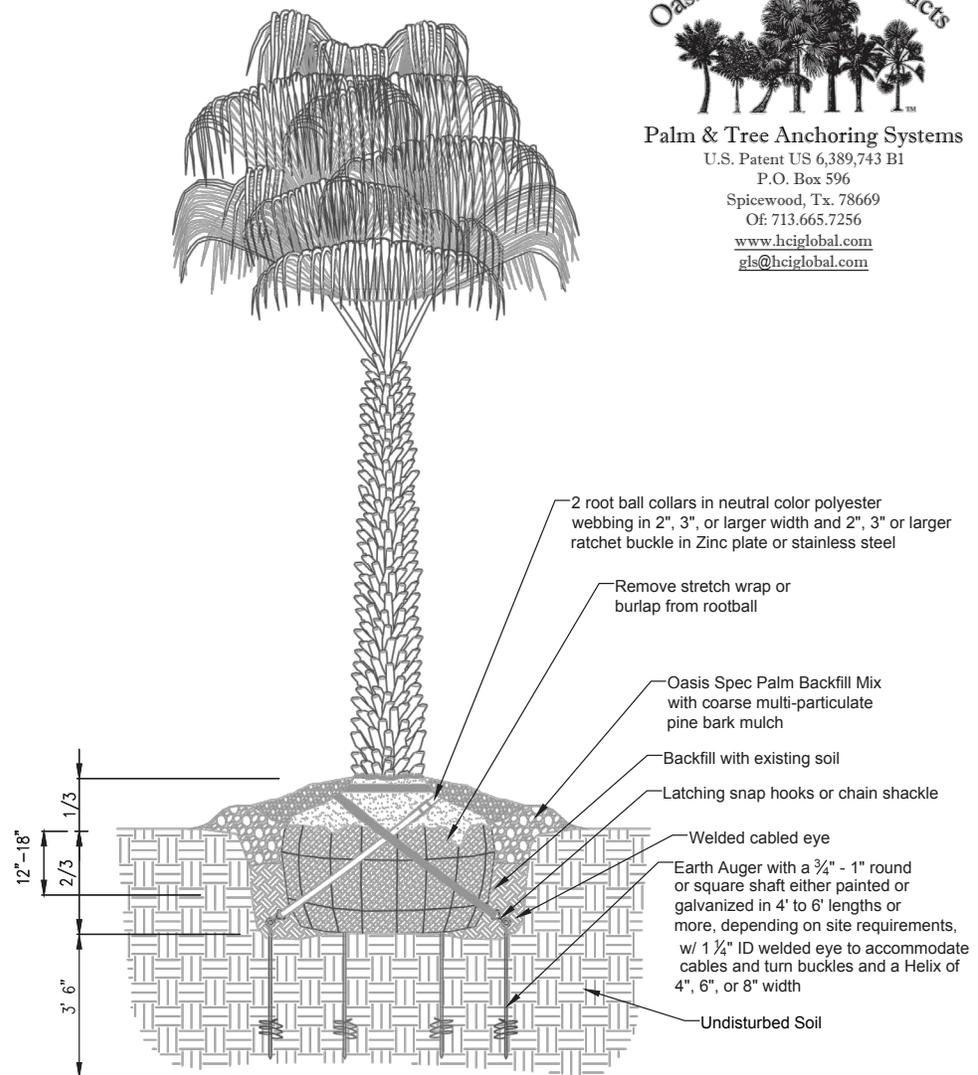
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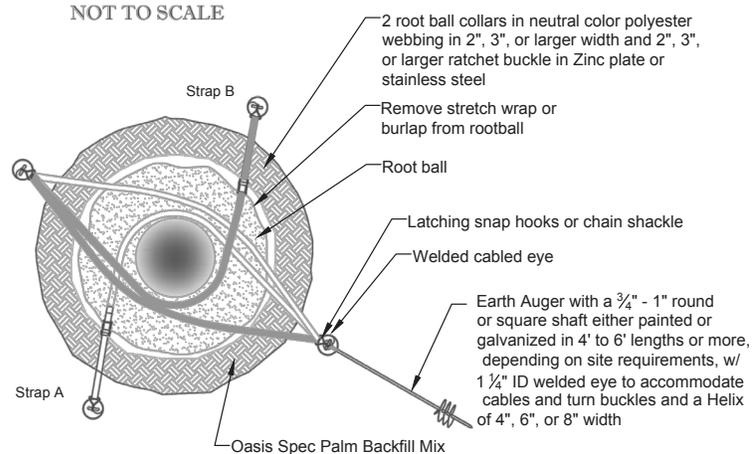


TYPICAL PALM TREE

NOT TO SCALE

NOTES: All Oasis Tree Care Products are superior quality multipart systems which include everything for the secure anchoring of palms and other trees. The systems consist of neutral color high strength polyester webbing in 2", 3", or larger widths. Attached are 3 flat and/or twisted latching snap hooks to the webbing with a 2", 3", or larger Ratchet buckle. Earth Auger with a 3/4" - 1" round or square shaft either painted or galvanized in 4' to 6' lengths or more, depending on site requirements, w/ 1 1/4" ID welded eye to accommodate cables and turn buckles and a Helix of 4", 6", or 8" width.

All hardware sizes on details can be specified based on the tree size and specific load requirements. As well all steel components are either zinc plate, Malleable, drop forged galvanized or may be specified in Stainless steel if desired.



OASIS ROOT BALL EARTH AUGER SYSTEM

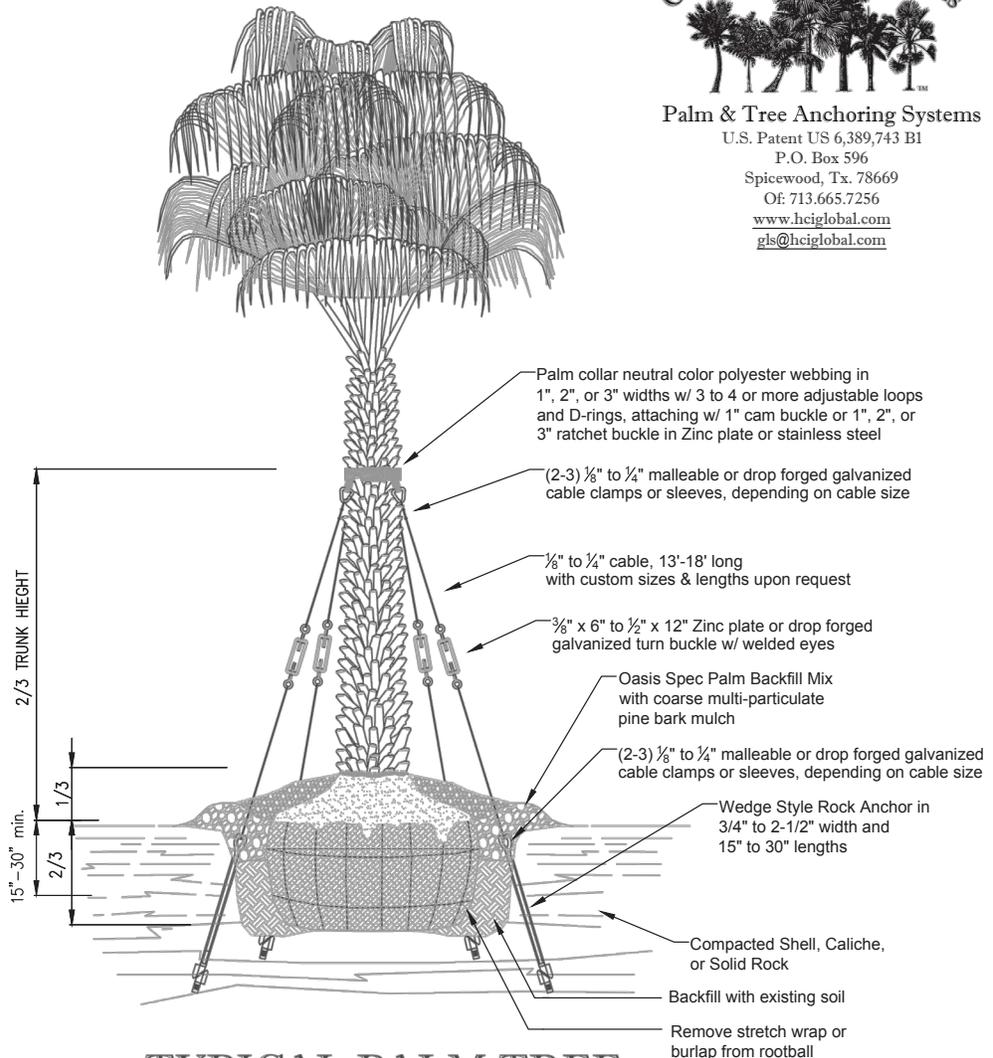
U.S. Patent No. US 6,389,743 B1

DETAIL 10-U.S.



Palm & Tree Anchoring Systems

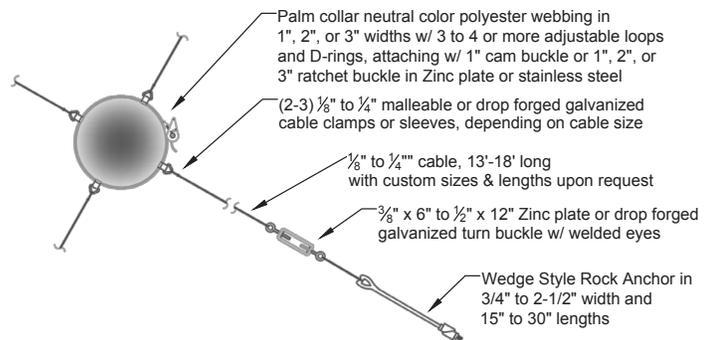
U.S. Patent US 6,389,743 B1
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TYPICAL PALM TREE

NOT TO SCALE

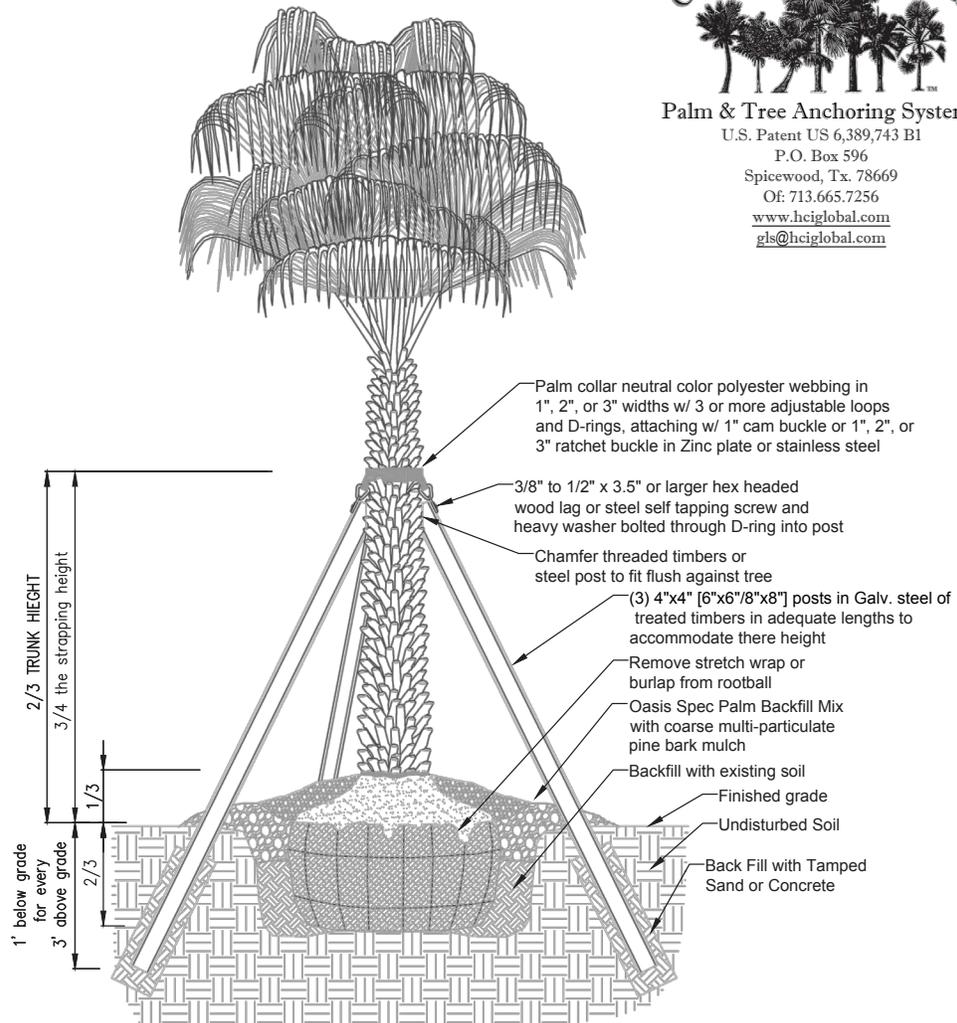
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OASIS ROCK ANCHOR SYSTEM

U.S. Patent No. US 6,389,743 B1

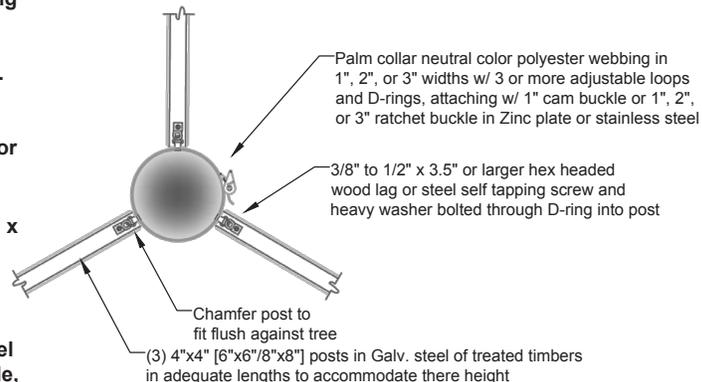
DETAIL 11-U.S.



TYPICAL PALM TREE

NOT TO SCALE

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OASIS LODGE 3 POST ANCHORING SYSTEM

U.S. Patent No. US 6,389,743 B1

DETAIL 12-U.S.



Palm & Tree Anchoring Systems

U.S. Patent US 6,389,743 B1

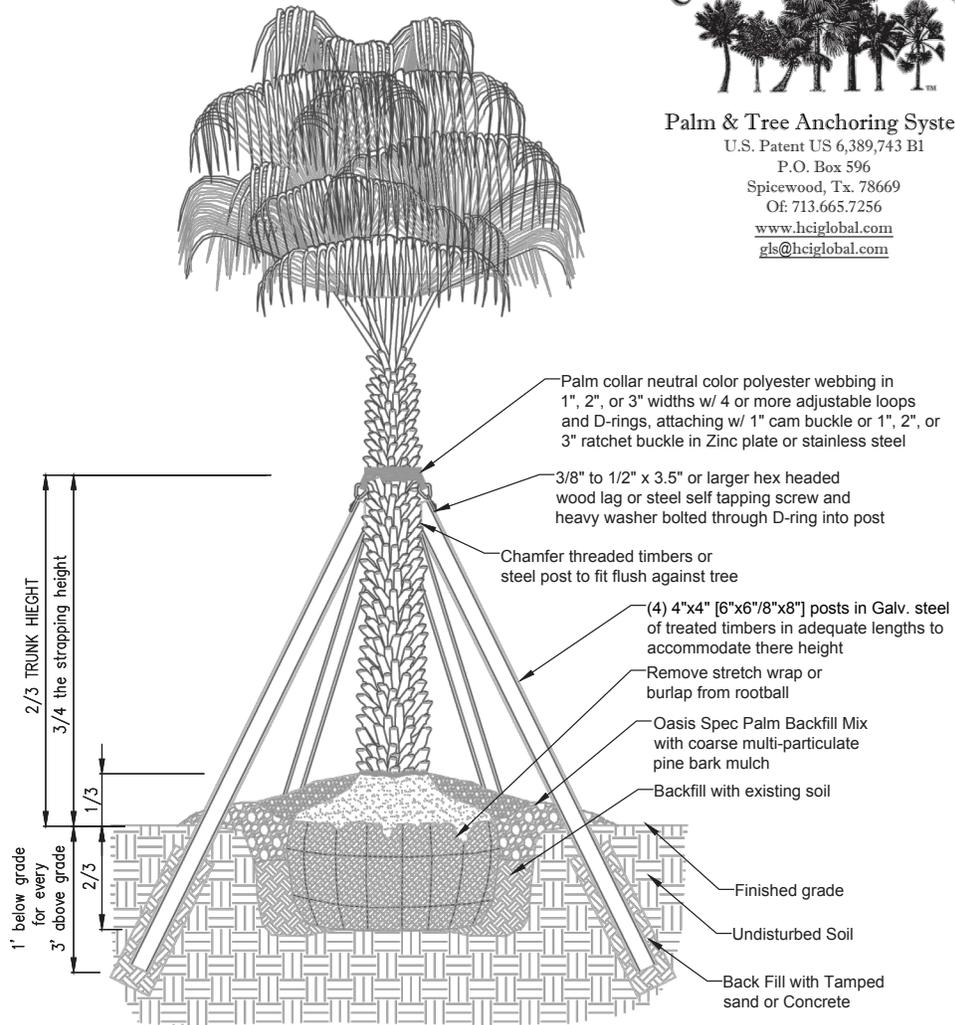
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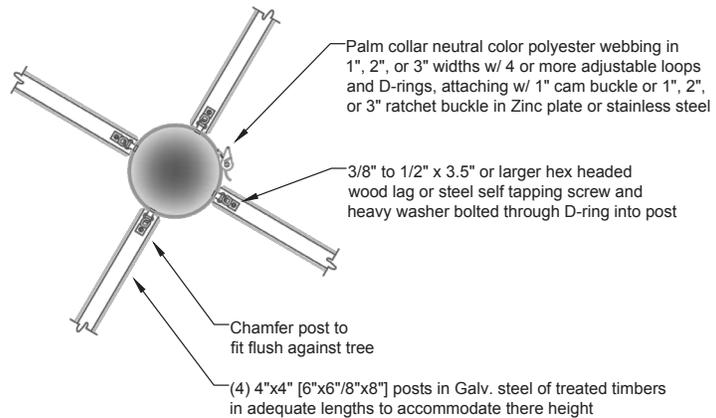
gls@hciglobal.com



TYPICAL PALM TREE

NOT TO SCALE

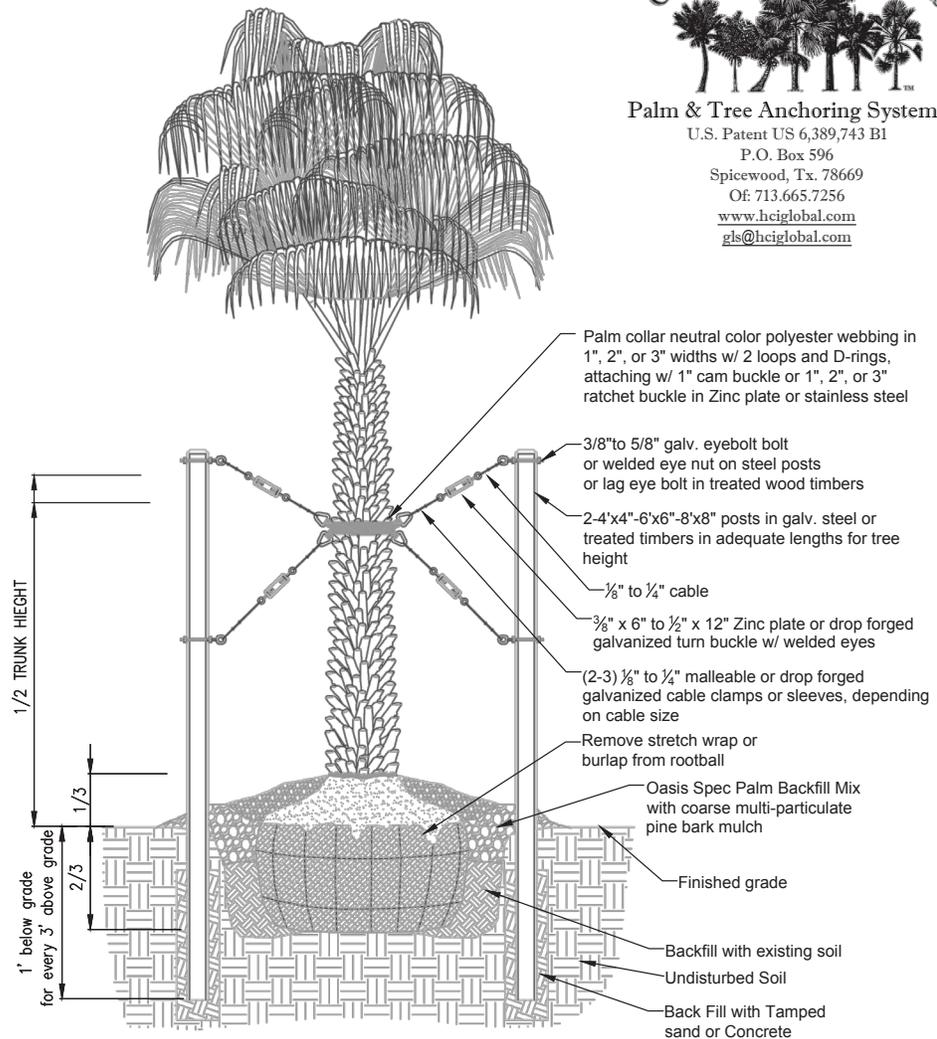
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OASIS LODGE 4 POST ANCHORING SYSTEM

U.S. Patent No. US 6,389,743 B1

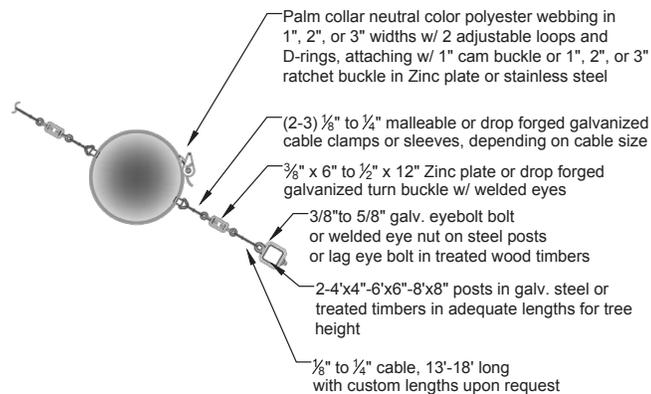
DETAIL 13-U.S.



TYPICAL PALM TREE

NOT TO SCALE

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OASIS STATIONARY 2 POST ANCHORING SYSTEMS

U.S. Patent No. US 6,389,743 B1

DETAIL 14-U.S.



Palm & Tree Anchoring Systems

U.S. Patent US 6,389,743 B1

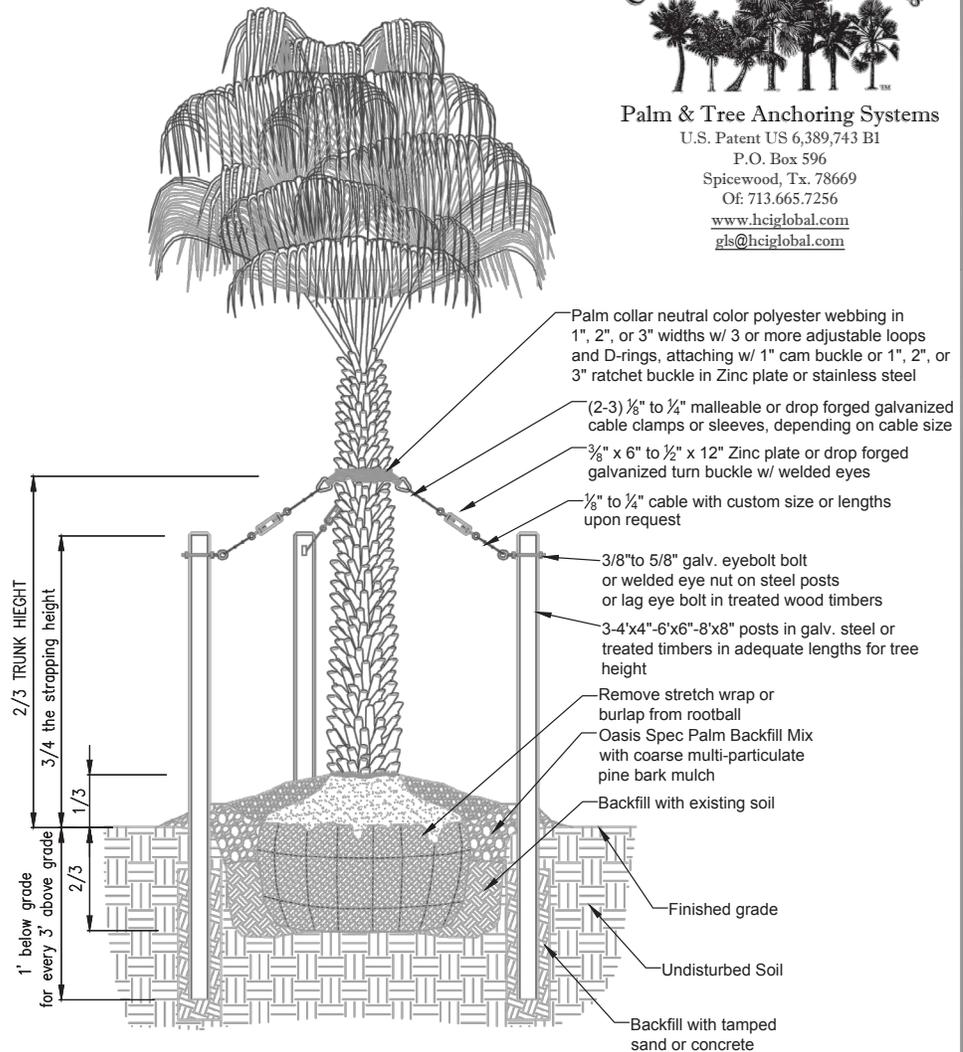
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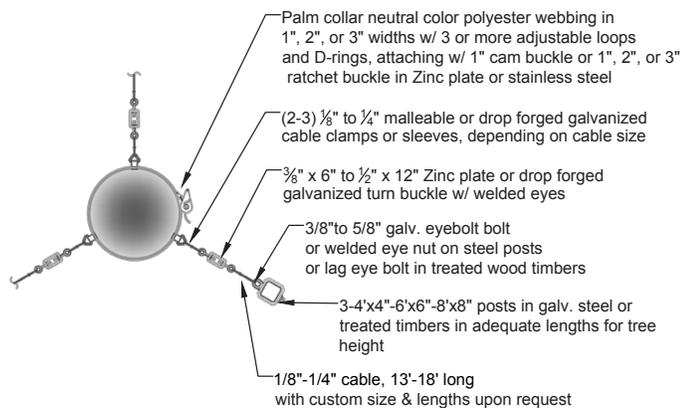
els@hciglobal.com



TYPICAL PALM TREE

NOT TO SCALE

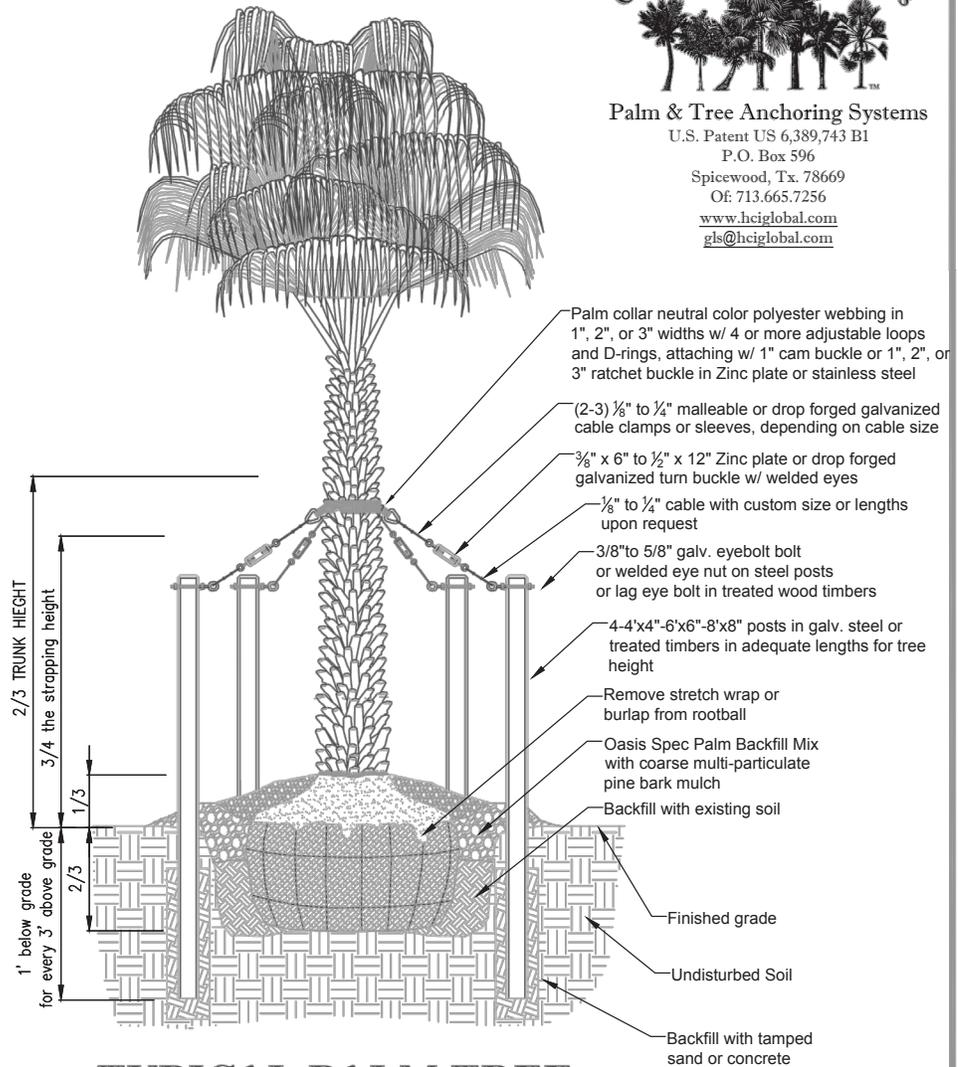
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OASIS STATIONARY 3 POST ANCHORING SYSTEMS

U.S. Patent No. US 6,389,743 B1

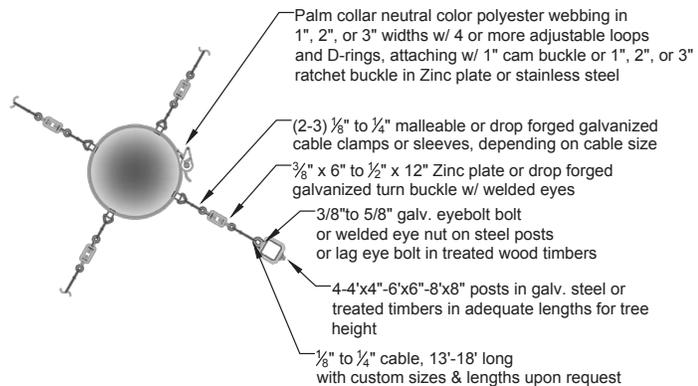
DETAIL 15-U.S.



TYPICAL PALM TREE

NOT TO SCALE

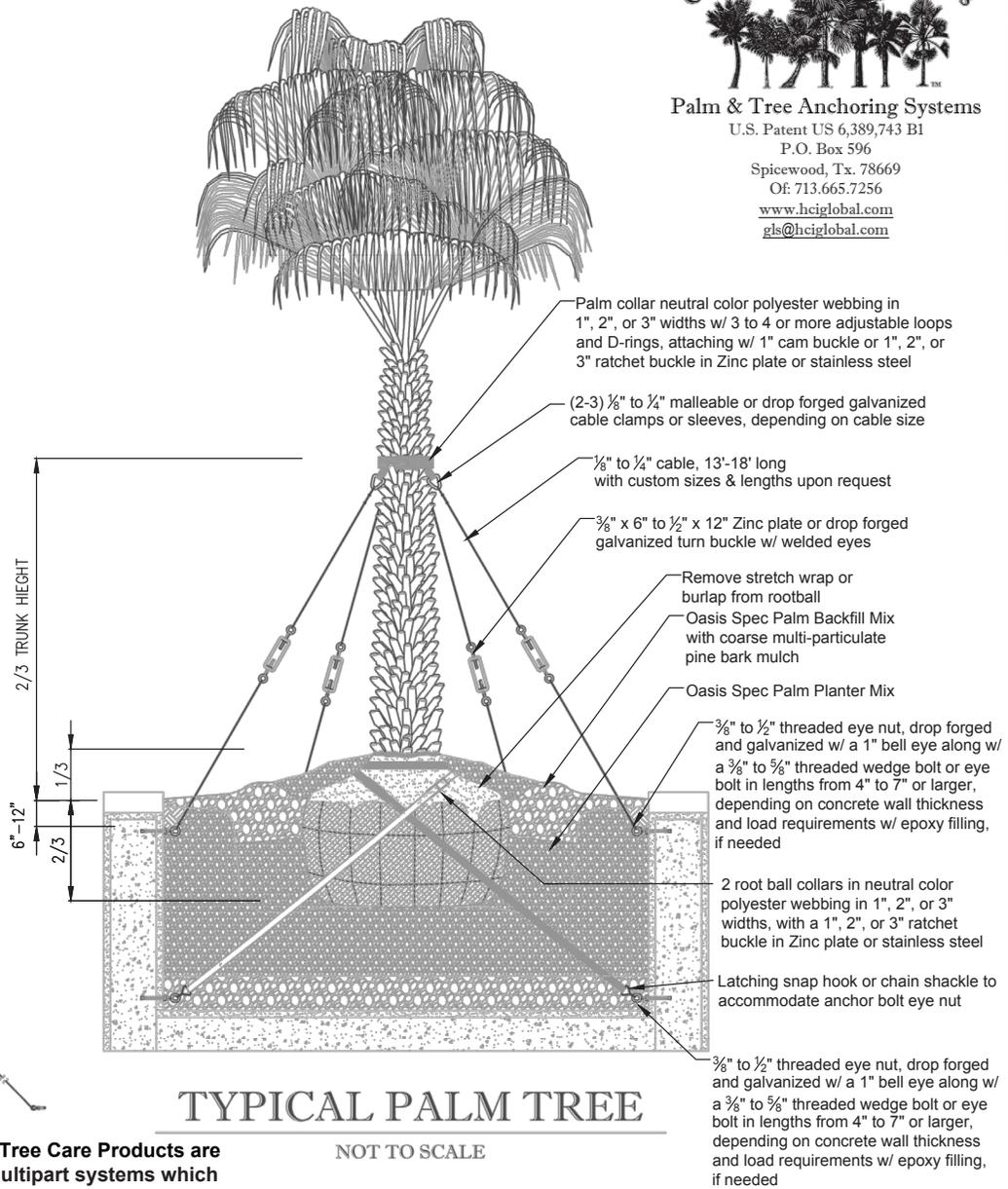
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OASIS STATIONARY 4 POST ANCHORING SYSTEMS

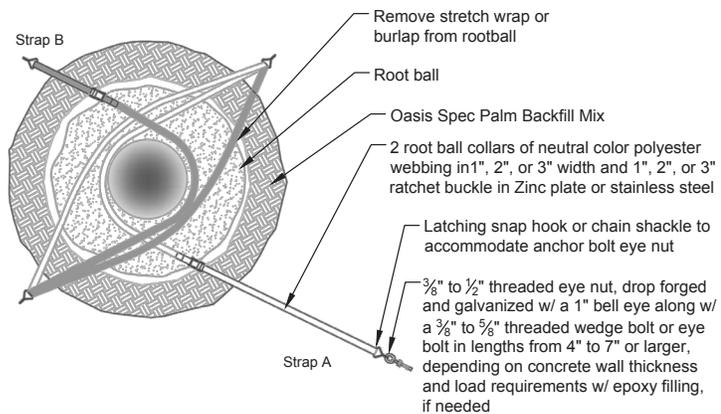
U.S. Patent No. US 6,389,743 B1

DETAIL 16-U.S.



NOTES: All Oasis Tree Care Products are superior quality multipart systems which include everything for the secure anchoring of palms and other trees. The systems consist of neutral color high strength polyester webbing in 1", 2", and 3" widths. Attached are 3-4 or more adjustable loops & D-rings in compatible sizes to the webbing with a 1" cam buckle or a 1", 2", or 3" Ratchet buckle. Cabling is 7x19 galvanized aircraft cable from 1/8" to 1/4" or larger, if needed, including a 3/8" x 6" to 1/2" x 12" turnbuckles. Completing the systems are 1/8" to 1/2" cable clamps. Combined with a complete Root Ball system.

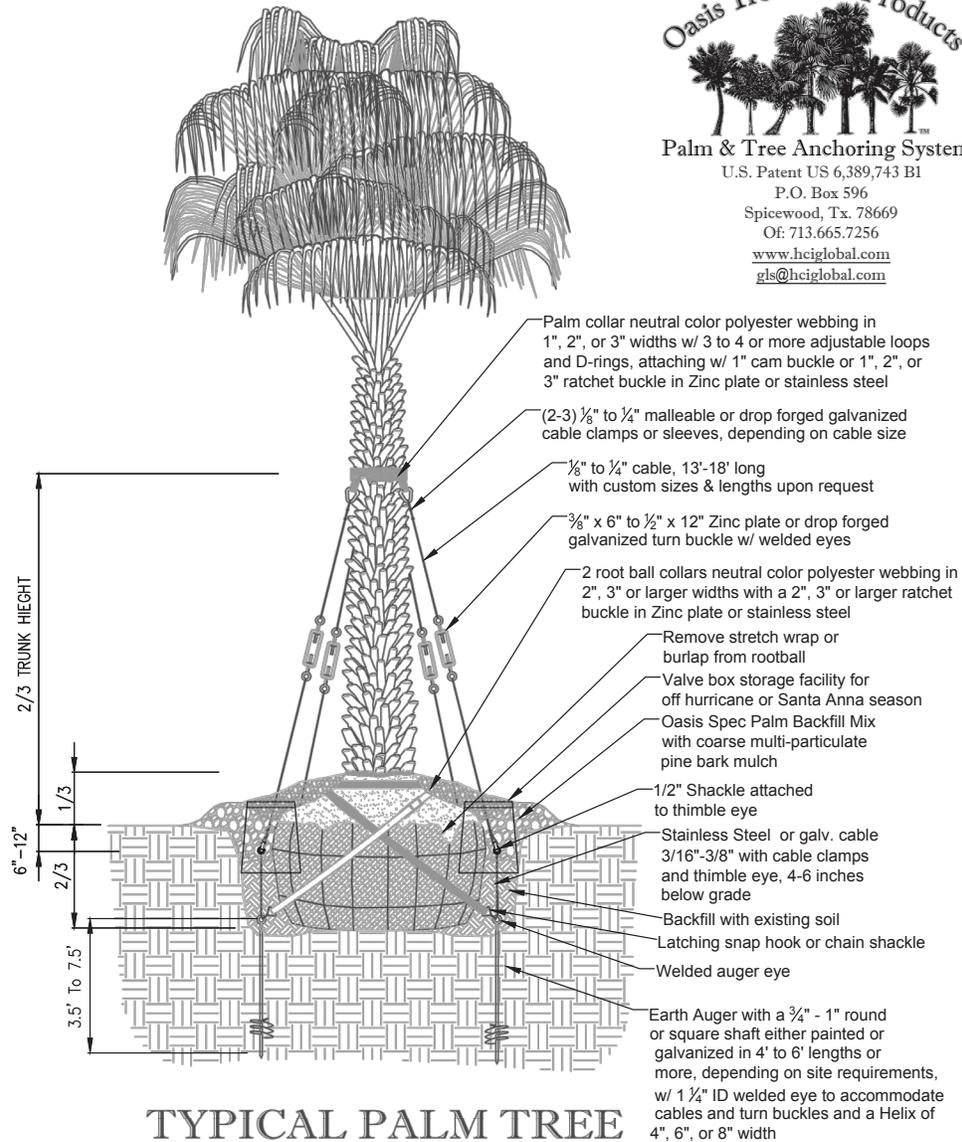
All hardware sizes on details can be specified based on the tree size and specific load requirements. As well all steel components are either zinc plate, Malleable, drop forged galvanized or may be specified in Stainless steel if desired.



OASIS STORM PLANTER SYSTEM

U.S. Patent No. US 6,389,743 B1

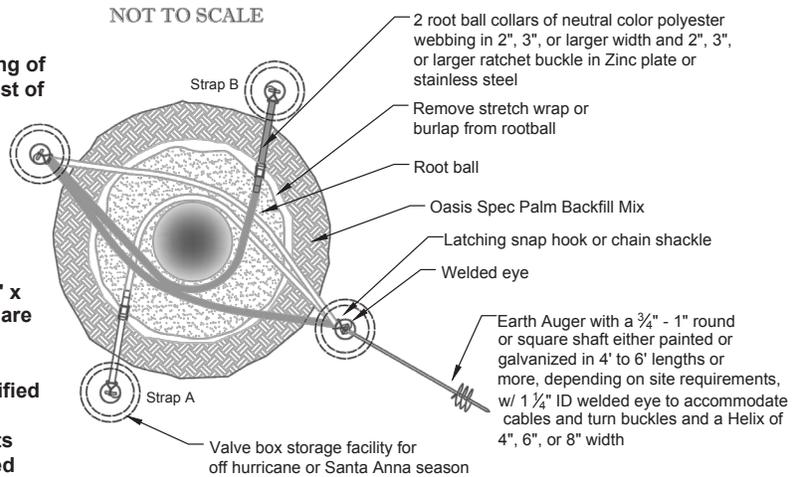
DETAIL 17-U.S.



TYPICAL PALM TREE

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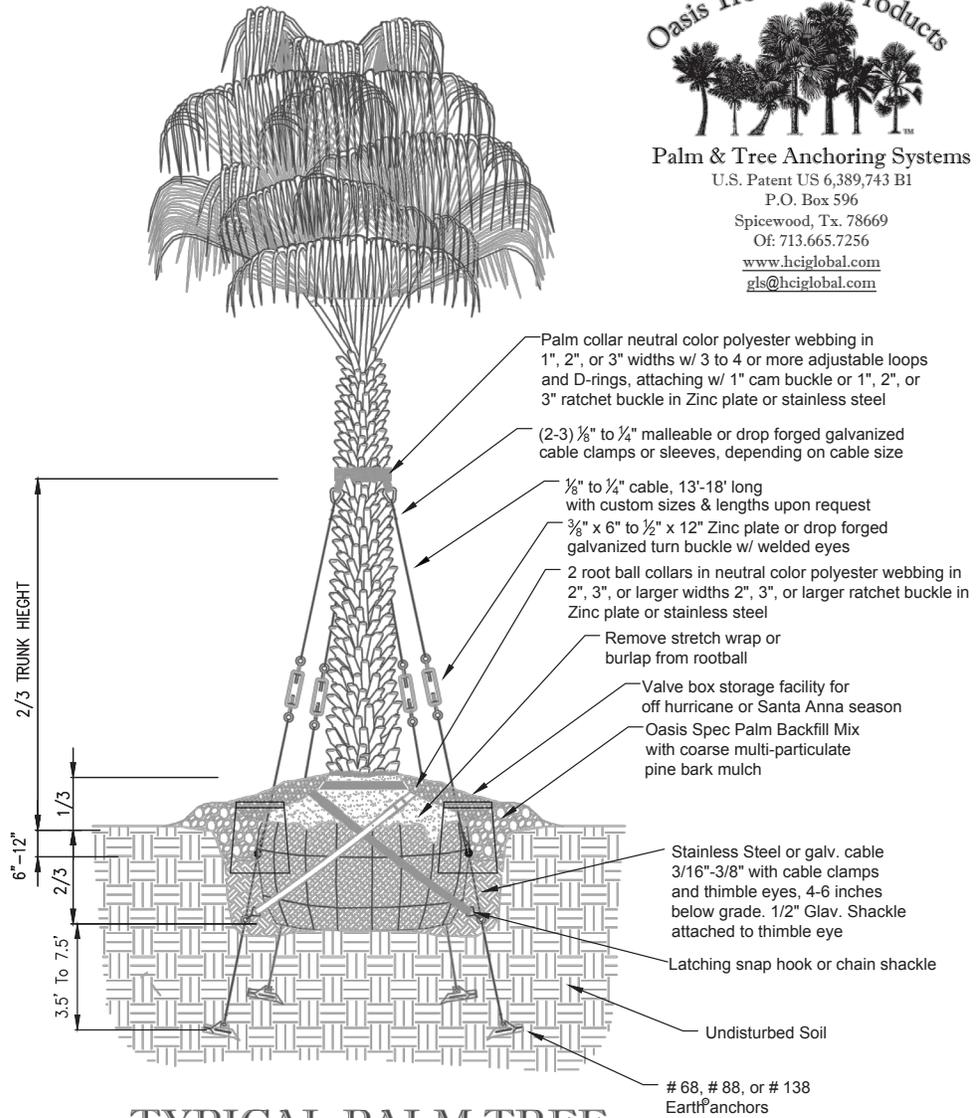
NOT TO SCALE



OASIS STORM AUGER SYSTEM

U.S. Patent No. US 6,389,743 B1

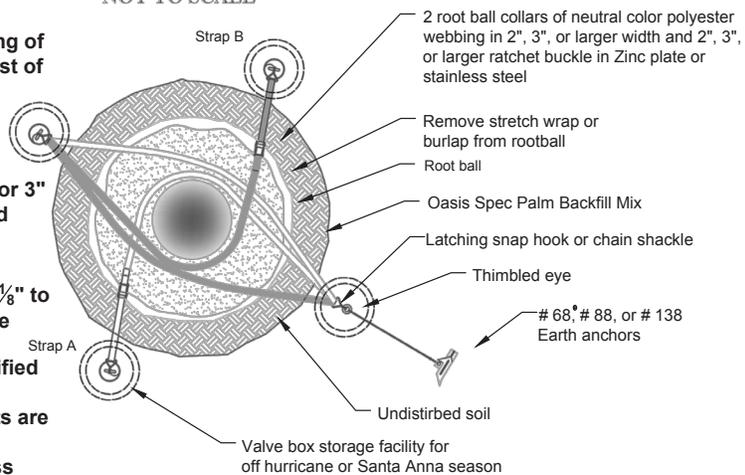
DETAIL 18-U.S.



TYPICAL PALM TREE

NOTES: All Oasis Tree Care Products are superior quality multipart systems which include everything for the secure anchoring of palms and other trees. The systems consist of neutral color high strength polyester webbing in 2", 3" or larger widths. Attached are 3-4 or more adjustable loops & D-rings in compatible sizes to the webbing with a 1" cam buckle or a 1", 2", or 3" Ratchet buckle. Cabling is 7x19 galvanized aircraft cable from 1/8" to 1/4" or larger, if needed, including a 3/8" x 6" to 1/2" x 12" turnbuckles. Completing the systems are 1/8" to 1/2" cable clamps. Combined with Complete Root Ball system. All hardware sizes on details can be specified based on the tree size and specific load requirements. As well all steel components are either zinc plate, Malleable, drop forged galvanized or may be specified in Stainless steel if desired.

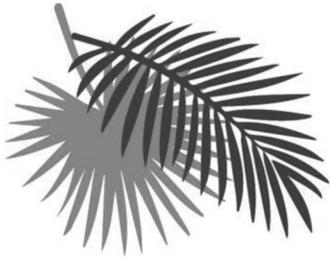
NOT TO SCALE



OASIS STORM-EARTH ANCHOR SYSTEM

U.S. Patent No. US 6,389,743 B1

DETAIL 19-U.S.



THE INTERNATIONAL PALM SOCIETY

The largest society of palm enthusiasts in the world.

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MISSION STATEMENT - The International Palm Society, Inc. is operated solely and exclusively for scientific and/or educational purposes related to the study of palms, their propagation, culture, conservation, care, and development.

IPS BIENNIALS - Join us on the journey as we explore the most remote jungles of the world! As the name implies, Biennials are held every two years. These extremely popular events generally last a week and give attendees a chance to see a wide variety of palms both in cultivated gardens as well as in their native habitats. Palm experts from various parts of the world give entertaining talks during the course of the week that increase each registrant's knowledge about this fascinating plant family. Some of the most knowledgeable palm people in the world attend these events and always welcome questions from anyone who asks.

THE INTERNATIONAL PALM SOCIETY WEBSITE - The Internet's comprehensive source of information on palms in the world. This web site includes extensive information on palm horticulture, online access to over 50 years of articles published in the Palms Journal, *and Principles*, a gallery of images, links to other sites, links to PalmTalk - the world's most active online forum on all aspects of Palms, and much more.

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