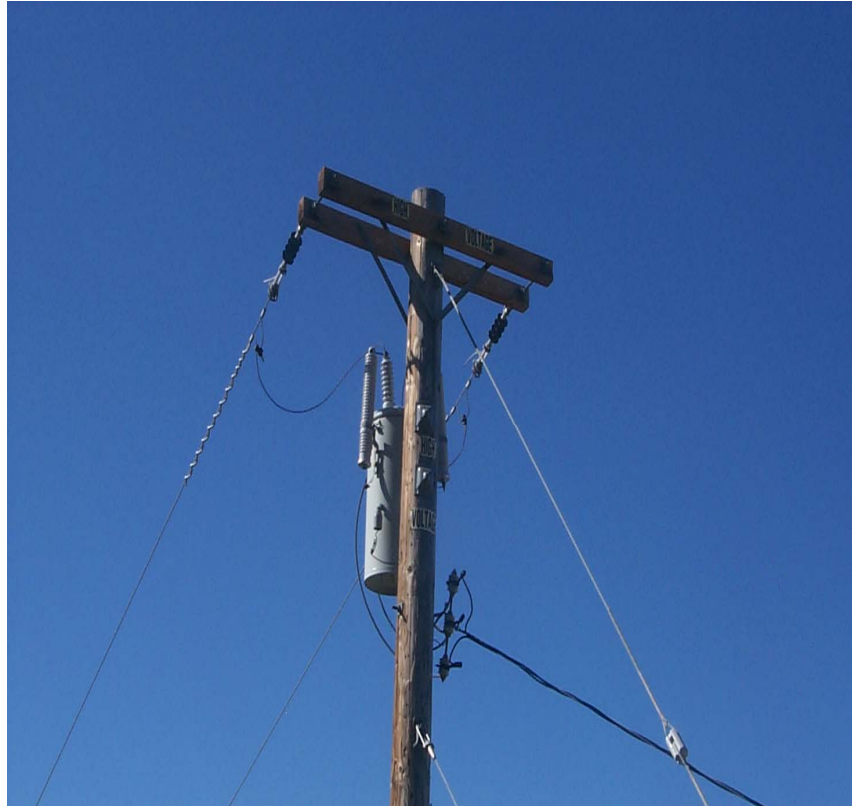


# Pole Brush Pre-Inspection Guidelines

## For Experienced Pre-Inspectors/ Auditors

San Diego Gas & Electric Company  
Vegetation Management System  
Updated: 4/5/10



**VMS Pole Brushing Program**

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# Pole Brush Guidelines- Overview:

Vegetation Management, within the Construction Services Department is responsible for creating and maintaining an inventory of utility poles that have non-exempt hardware requiring brushing (PRC 4292), and with identifying trees that require trimming away from the conductors (PRC 4293) within the San Diego Gas & Electric service territory. Vegetation Management Areas (VMA's) are geographic areas dividing the SDG&E territory into 133 VMA's of which 80 VMA's are in the State Responsibility Area (SRA) and 53 VMA's that are in Local Responsibility Area (LRA) for fire fighting responsibility.



The main purpose of the inventory is to create and maintain an accurate database to ensure safe, reliable, and cost-effective service to our customers and to comply with applicable state laws and regulations. This guide is a supplement to the California Department of Forestry (CDF) Power Line Fire Prevention Field Guide which identifies minimal clearances for utility companies to follow. The guide contains standards necessary to minimize wildland fires that may be caused by the operation and maintenance of electrical power lines. These standards are based upon the studies and experiences of fire agencies and power line operations personnel, as well as on federal regulations and the laws of the State of California. These standards are to be considered **mimimum** guides and field conditions may indicate the need for efforts beyond these guidelines. **It is expected that all personnel** who conduct inspections and surveys of power lines, or who prescribe hazard reduction work or any other fire prevention measures will be thoroughly familiar with the contents of the most recent version of the CDF Power Line Fire Prevention Field Guide.

Field training, listing and auditing are critical to the accuracy and efficiency of SDG&E's Vegetation Management System (VMS). When a VMA is improperly listed it affects every phase of the operation from contractor access, customer complaints and refusals, and additional Contract Administrator field visits. VMA's that are not properly listed put the company at risk for Public Resource Code (PRC) compliance infractions, wildland fires, electrical outages, and public safety issues. VMA's over listed result in unnecessary increased costs, customer complaints and refusals and require the contractor's General Foreman to follow up with customers and then subsequent SDG&E's field resolutions visit which slow down the process and can increase the cost.

## Vegetation Management System (VMS):

The Vegetation Management System is a dynamic system requiring constant field inspections and MDT (Mobile Data Terminal) updates to the database. Indigenous and non-native vegetation continually grow around the base of the utility poles providing fuel for fires. Non-Exempt hardware on the utility poles may spark, arc, and fail causing hot metallic particles to fall to the base of the utility poles and can potentially ignite the fuel and propagate a fire. Pre-inspectors are charged to check every utility pole within the 80 CDF VMA's and identify the non-exempt hardware that may fail and start a fire. These poles are then tagged in the field and a MDT brush record is created to initiate the process of issuing the pole to the brushing contractors and then select records for the auditors to ensure compliance. The MDT record has the specific brushing instructions for the pole brush contractors with owner name, address and phone number when available. Pre-inspectors staple a color 2"x2" plastic tag to the utility pole and place their initials and date with a Sharpie marker. This color tag identifies to field personnel that this pole is a managed pole that requires brushing. If the pole is landscape exempt, the pre-inspector will staple the white side of the 2"x2" tag and place their initials and date on it. This signifies that this pole is in the inventory but it does not need brushing at this time.

## California State Laws:

### **Section 4292 – Power Line Hazard Reduction**

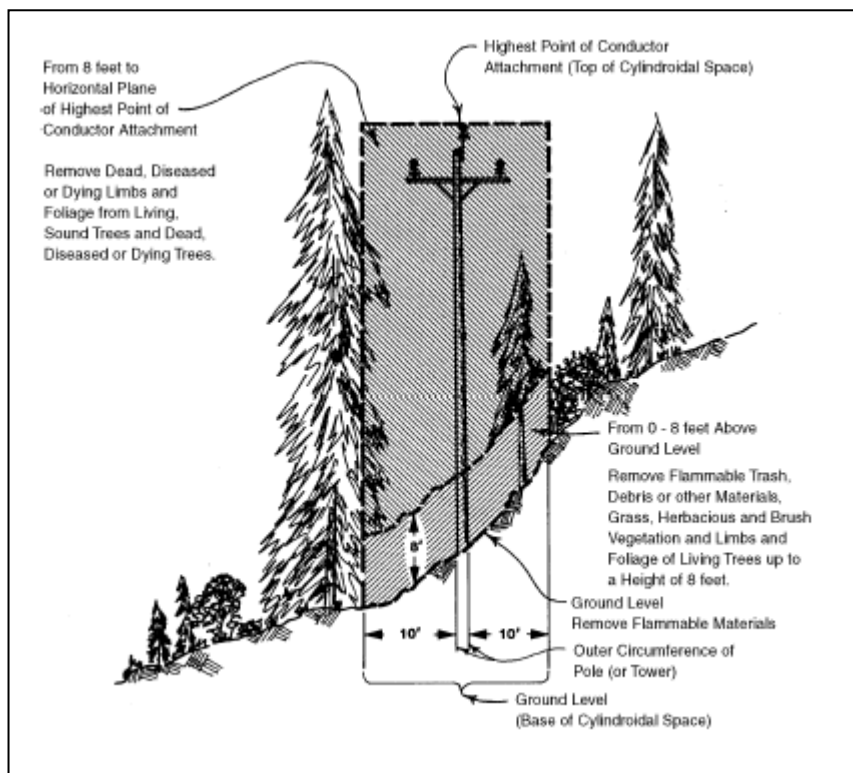
Any person that owns, controls, operates, or maintains, any electrical transmission or distribution line upon any mountainous land, or forest covered land, brush-covered land, or grass-covered land shall, during such times and in such areas as are determined to be necessary by the director of the agency which has primary responsibility for fire protection of such areas, maintain around and adjacent to any pole or tower which supports a switch, fuse, lightning arrester; a firebreak which consists of a clearing of not less than 10 feet in each direction from the outer circumference of such pole or tower. This section does not apply to any line which is used exclusively as telephone, telegraph,



telephone or telegraph messenger call fire or alarm line, or other line which is classed as a communication circuit by the Public Utilities Commission. The director of the agency which has primary fire protection responsibility for the protection of such areas may permit exceptions from the requirements of this section which are based upon the specific circumstances involved.

### Section 1254 – Minimum Clearance Provisions PRC4292

The firebreak clearances required by PRC 4292 are applicable within an imaginary cylindrical space surrounding each pole or tower on which a switch, fuse, or lightning arrester is attached and surrounding each pole, unless such pole or tower is exempt from minimum clearance requirements by provisions of 14, CCR, 1255 or PRC 4296. The radius of the cylindroid is 3.1 m (10 feet) measured horizontally from the outer circumference of the specified pole or tower with height equal to the distance from the intersection of the imaginary vertical exterior surface of the cylindroid with the ground to an intersection with a horizontal plane passing through the highest point at which a conductor is attached to such pole or tower. Flammable vegetation and materials located wholly or partially within the firebreak space shall be treated as follows:



- (a) At ground level – remove flammable materials, including but not limited to, ground litter, duff and dead or desiccated vegetation that will propagate fire, and;
- (b) From 0-2.4 m (0-8 feet) above ground level remove flammable trash, debris or other materials, grass, herbaceous and brush vegetation. All limbs and foliage of living trees shall be removed up to a height of 2.4 m (8 feet).
- (c) From 2.4 m (8 feet) to horizontal plane of highest point of conductor attachment remove dead, diseased, or dying limbs and foliage from living sound trees and any dead, diseased or dying trees in their entirety.

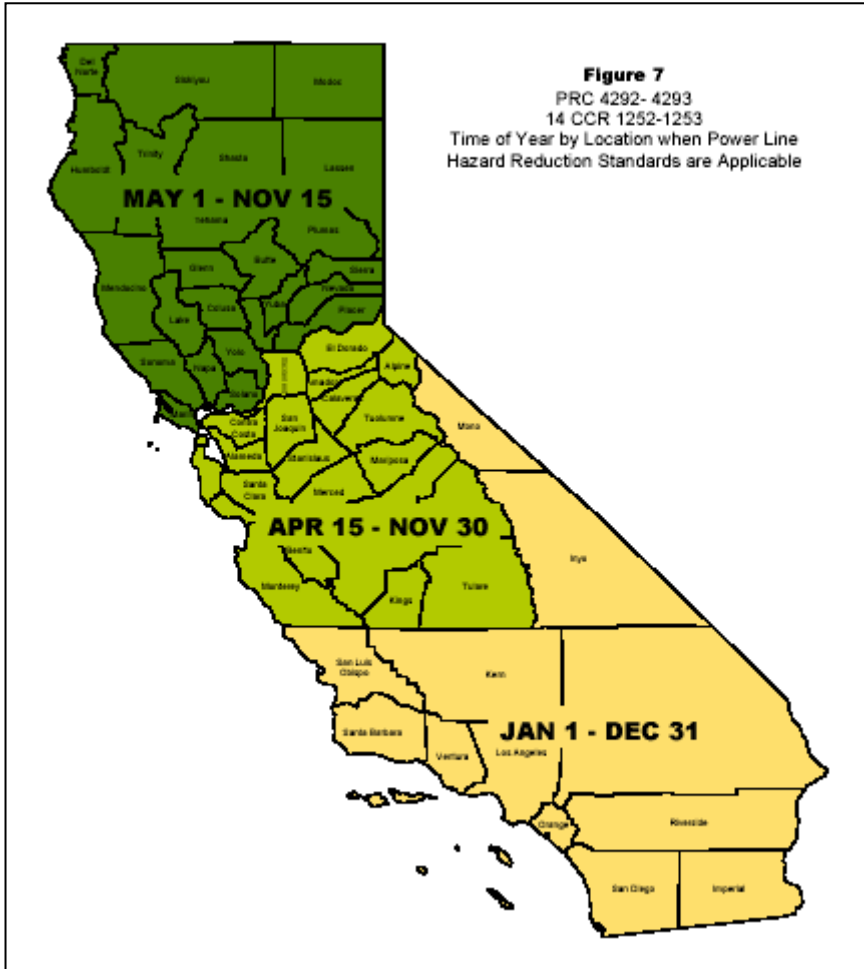
### Definitions:

- (a) Conductor means a wire or a combination of wires, designed and manufactured for use in the transmission and distribution of electrical current.
- (b) Connector means a splice or a splicing device approved for energized electrical connections.
- (c) Duff means partially decayed leaves, needles, grass or other organic material accumulated on the ground.
- (d) Firebreak means a natural or artificial barrier usually created by the removal or modification of vegetation and other flammable materials for the purpose of preventing the ignition or spread of fire.
- (e) Hot tap clamp (HTC) is a connector designed to be used with a grip All Clamp stick (Shotgun) for connecting equipment jumper or tap conductors to an energized main line or running conductor.
- (f) Outer Circumference means the exterior surface of a pole at ground level or a series of straight lines

tangent to the exterior of the legs of a tower at ground level.

## Section 1253 – Time when PRC 4292-4296 Apply

The minimum firebreak and clearance provisions of PRC 4292-4296 are applicable when vegetation, whether living or dead, is flammable and will propagate fire:



- (a) From May 1 through November 15 of each year in the counties of Butte, Colusa, Del Norte, Glenn, Humbolt, Lake, Lassen, Marin, Mendocino, Modoc, Napa, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Solana, Sonoma, Sutter, Tehama, Trinity, Yolo, and Yuba:
- (b) From April 15 through November 30 of each year in the counties of Alameda, Alpine, Amador, Calaveras, Contra Costa, El Dorado, Fresno, Kings, Madera, Mariposa, Merced, Monterey, Sacramento, San Benito, San Francisco, San Joaquin, San Mateo, Santa Clara, Santa Cruz, Stanislaus, Tulare and Tuolumne;
- (c) From January 1 through December 31 of each year in the counties of Imperial, Inyo, Kern, Los Angeles, Mono, Orange, Riverside, San Bernardino, **San Diego**, San Luis Obispo, Santa Barbara and Ventura.

## Section 1255 – Exemptions to Minimum Clearance Provisions of PRC 4292:

The minimum clearance provisions of PRC 4292 are not required around poles and towers, including line junctions, corner and dead end poles and towers:

- (a) In the following areas, if fire will not propagate thereon;
  - (1) Fields planted to row crops
  - (2) Plowed or cultivated fields
  - (3) Producing vineyards that are plowed or cultivated.
  - (4) Fields in non-flammable summer fallow.
  - (5) Irrigated pasture land.
  - (6) Orchards of fruit, nut or citrus trees that are plowed or cultivated.
  - (7) Christmas tree farms that are plowed or cultivated.
  - (8) Swamp, marsh or bog land.
- (b) Where vegetation is maintained less than 30.48 cm (12 inches) in height, is fire resistant, and is planted and maintained for the specific purpose of preventing soil erosion and fire ignition.

# Pre-Inspector Training- Making the calls

When a power pole is located on a privately owned land or in a wild land setting, and the pole has non-exempt hardware SDG&E pre-inspectors must use good judgment in identifying poles to be brushed. In most cases it is easy to determine how the pole should be listed especially in a wild land setting. There is a high percentage of cases where the variables can cause much confusion and frequent errors in listing occur especially to the novice pre-inspector. Field training should include at least two days in the field reviewing utility poles in the urban interface where many landscape and customer/ owner issues occur. In addition to field training, a visit to a local nursery will show the novice pre-inspector the high cost of arbitrarily removing planted desired vegetation from around the base of the pole,

An excellent approach is to look at the “little picture” which is everything within the 10 foot radius and then examine what the “big picture” is or what is just outside of the radius that will promote propagation. Little picture items include:

- ✓ Does hard fixed irrigation exist to irrigate the vegetation around the utility pole and are there ample signs that it works and that it gets turned on?
- ✓ Are there any indigenous chaparral species around the pole? These will require removal regardless of fixed irrigation or customer/ owner requests.
- ✓ What desired vegetation exists around the pole that was planted and is being maintained by the owner? These items will need specific notes stating what should be done or not be done to the planted vegetation.
- ✓ Are there healthy succulents around the pole which aid in fire suppression, landscaping and erosion control? These plants need to be preserved and notes entered into the MDT to leave them alone.
- ✓ Are there any trees with branches greater than 3 inches in diameter? These do not require limbing up but smaller branches within the 8 foot cylindroid need to be removed so they will not become ladder fuels.
- ✓ Does this pole site require multiple brush visits due to bermuda grass, bamboo or messy trees like California peppers, pines, and eucalyptus? These items may require 2-3 visits per year to minimize the fuels. Pre-inspectors need to identify the pole site as a multiple visit pole and identify the reason for the multiple visit note.
- ✓ Cactus, Century Plants, Aloe Vera and Oleander plants require special site evaluation and need notes when they are part of maintained landscapes.

Most importantly the “big picture” plays a huge role in the decision making process. The “big picture” includes what lies immediately outside of the radius of the pole and includes up to, around, behind and in immediately in front of the house or property. “Big picture” thought processes include:

- ✓ Could fire spread out of the immediate area?
- ✓ Are there any firebreaks in the area to slow or stop the fire?
- ✓ What direction does the wind normally blow in this area?
- ✓ How would the wind blow on a hot Santa Ana day?
- ✓ What is your overall impression on how the property around the pole is being maintained?

Remember that Section 1255 of the Public Resources Code 4292, states that the minimum clearance provisions are not required around poles that will not propagate fire out of the 10 foot radius.

The following provides some clarifications to Section 1255. In a broad sense, Section 1255 states that pole sites can be listed as Landscape Exempt if **FIRE WILL NOT PROPAGATE OUT OF THE CIRCLE**. There are always exceptions to the rule and often it is hard to determine if it should be brushed. Pre-inspectors need to anticipate growth up to one year from the time of listing and this can be challenging. The training provided will only get you started. The pre-inspector needs to ask for clarification from their leads and or Contract Administrator if there are any uncertainties in making the landscape exemption calls. **Remember, a landscape exemption puts the liability back on to SDG&E.**

To aid the pre-inspector in making landscape exemption calls, the following Five Step process will aid in making the right call:

1. Can a fire propagate out of the circle? If yes, brush it. Are there enough contiguous fuels that lead out of the circle, if so they must be removed even if it's only raking out the circle.
2. Is there a chance that CDF will issue SDG&E a citation (LE-38) for non-compliance during an annual audit or a field spot-checks? If yes, brush it
3. Has this pole been brushed in the past and is it still non-exempt? If yes, brush it
4. Is this a landscape exemption (LE) and can you properly justify it as LE? If no, brush it. (If the pre-inspector is not sure, the pole should be saved for an opportunity to bring it to the lead/ supervisor or Contract Administrator to assist in making the call.)
5. If there is any doubt about making the right call ask your lead or the Contract Administrator for assistance and or further training.

The Pre-inspector is charged to make a **determination as to whether or not a fire could move out of the 10 foot radius around the pole within the next year**. Additionally, the pre-inspector must make calls on what vegetation must stay and what must go, and put the instructions to the contractor in the MDT records.

### **Fire Behavior- Overview:**

There are numerous things to consider when making decisions on whether to brush a managed pole. Let's start with some basic fire behavior. Two factors that affect wild land fires are **wind** and **topography**. A fire moving across flat ground will move at about the wind speed (if the fuels are light). A fire on a slope can move at up to 17 times the speed of a fire compared to flat ground. This is because the fire can very easily pre-heat the vegetation above it. Poles on slopes or at the **base of slopes are more likely to require brushing because of their potential to propagate fire by preheating fuels and spotting ahead.**

There are a couple of different conditions of fuels. First there are live fuels (living green plants) and dead fuels. The fire behavior of live fuels varies with the amount of water present in the plant. At a certain point live fuels will have so much water in them that you can't get them to ignite (unless you have a large hot fire already burning). When the water content gets low, watch out! The same dead plant can ignite from the spark produced when a weed-eater knocks one rock into another or from a spark from our utility poles.

Live plants can have dead fuels spread around and within them. Chamise is a good example of a plant that has live and dead fuel ratios within the plant. Plants with a large amount of dead fuel ratio within the plant are more of a hazard than other fuels. Normally, if you find plants with large amounts of dead fuels in them, **often they will be in a totally natural setting – not in somebody's front yard – and SDG&E wants this non-exempt subject pole to be brushed.**



The amount of water present in the plants with live fuels varies with the elevation and the time of year. The lower elevations tend to dry up earlier in the year than the higher elevations.

Annual grasses dry out sooner than most other plants at the same elevation. **Grasses are the primary carriers of fire.** The grasses often spring up very quickly and dry out rapidly. Annual grasses at 2,000 feet generally cure by late May. Pre-inspectors need to anticipate the growth of various types of fuels, especially the grasses. Anticipate 1 (ONE) year of growth when making pole brushing decisions. **Therefore, if the area around a pole is clear and primarily dirt the pole has to be listed to be brushed.** Grasses leave seeds buried in the soil and when the rains come they will germinate a few weeks later and put the pole out of compliance creating a fire hazard.

Most Chaparral and other heavy types of vegetation uptake water later in the year (March through June). Chamise has a live fuel moisture content of nearly 100% in late May, and in July and August it can still have a higher moisture content than during the rainy season. Some species are in an extreme fire hazard all throughout the year. Do not discount the threat that Chamise and Red Shank pose year round.

Most indigenous species are a fire hazard in the latter part of the year. **When Santa Ana conditions exist everything gets cured out and coupled with the low humidity, fires are very likely.** It's hot and very dry and during this period CDF will often announce Red Flag alerts. On Red Flag days, pole brushing crews and tree trimming crews can not use any power tools to clear vegetation around the poles. Only hand tools will be allowed until the Red Flag alert is cleared by CDF. During these conditions pre-inspectors should pay extra attention to where they park to prevent from igniting the grasses.

Dead fuels have a different fire behavior than live fuels. The moisture content of dead fuels is generally determined by the relative humidity. Dead fuels can be categorized by how long it takes for them to dry out.

Fine dead fuels like grass absorb moisture at night and when the sun comes up and the humidity drops, they can reach a point where they can easily ignite within one hour. Hence, they are referred to as one-hour fuels. Brush the size of the diameter of your little finger will dry out in ten hours. They're referred to as ten-hour fuels. A limb or trunk the size of the diameter of your arm is an example of hundred-hour fuels.

**CDF and SDG&E will not permit any dead fuels around the base of the non-exempt poles.** If the pole is in a customer's front yard and not being maintained, the dead fuels must be removed. This includes leaves, needle cast, debris and duff. An exemption can be made for some desired maintained plants but the dead fuels must be removed and hauled away by the contractor. Don't forget the fuel on any dead branch(s) in the cylinder below 8 feet and all the way up to the cross arms.

Another consideration **is whether the fuel bed is contiguous.** Are there plants with live or dead fuels right next to each other? When the fuel is in groups, it can preheat the fuel next to it and the fire can spread out in all directions. When the fuels are spread out and separated by mineral soil, the spread of fire is slowed down and its potential is reduced. The volume of fuel present around the utility pole is a critical factor. The more fuel present and available to burn, the greater the fire hazard.

Wind has an effect in pre-heating the fuels. A pole in a windy canyon may have fairly sparse vegetation, but the wind could cause the fire to move out of the ten-foot radius. A fire on a slope will bring the fuels closer together. Another consideration is the type of slope. Is there a chute within the slope? When the topography forms anything that resembles a V (up and down the slope), it is called a chute. Chutes often intensify the fire so they are more hazardous. A pole at the base of a chute will always require brushing.

Succulents are used for erosion control and landscaping by our customers. Maintained succulents contain a large amount of water within the plant and they can help slow or stop the fire. Let's say we have some dried out grass burning next to a succulent like Red-apple ice plant. As the fire burns it tries to heat up the Red-apple to cause it to burn. The amount of heat required to dry out the Red-apple ice plant and get it to burn is greater than the amount of heat energy in the grass, so the fire goes out.

If you have clumps of succulents interspersed with dry grasses, there would be less of fire hazard than if you had a contiguous bed of dry grass. It is possible to have enough succulents to stop or reduce fire spread even if there is some dried grass in the radius. Rocks and other non-flammable material can stop fire spread as well. Dead or unhealthy, poorly maintained succulents must come out of the circle including ice plant and dead cactus. Healthy live cactus does not really burn, it melts. Debris and litter often lie at the base of cactus making it extremely difficult to clear under the cactus and around the base of the pole. In the wild land areas cactus is removed to ease the brushing. On private maintained property; cactus, yuccas, and century plants will require specific instructions to the brushing contractor about what can stay and what specific clearing instructions need to be followed. An example, "Leave cactus, clean underneath". The brushing contractor may need to limb up about a foot from the ground to be able to clean the litter from the base and leaving the cactus.

Grasses and shrubs can spread fire vertically into the low limbs of trees called "ladder fuels". These shrubs grow taller than grasses but not as high as treetops. Some ladder fuels are hard to ignite and others like Chamise will ignite easily from a cigarette or a spark off the utility poles. When pre-heated, Chamise plants give off a gas that is almost identical to jet fuel. **CDF and SDG&E will not allow any Chamise plant within the ten-foot radius** around the poles. When the area outside of the pole radius contains Chamise or Chaparral type plants, the brushing contractor will increase the radius to compensate for the height of these plants and push them back away from the circle radius. Usually, as soon as the "circle of opportunity" is cleared, plants start to move back into the circle radius.

Ladder fuels can spread fire into trees causing a "crown" fire. Crown fires burn extremely hot and pose a great threat to structures. The fire state worsens as it moves into higher and heavier fuels. Pre-inspectors will create MDT brush records for poles when the vegetation allows fire to move vertically through the ladder fuels.

Some customer maintained broadleaf plants can remain at the pole site. These sometimes include scrub oak, western mountain mahogany, ceanothus, laurel sumac and especially manzanita. Pre-inspectors can exempt some of these broadleaf plants around the poles if fixed, ridged irrigation system is in place.

Another "big picture" consideration is the overall general appearance of the property. Some properties are very well maintained and some properties are not with many flammable items and junk located within and around the radius of the pole. These junk items need to be moved away from within the radius to be able to bring the pole into compliance

Landscape exemption calls require descriptive justification notes detailing what the pre-inspector observes on the property at the time of listing. Examples of some landscape exemption pre-inspector notes are: Irrigated and maintained grass, Road firebreaks surround pole, Irrigated/ maintained grove. Often the pole sits along a fence line and only the outside of the fence requires brushing thus the note will read: Leave inside of fence alone, brush outside of fence only.

In some cases desired vegetation exists around the pole and the pre-inspector needs to identify the plant and or describe it by its appearance. Some examples of notes to leave desired vegetation include: Leave rose bushes; Leave Oleander, clean under only; Leave small green bushes, clean under.

Experience, time and attention to detail in the field are key elements for making landscape exemption calls accurately. The pre-inspector is encouraged to utilize his lead/ supervisor and Contract Administrators for guidance when there is doubt about removing maintained desired vegetation when it's not necessary. The pre-inspector can save the poles with questions and mark the pre-inspector map and even use MDT markup layer to identify the location of the poles that need clarification. The lead/ supervisor or Contract Administrator can then schedule time to review the questions with the pre-inspector in the field.

## Landscape Exemptions:



It is clear that this utility pole needs brushing due to its location and volume of vegetation immediately around the pole, upslope of the pole and down slope of the pole. Not all brushing calls are this clear. By using the “little picture” and “big picture” concept it should be easier to make proper brush listing calls.



### Landscape Exemption:

- ✓ Hard fixed irrigation
- ✓ Red Apple Ice plant
- ✓ Pave roads providing firebreaks x2, Driveway
- ✓ Mulch in this case is irrigated and maintained.
- ✓ Landscaped, maintained by owner.
- ✓ Overall assessment of property is that it's being maintained by owner.

“Big picture”, what would a fire do in this situation? The fire would move very slowly and probably extinguish itself. The fire risk here is extremely low.





Landscape Exemption:

- ✓ Healthy Ice plant
- ✓ Maintained lawn (no irrigation within radius but its clear water is getting to radius)
- ✓ Road firebreak
- ✓ Property is meticulously landscaped and maintained.
- ✓ Note: White 2"x2" tag identifying it as a LE pole.



Landscape Exemption:

- ✓ Paved road firebreaks
- ✓ Landscaping gravel rocks
- ✓ No irrigation present around radius but at radius edge.
- ✓ Overall the property is being maintained by owner.

“Big picture” what would a fire do in this situation? The fire would move very slowly and probably extinguish itself. The fire risk here is extremely low.



#### Landscape Exemption:

- ✓ Maintained yards by owners on both sides. There is no irrigation immediately around the pole but the grass is green and healthy.
- ✓ Paved road firebreak, driveway.
- ✓ “Little picture” makes a case for brushing because of no hard fixed irrigation and grass within the radius.
- ✓ “Big picture” should assist the pre-inspector to use an exemption. Both properties are maintained by the owners and being irrigated.

Looking at the same pole from a different view shows another firebreak the driveway.

“Big picture” what would a fire do in this situation?

It would have a hard time escaping the fire breaks and probably extinguish itself. The pre-inspector needs to take everything into consideration when making the call. In this case, the best call is to landscape exempt the pole with a Listed Clear (LC) status code which will keep the record in the database and require an annual visit. If at anytime the property owners stop maintaining and irrigating their properties, then the status code could be changed to List to Trim (LT).







Landscape Exemption would not apply here:

- × No Hard fixed irrigation is present in the radius.
- × Healthy ice plant is spread out in patches
- × Flowers have been planted within the radius.
- × “Little picture” has large patches of dirt.
- × “Big picture” presents a large volume of high grasses along the fence line leading out of the circle to more grass and

light brush which can propagate fire out of the circle and to other properties.

Landscape Exemption would not apply here:

- × No hard fixed irrigation within radius of pole.
- × Grasses leading out to higher grasses.



- × Property is not being maintained along the roadside slope which has heavy grasses and ladder fuels which could ignite the skirts on the palm trees. Note: The radius is measured horizontally from the center of the pole,



Landscape Exemption:

- ✓ With or without irrigation this pole would warrant landscape exemption. By the book a case for brushing the pole could be made unless you take the “big picture” into consideration.
- ✓ Firebreaks from two driveways and paved main road.
- ✓ “Big picture” what would a fire do in this situation? It would have a hard time escaping the firebreaks and probably extinguish itself. The fire would move very slowly and eventually extinguish itself. The fire risk here is extremely low.
- ✓ Both properties are landscaped and maintained.



Landscape Exemption:

- ✓ No hard fixed irrigation within radius but the edge of radius has maintained landscaping.
- ✓ Landscaping gravel rocks reduce the grass growth.
- ✓ Two driveways and paved road providing firebreaks.







### Landscaping Mulch:

If a spark lands in Mulch it can smolder out of the radius and propagate fire. The “big picture” concept is key when making decisions on removing mulch out of the radius. If irrigation is present or nearby to wet the mulch, then the pole could be landscape exempt.

This mulch is adjacent to a firebreak which is a paved road. There is no irrigation within the circle radius but the mulch is part of a maintained and irrigated landscape with a park and lake nearby. In this case, this pole would be landscape exempt and the mulch would not be removed.



### Landscape Exemption:

- ✓ Paved road firebreak
- ✓ Irrigation is present along the fence line.
- ✓ Plants are part of a privacy screen, if you brush this pole you must instruct pole brushing contractor to clean underneath and NOT to limb or remove the plants.



- ✓ Property is meticulously maintained with ice plant on the other side of the fence.
- ✓ This call could go either way but when you utilize the “big picture” there is low risk for fire propagation at this pole and LE would be the best call to make.



## Hardscape Exemption:

To qualify for hardscape exemption the 10 foot radius of the pole must be encircled by asphalt, concrete or heavy landscaping rocks/ gravel. Grasses should not be able to propagate within the circle radius at any time. Hard packed dirt would not qualify for hardscape exemption because of the seeds within the soil which will germinate upon the first rain. No landscaping justification comment is needed as long as the pre-inspectors abide by the same definition and everyone recognizes hardscape exemption in the same manner.



**Hardscape Exemption**



This pole would **NOT** qualify for hardscape exemption. The outer edge has packed dirt which has grass seeds buried in the soil which will grow grass and propagate a fire to other nearby grasses.

## Private Property Access:

Pre-inspectors will at all times respect private property and abide by the following standard approach when gaining access:

- Never leave any gates or locks open. If you open a gate or lock, **always** put them back in the SAME way you find them to prevent locking out the owner.
- Always park your vehicle facing out to be able to quickly exit the property if the need arises. The last thing you want to do is damage the sprinklers or run over something when asked to leave the property. Never block the owner's garage or driveway trapping them in their own property or blocking their access to their garage or driveway.
- Always make your presence known. Knock on the door, ring the doorbell and if there is no response honk your horn to announce yourself. Have a sign made that has your business card attached and a brief description on what you're doing on the property. Place this sign on the driver's side window in case the owner comes out after you have left your vehicle to inspect the utility pole.
- Have several key talking points prepared to explain what your purpose on their property is. When explaining the reason for your visit, be sure to stress that this is for the purpose of **fire prevention** and to comply with state laws.

## Dealing with sensitive customers:

### **Avoid conflict:**

- A locked gate especially with no SDGE access is a potential difficult customer or refusal. Research the MDT record **before** going onto the property and be familiar with potential conflicts and past history especially any agreements made with the property owner.
- If the MDT record says, "Always call first before entering property", that means you. Don't take a chance and make the call and talk to the owner and if necessary setup an appointment with the owner. Sometimes it's for your safety when the owner needs to put away large unfriendly dogs.
- If you're going to interact with a sensitive or refusal customer GET EDUCATED before entering the property! Read the tree notes and the pole brush notes and be aware of any agreements or problems with either brush contractors or previous pre-inspectors.

### **Customer Interaction:** Put yourself in the customer's position.

- Be respectful and polite at all times. Never match their anger or attitude; you will always lose if you lose control.
- Introduce yourself as an SDG&E representative. Approach the owner and shake their hand to make that human connection right away.



- Explain to the customer what you need to do, why you need to do it, how long it will take to do it, and when and how any future work will be done. Allow the customer to ask questions and answer them to the best of your ability. NEVER lie, if you don't know the answer refer them to your lead/ supervisor or Contract Administrator. Take the time to explain what work will be done and educate the customer/ owner..
- Always acknowledge what ever they are upset about regardless of who was at fault. This will reduce the tension and open up the lines of communication.
- Use active listening skills and be respectful. When they talk you listen and NEVER interrupt them. Display body language that shows that you're listening. Maintain eye contact, be attentive, and repeat their concerns back to them. Never take notes while they are talking for this could be disrespectful or rude.
- Never make promises that your company or SDG&E can't keep.
- Always have your business card in your pocket and your SDG&E contractor identification badge on you at all times. If you're ever challenged by the owner refer them to your lead/ supervisor or Contract Administrator.
- If you're ever threatened, or the owner becomes extremely difficult to handle politely leave the property. Report **ANY** problems with customers immediately to your lead/ supervisor AND Contract Administrator no matter how minor it may seem.
- Always get a sensitive customer and refusal list when listing any VMA. Use the list to create mark up graphics on your MDT to alert you when you approach these properties. Your GIS listing map has some of the refusal properties marked up in red for both poles and tree refusals. These are not 100% accurate so use all of your lists and tools to "get smart" before blindly entering properties and escalating sensitive customers to refusals.
- A suggestion to the pre-inspector is to keep a journal of unusual, out of the ordinary events that occur during the course of the day. Often complaints escalate after a few weeks and the journal will help remember some of the details. Other journal entries could include field visits by leads and supervisors documenting any production time loss due to training or review of their audits. It's the pre-inspectors responsibility to account for their time in the field and be able to document any loss of production time. Remember, if it's not written down, it did not happen.

# **Special Situations**

## **Utility poles that have never been brushed:**

All poles that have not been previously brushed will require further review to identify any potential environmental issues which could violate the 50 year permit. A comment has been created to flag the poles that need further review. The comment is, "Alert: New Pole Needs Further Evaluation". When the comment is inserted into the brush notes the pre-inspector will always use the status code "no work required" which will create a Listed Clear (LC) MDT record. This LC status code prevents the new brush pole from being released to the contractor and the pole getting brushed before the environmental review is complete.

**Definition:** A pole that has never been brushed is based on the absence of any signs of mechanical clearing around the pole in over two years.

A pole with an MDT record that has been landscape exempt for one or many brush cycles DOES NOT qualify as a new pole even though the MDT shows that the pole has never been brushed. This example simply needs a status code change from LC to LT and no further review is needed.

**The following are examples of Poles REQUIRING the comment, "Alert: New Pole Needs Further Evaluation" and the status code Listed Clear (LC) to prevent the record from getting brushed before the ESA review is complete:**

- Pole sits in native vegetation (chaparral, coastal sage scrub, natural brush)
- Pole is located in a riparian zone, drainages, and marsh areas.



**Coast Sage Scrub (CSS)  
Native brush types (buckwheat,  
chaparral, laurel sumac)**



**Wetlands are not covered by the NCPP and require additional permits.**



**Riparian Areas have specific breeding seasons and drainages are not covered by the NCCP.**



## New Utility Pole Field Procedure:

- ☑ Create a new brush record. If the pole has not been brushed in the last two years and is not a previously landscape exempt pole, add the comment "Alert: new pole needs further evaluation". Using the MDT, select the "no work required" option and place the record in a Listed Clear (LC) status. Include the appropriate brush notes, hardware information and location information as well but leave the pole in a LC status. The pre-inspector will then update the MDT record and tag the pole placing their initials and the current date on the 2"x2" pre-inspector tag. Tag the pole with the colored side showing even if the pole needs further environmental review and is initially given a Listed Clear status code.
- ☑ If the pole does not have a valid UFID, the pre-inspector will not be able to create a brush record. The pre-inspector will then complete a "J" sheet collecting all of the required listing information, fill out a GFMS Mapping Discrepancy form and tag the pole. "J" sheets and GFMS Mapping Discrepancy forms will be submitted in the pre-inspection certification packet to the Pre-inspection Contract Administrator.
- ☑ If the next departmental VMS map refresh is months away and the pole needs to be brushed sooner, a manual bubble (Memo) will be issued to the brush contractor after the environmental review is complete. Pre-inspectors should alert the Pole Brush Contract Administrator of any pole awaiting environmental review that is in a high fire danger area where there are 5 or more acres of flammable vegetation. These poles will be given priority and brushed as soon as possible.
- ☑ Any questions on how to properly complete a GFMS Mapping Discrepancy form can be referred to Appendix 6. It's extremely important to capture as much of the requested information as possible. Use your lead to assist you with items that may be unfamiliar, like the height of the pole, the pole class and ALL of the hardware on the pole. All of this information is on the pole or in your MDT and it needs to be on the GFMS Mapping Discrepancy form for prompt processing.

## **Special Situations:**

### **Bird Nests**



**Special Situations:** The CDF Fire Prevention guide (page 1-7) states that when poles with nests of large raptors are discovered, the pole and or tower base must be cleared of all vegetation as a fire prevention measure. The large birds and raptors wings could cause a “phase to phase” and or ignite the bird which will fall and then propagate a fire. Additionally, just the existence of birds poses a threat of a short by their waste products falling into the insulators causing them to short circuit. When a pre-inspector discovers a nest the pole will need brushing whether the pole facility has hardware or not. The pre-inspector will tag the pole, create a pole brush record (if necessary) and add the canned comments “Raptor Nest” **and** “Alert: New pole needs further Evaluation” in the brush notes. The pole brush record should be Listed Clear by choosing the “no work required” status. The presence of a raptor nest requires further environmental review even if the pole has been brushed in the last two years. It has been determined that the act of clearing around the base of a pole will disturb a nesting raptor and it is important that we coordinate our brushing with a biologist to mitigate our impact. Once again, Pre-inspectors should alert the Pole Brush Contract Administrator of any pole awaiting environmental review that is in a high fire danger area where there are 5 or more acres of flammable vegetation.



## Special Situations:

### **Erosion Poles**



Special Considerations: Erosion Poles pose a significant threat to the environment and to the property owners. In some cases an exemption could be made for vegetation maintained for the specific purpose of soil erosion. Pre-inspectors should not make any promises to the owner but forward these poles on a “J” sheet to the Contract Administrator for review. In many cases these poles are in the MDT as a refusal pending a workable solution to the owner’s concerns and how to deal with the erosion issues in the most cost effective way. Do not change any comments in the MDT about erosion issues and refusal information.

## **Pole Brush Pre-Inspection- Overview:**

A dispatch order is created for the pre-inspector by the Listing Supervisor and loaded into your Mobile Data Terminal (MDT). The latest GIS pre-inspector map is created for documenting daily progress, adding or deleting poles or lines and documenting customer issues, gate codes or areas not listed. The pre-inspector can use the back of the GIS map to add any additional comments. When the pre-inspector is within 3-4 days of being done with their assigned VMA's, they inform their supervisor/ lead that they will need a new listing dispatch order and VMA. This information is given to the Listing Supervisor to review current listing schedules, contractor brush and tree activities and open dispatch orders that will not conflict with a new VMA assignment.

### **Brush Pre-inspector Reports needed:**

Active Pole Refusal list from Refusal database (located on "J" Shared drive)

Active Pole Refusal Report (BM021 Standard Report)

Sensitive Customer Report- Trees (CI103 Standard Report)

Area Forester Tree Refusal/ Sensitive Customer Word document (located on "J" Shared drive)

Active Pole Brush Refusals for VMA (REF002 Standard Report)

Refusals Needing Follow up for VMA (REF003 Standard Report)

Resolved Pole Brush Refusal for VMA (REF004 Standard Report)

### **PRC 4292 Listing Process:**

Upon completion of training and demonstrating proficiency, knowledge and competency with their ability to use their MDT, the pre-inspector will report to the IT support staff at 6:30 am to have their dispatch order loaded onto their MDT. A new pre-inspector will commence in their VMA with a pole brush supervisor/ lead with them for the first few days of listing to continue their "live" training. Daily and weekly audits will be performed on the new pre-inspector to catch any deficient training issues and any trends identified. Any data corrections found during supervisor/ lead audits will be given to the pre-inspector for correction into their MDT's. A comprehensive audit will be performed by the lead/ supervisor at the completion of the VMA and before the dispatch order is closed to catch any additional pre-inspector corrections.

The pre-inspector will check each pole in their assigned VMA for the non-exempt hardware and properly identify the hardware. There are currently only five main hardware categories:

**Split bolt Connectors** (single split bolts or double which range in size located on primary and transmission circuits to include Fargo and LM connectors)

**Hot Tap Clamps** (all hot tap clamps are non-exempt including spring loaded which are exempt in some of the other utilities)

**Lighting Arrestors** (all types to include the ceramic and polymer style and regardless of their length)

**Fuses** (the only exempt fuse is the non explosive fuse)

**Switches** (all hook, gang and SCADA remote controlled switches are non-exempt which includes solid blade disconnects and inline disconnects).

When any non-exempt hardware is identified, the utility pole becomes a managed subject pole which now requires the 10 foot firebreak per PRC 4292. The pre-inspector will collect data into their MDT which will create the contractors brush work orders (bubble sheets).

A current year color 2"x2" pre-inspector tag is then stapled to the utility pole with the pre-inspector's initials and date. The tag needs to be placed about shoulder height facing towards the road or in the direction where it can be the most visible. The pre-inspector tag color is changed every cycle to aid the brushing contractors, auditors and supervisor/ leads to identify current year listing. "**ORANGE**" 2"x2" tags are placed on the poles by the brushing contractor after a chemical treatment is applied to the circle radius. The **ORANGE tags should NEVER be removed** by the pre-inspector at anytime. Landscape Exemption poles are managed inventory poles but don't require brushing and they are tagged with the WHITE side of the current year pre-inspector tag. The pre-inspector will remove the previous year's tags and properly discard them off the owner's property.



**Pre-inspector Tag with Date/ Initials**  
**Orange Chemical Treat Tag**  
**(DO NOT REMOVE ORANGE TAGS!!)**



**White Pre-inspector Tag**  
**(Landscape Exemption)**

# Pole Brush Pre-Inspection - MDT Record Creation:

When non-exempt hardware is located on a utility pole the pre-inspector will create or update the MDT brush record.

## Brush notes tab:

**Edit Brush** [1771874, 392361]

Brush | Location | Refusal

Pole ID : P215270

Status  
 No Work Required  No Status Change - Edit Only  
 Needs Brushing

Possible Notes

- Fuse
- Switch
- Split Bolt Connector
- Landscape Exemption
- Hardscape Exemption
- Clear Light Brush
- Clear Heavy Brush
- Trim Above Ground - Light Wood
- Trim Above Ground - Heavy Wood
- 4 Wheel Drive Vehicle Required
- Located in Orchard
- Steep or difficult terrain
- No Chemical per owner
- Clear Both Sides of Fence
- Clear ALL Sides of Fence

Applied Notes

- Leave healthy ice plant/flowers- clean under
- Clear Grass
- Clear Leaves and Debris
- Hot Tap Clamps
- Lightning Arrestor

Last Visit : Thu December 16, 2004 @ 12:00:00 AM

Last Brush :

**The pre-inspector will identify all of the non-exempt hardware** and group it into the 5 main hardware categories which are: Hot Tap, Lightning Arrestor, Fuse, Switch, and Split Bolts. Highlight the correct hardware from the possible notes column and use the right arrows to move the hardware selected into the applied brush notes column.

Select the needed instructions to the brushing contractor about what work needs to be performed at the pole, Example: clear grass, clear leaves and debris, trim above light.

The following is a list of possible notes **NOT** to be used by the pre-inspector:

Signed Refusal- Do not trim (will only be used by Contract Administrator working with Refusals)

Verbal Refusal- Do not trim (will only be used by Contract Administrator working with Refusals)

Fire 2003- Remove from inventory.

Fire 2003- Reliability work complete

Fire 2003- Reli-trim to safe height

Leave maintained ground vegetation.

Leave maintained above ground vegetation.

Access down private road.

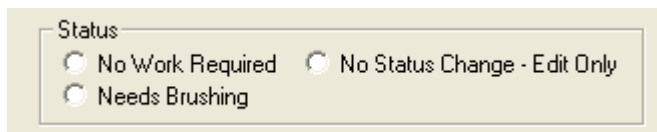
Access down easement road.

Access from adjacent road.

Other notes that can be inserted to the applied notes column deal with directions to the pole especially when utilizing a matrix address for a pole that does not have a true physical address. Directions must be based on the closest physical landmark or address utilizing distance in miles and cardinal directions. (Pre-inspectors will not use left, right, up or down in their directions.) Directions will need to be numbered so when they print they can be sorted alpha first, then numeric. This will allow the directions to print and be read in order. Examples of physical landmarks that can be used in creating directions are: mile markers, road intersections that are identified in newest Thomas Brother's map, overpasses, bridges and permanent road signs. Use your reset odometer to reference in miles how far and in which direction you are from the landmark.

Pre-inspectors can add any specific conditions found at the pole like caution: bees, caution: poison oak, no chemical per owner, Number on Pole is (abbreviated NOPI:).

It is imperative that the Pre-inspector read all of the existing notes for accuracy. Do not remove notes that deal with sensitive customers, refusals and/ or refusal resolutions. Do not remove notes that have special instructions on how to access properties, location of wells, No chemical per owner, Call first for access, and any specific comments and or pole notes that contain the initials DES or MO. Deleting these types of notes can result in customer refusals and complaints which often result in expensive claims.



The image shows a screenshot of a web form titled "Status". It contains three radio button options: "No Work Required", "No Status Change - Edit Only", and "Needs Brushing". The "No Work Required" option is selected.

When the pre-inspector has completed entering the comments into the applied notes field, a status option needs to be selected.

No work required- will produce a status code of LC (listed clear) and will not issue the record to the contractor.

Needs brushing- will produce a status code of LT (listed to be trimmed) and will issue the record to the contractor.

No Status Change- Edit Only will not be utilized by the pre-inspector. This feature is reserved for future editing of records without changing the status code reserved for leads/ supervisor and back office personnel.

\*\* The system will prompt the pre-inspector to select a status code if the record is attempted to be updated or created without one. The pre-inspector must pay attention to the status code assigned and to the graphic created after exiting the record. If the status code and graphic does not match the intended option, you must reopen the record and correct it. This is the most common listing error due to lack of attention to detail. \*\*



**Location tab:**

Brush | Location | Refusal | [1771874, 392361]

Vegetation  
Address Street City Zip  
15430 FRUITVALE RD VC 92082

Thomas Brothers 1070 - J7  
VMA 391

Type Private Poles P215270 P215270  
Forester comments

Notes  
Type Description + m -  
Access to property Contact Owner for back yard access  
Misc. Information : Gary Griffith 760 749 6390

Owner  
Name (Same as Tree)   
Address Street City Zip  
15430 FRUITVALE RD VC 92082

Contact  
Name  
Phone  
Time

YY25762 - Assigned to Trimmers

Update Cancel

It is critical for the pre-inspector to always collect sufficient data to properly identify the right property to the right owner with the right home and/ or work phone numbers. This is essential for proper notification by the pole brush contractors before they can start any work on private property.

**Correct address, city and zip:** This can be retrieved from customer at transformer or by doing a **meter number** look up (use the customer information query screen) and then verifying that against the mailbox, house numbers and or street numbers. Often there may be multiple owners and the pre-inspector may need to research up to four (4) property owners. When the pole sits on a property that does not have a property address then the matrix system will be utilized giving the pole an "X" address which means that this is a reference address that does not really exist in the field. The address will be based on the closest address (4300X Bell Street) with directions from that address to the pole utilizing distance in miles and cardinal directions.



Typical SDG&E Meter:

Meter number: 1691954

Enter this into the GO TO customer information box to get the customer at the meter.

**Customer Information**

Name: COX COMMUNICATIONS INC

Address: 2924 SCENIC VIEW RD

City: AP Zip: 91901

Home: [ ] [ ]

Work: 619 266-5479 x [ ]

Account: 531362048202

Meter: 1691954 [Clear] [Find]

Transformer: 357-639

ESP: San Diego Gas & Electric 0

[Goto Customer] [Goto Transformer] [Exit]

Here are the results from doing a meter search on meter 1691954.

Attention to detail is critical to the success of this program. The location page is shared by both the poles and trees thus changes to the location page can affect hundreds of tree records. The pre-inspector must use caution in the correct spelling of the address and avoid all punctuation and special characters.

Vegetation Address

Address: 15430 Street: FRUITVALE RD City: VC Zip: 92082

In the address field only numbers are allowed with the exception of the matrix "X" address. When a pole does not physically belong on a real property a matrix address is used. Placing a "X" behind the closest valid address denotes that the property address is a matrix, example 15430X. This means that on 15430 there probably is a valid address with owner information but it does not belong at 15430X. The current pole may be across the street from the real address but we do not want the owner information of the real 15430 to populate our made up record identified by the "X" matrix. The matrix address is to help find the pole in relation to a real address. Specific directions from the real physical property need to be placed in the brush notes using cardinal directions and distance in miles from the real physical address.

Here's an example of why it's so important:

15430 Fruitvale RD is a property.                      15430 Fruitvale Road is another property

15430 Fruitvale RD. is another property.                      15430 Fruitvale Rd is another property.

The pre-inspector needs to be consistent on using the street name format while on that street. No additional spaces or special characters are allowed. If a street has several names like Hwy 76 which is aka Pala Road. In that case a miscellaneous note is entered to show both names which are correct.

The city and zip are taken from the customer at transformer information screen as shown above. The goal is to have all of the poles and trees listed to the SAME property so all listing information can be shared within the two programs on the location page. This is critically important when dealing with refusal and sensitive customers.

Note: Pole specific information must go on the brush page and not on the property page. The property page is shared between poles and trees and only property information intended to be shared between both programs goes on the property notes.

Note: The contractor work orders (bubble sheets) will print the location page information for both pole and tree bubble sheets thus specific pole notes go on the brush page so they don't print on tree bubble sheets.

**Ownership Type** is defaulted to Private.

Vegetation  
Address Street City Zip  
15430 FRUITVALE RD VC 92082  
Type Private Poles P215270 P215270  
Notes  
Type Private  
County  
State  
Federal  
CalTrans  
Misc. Trolley  
State Park  
BIA  
BLM  
US Forest Srv  
CDFG  
Description Contact Owner for back yard access  
Griffith 760 749 6390  
Name (Same as Tree)

The property type pull down menu brings up the other choices as noted in the above graphic. It's critical that the pre-inspector NOT change the property type without consulting their supervisor/ lead or contacting their Contract Administrator. Numerous properties that belong to US Forest Service, Indian Reservations, and BLM have been researched and identified utilizing GPS and land status property maps. Changing the type could result in herbicides being used on Federal land that will not allow them. The pre-inspector will leave any associated property type notes on the location and brush notes page alone.

The ownership type pull down menu does not print any data on the bubble sheet thus the Contract Administrator has placed a note on the location and brush notes page telling the contractors of the land status ownership. DO NOT remove those notes.

Notes  
Type Access to property Description Contact Owner for back yard access  
Misc. Information : Gary Griffith 760 749 6390

Property notes will include the correct owner, home and or work phone numbers. The property notes are shared by both tree and pole programs. Changes made to this page can affect all poles and all trees on the same property. Extreme care must be taken when altering the property address. The pre-inspector will leave any updated customer information that differs from customer at transformer data and or any notes that have initials of DES or MO and a date.

Extreme care must be taken when data populates or data disappears from the location page. This can easily lead to data corruption and alter hundreds of tree records. If there is any question on the data that populated when entering the address, the pre-inspector is instructed to EXIT the record and start over paying particular attention to the data being entered and ensure that the data he is allowing to stay populated or data disappearing is what is needed for both programs. Attention to detail while collecting property information is essential to prevent data corruption.



**Other notes and pull down notes include:**

The screenshot shows a 'Notes' window with a 'Type' dropdown menu set to 'Access to property'. The 'Description' dropdown menu is open, showing a list of options: 'Contact Owner for back yard access', 'Beware of Dog(s)', 'Gated community', 'Rural gate - secure gate after entering and leave', 'Electric gate code is', 'Electric gate', 'MA key required', and 'Schlage key required'. The 'Contact Owner for back yard access' option is selected and highlighted in blue. There are also buttons for '+', 'm', and '-' in the top right corner.

If contact owner for access is selected then the correct owner and phone number is needed.

MA key= Meter access key

Schlage keys are for SDGE security access Schlage locks.

The screenshot shows a 'Notes' window with a 'Type' dropdown menu set to 'Call Customer'. The 'Description' dropdown menu is open, showing a list of options: 'Call first - Contact owner before trim:Phone', 'Call first - Dogs: Phone', 'Call first - locked gate access: Phone', 'Call first before brushing', and 'Sensitive Customer - Call before entering property'. The 'Call first - Contact owner before trim:Phone' option is selected and highlighted in blue. There are also buttons for '+', 'm', and '-' in the top right corner.

All call first will require a correct owner and phone number.

The screenshot shows a 'Notes' window with a 'Type' dropdown menu set to 'Property Alert'. The 'Description' dropdown menu is open, showing a list of options: 'Careful of landscaping/sprinklers', 'Disinfect equipment', and another 'Careful of landscaping/sprinklers' option. The first 'Careful of landscaping/sprinklers' option is selected and highlighted in blue. There are also buttons for '+', 'm', and '-' in the top right corner.

Disinfect equipment, vehicle and the pre-inspector is for accessing avocado groves. Failure to disinfect can result in a refusal and a very unhappy grove owner.

The screenshot shows a 'Notes' window with a 'Type' dropdown menu set to 'Notification'. The 'Description' dropdown menu is open, showing a list of options: 'Information hanger left', another 'Information hanger left' option, and 'SDGE Refusal fact sheet left'. The first 'Information hanger left' option is selected and highlighted in blue. There are also buttons for '+', 'm', and '-' in the top right corner.

Informational door hangers note can be used with a date and initials of who left it.

The SDGE fact sheets are the Pole and Tree legal handouts for customers who refuse brushing or trimming. This note needs a date and initials of the pre-inspector who left the fact sheets.

The screenshot shows a 'Notes' window with a 'Type' dropdown menu set to 'Misc. Information'. The 'Description' dropdown menu is open, showing a list of options: 'MISC allows you to enter data'. The 'MISC allows you to enter data' option is selected and highlighted in blue. There are also buttons for '+', 'm', and '-' in the top right corner.

Misc. Information is for pre-inspector free hand data entry which allows the pre-inspector to enter any note into the record. This is free text data entry with the pen. When the note is complete press the (+) to add the note. If a modification or error is made (-) removes a note.

The screenshot shows a data entry form with the following sections:

- Vegetation:** Address (Street: 15430 FRUITVALE RD, City: VC, Zip: 92082), Type: Private, Poles: P215270, P215270.
- Notes:** Type: Access to property, Description: Contact Owner for back yard access, Misc. Information: Gary Griffith 760 749 6390.
- Owner:** Name (circled), (Same as Tree) checked, Address (Street: 15430 FRUITVALE RD, City: VC, Zip: 92082).
- Contact:** Name, Phone, Time (circled).
- Forester comments:** (circled).

The circled areas are to be left alone by the pre-inspector. The owner name does not print on any work order (bubble sheet). The Forester comments are for Forester or Contract Administrator comments only. If comments are in this box DO NOT remove them. The contact name, phone and time boxes will remain blank for the pole brush program.

**Note: Pre-inspectors are reminded that once the record is updated with their pre-inspector identification that they now own the accuracy of the record and will be held accountable for the completeness of the record until the record is updated again.**

If the utility pole has never been brushed or show any signs of being brushed within the last three to five (3-5) years the pre-inspector will use the Alert: New pole needs further evaluation IF the pole is in native non disturbed habitat.. The pre-inspector will collect all the necessary data required to create a LT (list to trim) record BUT select no work required to put the record in a hold status pending environmental review. Upon successful ESA review the Contract Administrator will remove the new pole note and change the status code to LT and release the record to the pole brush contractors. If the pole resides in disturbed habitat create the brush record and release the pole with a LT status code so it can be released into the next brush cycle.

If the new pole does not have a valid UFID the MDT will not allow a pole brush record to be created. The pre-inspector will then collect all of the required listing information on a "J" sheet and create a GFMS Mapping Discrepancy Transmittal form with all of the required information to include the correct graphics showing the current layout of the pole and the other poles and lines in the immediate area. Be sure to have at least the pole before and after labeled on the GMDT form.

Data required for the mapping form includes: Pole number, VMA, circuit/ station number, address, Thomas Brothers page, and specific directions to the digitizer like add pole number and or remove pole number. See the sample on how to fill out a GMDT form available in the appendix. The "J" sheet and the GMDT mapping form will be turned in with all of the VMA paperwork at the end of listing the VMA and forwarded to the Contract Administrator for processing.

If a utility pole no longer has any non-exempt hardware or if the pole has been removed from the field, the pre-inspector will remove all of the brush notes from the pole record. A note stating that the pole has been removed or pole has no hardware is added to the record. The pole is then updated to a status code of LC (listed clear). Using the toolbar, select VM, then brush, then the erase feature and deleted it from the database. On the GIS circuit map provided, place a note identifying the pole and tree id of the deleted record. The bulk of listing is verifying the accuracy of the existing brush records and updating it with any changes or additional information needed to aid the brushing contractor to do their job. The quality of the listing effects the ability of the contractor to perform their work, notifying the correct property owner and ultimately the unit price to perform the work.



**CX500**

Address: 17105 IRON MOUNTAIN DR  
POWAY, CA 92064

Poles: P812668  
TB: 1191E3  
Lat/Long: 32.96356 N  
116.96592 W

Chemical	Month	Day	Year	Crew ID	Work Type	
<input type="radio"/> SK26	Jan	0	00	01	0	Brushed As Required <input type="radio"/>
<input type="radio"/> OTD	Feb	1	00	02	1	Exception with Approval <input type="radio"/>
<input type="radio"/> OTDA	Mar	2	00	02	2	Refused <input type="radio"/>
<input type="radio"/> GLPF	Apr	3	00	03	3	If refused, must add Refusal Ticket ID:
<input type="radio"/> Accord	May	4	00	03	4	_____
<input type="radio"/> No Chemical	Jun	5	00	03	5	_____
<input type="radio"/> New Mix	Jul	6	00	03	6	_____
	Aug	7	00	03	7	_____
	Sep	8	00	03	8	_____
	Oct	9	00	03	9	_____
	Nov					
	Dec					

**Property Notes:**  
; William Mc Kibbin 858-486-2186;

**Pole Notes:**  
leave oleanders- clean underneath; Clear Grass; Clear Leaves and Debris; Haul Trimmings From Site; Hot Tap Claps;

**Comments**

- Unable To Access Pole
- Customer Has Concerns About Erosion
- Unable to Brush - ESA
- Unable to Contact Customer - Several Attempts
- Landscape Exempt \_\_\_\_\_
- Hardscape Exempt \_\_\_\_\_

**Customer Information:**

- Customer Name \_\_\_\_\_
- Customer Phone:  
Home: ( [ ] [ ] [ ] ) [ ] [ ] [ ] - [ ] [ ] [ ] [ ] Alternate: ( [ ] [ ] [ ] ) [ ] [ ] [ ] - [ ] [ ] [ ] [ ]
- Address \_\_\_\_\_
- City \_\_\_\_\_
- Zip Code: \_\_\_\_\_
- MDT Changes Completed
- T/M Approval by: \_\_\_\_\_

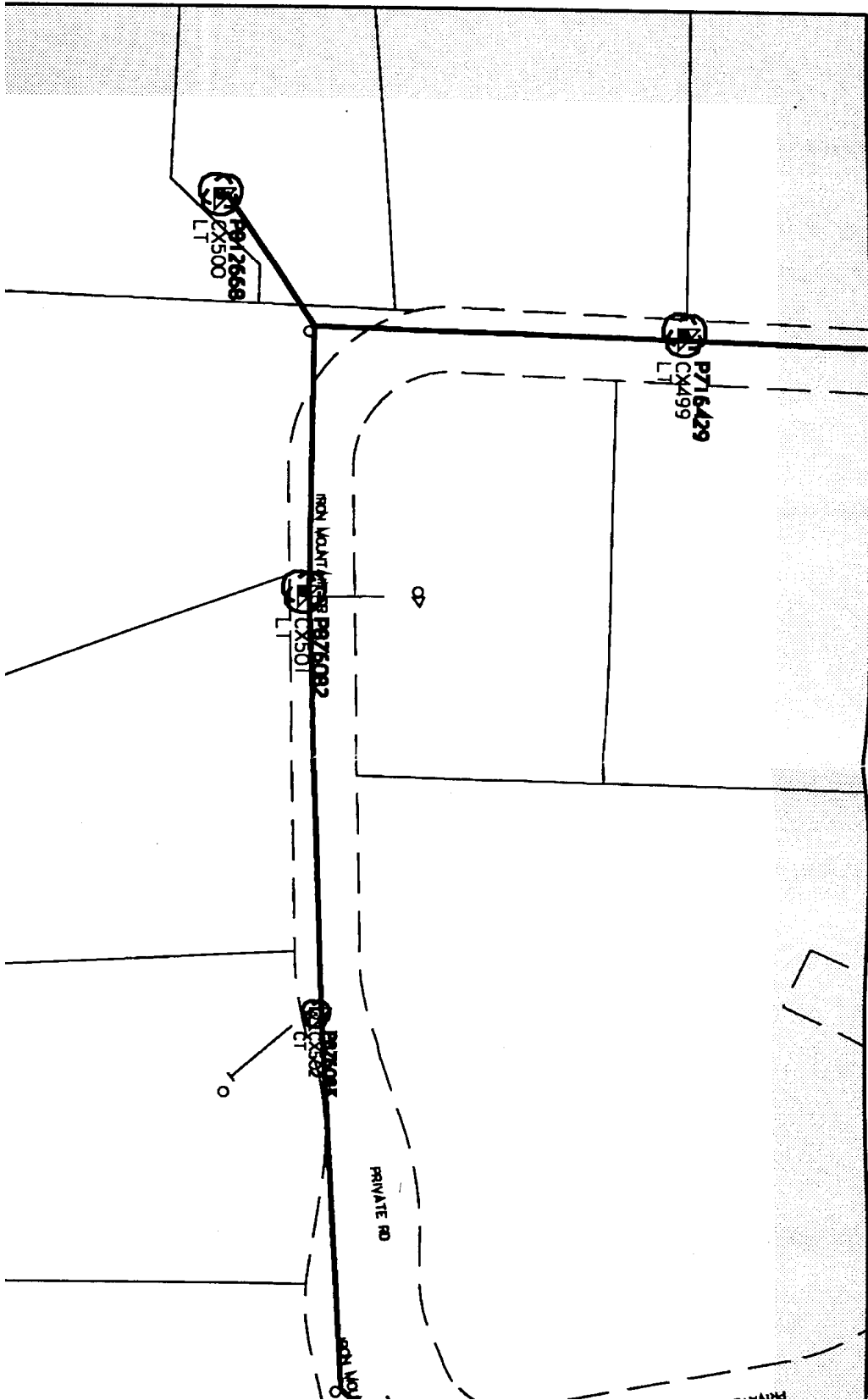
Form Version	Map Page Number	VMA	Crew ID	Dispatch Order	
BR6.10	P22	311	27903	30000003	2 of 3

**Sample Contractor Work Order (Bubble Sheet)**



Pg.P22 1191-E3

DO 300000003 (VMA 311) Brush



Sample: Pole Brush Contractor Routing Map

## Pole Brush Refusals:

The screenshot shows a software window titled "Edit Brush" with a close button in the top right corner. The window has three tabs: "Brush", "Location", and "Refusal", with "Refusal" selected. The window ID is "[1735919, 337869]".

Fields include:

- Ticket ID: 4508A
- Dispatch Order: -1
- Party Name: CAMILLE ZELENY
- Phone: 760-739-5615
- Type: Radio buttons for Full, Limited, and None (None is selected).
- Refusal Date: Sunday, June 18, 2000
- Resolution Date: Friday, November 30, 2001
- Refusal Comments: 4-13-01 DOES NOT WANT ANYONE ON PROPERTY OR ANY TRIMMING DONE. POLE SITS IN PAVED DRIVEWAY/ ORNAMENTAL PLANTS- MULCH IS PART OF LANDSCAPING. CHANGED TO LE.
- Resolution Comments: 11-28-01 SITE VISIT- GRAVEL AND PAVED DRIVEWAY ON SIDE. MAINTAINED VEGETATION BY OWNER- REMAINS LANDSCAPE

At the bottom left, it says "YY30614 - Listed Clear". At the bottom right, there are "Update" and "Cancel" buttons.

### Pre-Inspection Refusal Procedure

If, during pre-inspection or notification, a customer refuses to allow the contractor to perform pole brushing activities on the property, the following steps should be followed:

- 1) Pre-inspector should provide the customer with the SDG&E refusal letter outlining applicable laws and potential customer liability. In attempting to resolve the refusal, the pre-inspector should explain to the customer the scope of work, and answer all questions and concerns. If the customer still refuses, the pre-inspector should document using the SDG&E refusal form. The form should be filled out accurately, completely, and legibly by the pre-inspector and signed by the property owner. If the property owner refuses to sign, the pre-inspector should indicate this on the form, initial and date. The customer is to receive the Pink copy of the refusal form. The customer should be informed that by refusing there will be a second contact with by the contractor and or field supervisor. The refusal initiates a number of follow up visits to evaluate the fire risk to SDG&E and to the community at large.

Refusal information should not be entered into the brush record by the pre-inspector or contract supervisor. All electronic documentation will be completed by the Pole Brush Contract Administrator.

- 2) The CA Supervisor will initiate second contact with the customer to attempt resolution. The supervisor will confirm completeness and accuracy of information on the original refusal form. If unable to resolve the refusal with the customer, the contract supervisor will make additional documentation to the refusal form and to the MDT refusal page and proceed with a potential certified letter and or joint visit with CDF.
- 3) **Refusal information should not be entered into the brush record by the pre-inspector or field supervisor. Refusal MDT data entry and additional refusal database documentation will be completed by the Pole Brush Contract Administrator.**

The pre-inspectors MDT will have a light gray out on the refusal page when there is a valid dispatch order. The pre-inspector will be able to see the refusal information but will not be able to alter the information. Only the Pole Brush CA will make changes to this page. Often resolution notes from this page are also in the Brush notes for the use by the contractor. The pre-inspector must take great care NOT to delete or change any notes that deal with refusals or sensitive customers.

The ticket ID refers the number located on the refusal form that was generated in the field. It's important to understand that a refusal DOES NOT stop future visits to the property but actually starts a process of more visits to the property.

The refusal page in the MDT is separated by two large data field boxes. The left side comments are to document the issues that brought about the refusal. The right side documents the results of the subsequent field visit and any resolutions which were agreed upon by SDG&E and the customer.

### **Definitions:**

**Refusal-** is a document generated by field brush and trimming contractors and SDG&E field personnel when the customers/ owners refuse to allow work to be performed on private property.

**Full Refusal-** after field investigation and customer contact by the GF and/ or SDGE personnel the result was no resolution thus there is no access to the property. The customer/ owner may be refusing access to their properties, have safety issues about the brushing crews gaining access due to dogs, gates, guns and many other issues including previous trimming practices and leaving debris on their property.

**Partial Brush-** after field customer contact a resolution was agreed upon and the results are entered into the MDT. This may allow certain plants, shrubs and trees to be allowed in the circle radius after the customer/ owner agrees to maintain them in a good state of health with irrigation year round. The contractor will then clean around the desired vegetation leaving the items listed in the MDT alone.

**Resolved Refusal-** after field customer contact the refusal has met one of the following criteria:

- (1) Landscape Exemption- identifies poles that are being maintained by the customer/ owner providing fixed irrigation to maintain the vegetation within the radius year round. The MDT record must have notes stating what can stay within the radius and what agreements were made with the owner. If the pole is found to be out of compliance during annual pre-inspection listing, the refusal resolution could be removed and the record released to the contractor for brushing. Indigenous chaparral community plant species are not allowed. Only drought resistant succulents and maintained desired vegetation will qualify for landscape exemption.
- (2) Hardscape Exemption- identifies a pole that is surrounded by concrete, asphalt or landscaping gravel rocks which inhibit or stop the growth of vegetation around the facility.
- (3) Customer agrees to PRC 4292 brushing with no stipulations. This usually happens after the customer has had all of their questions answered and concerns addressed. Lack of clear, concise communication with the customer/ owner is the most common reason for a refusal being generated. If there the customer makes requests like: call first, make an appointment, call first for backyard access etc..., these requests must be documented in the MDT and they must be honored by all personnel. Failure to honor these requests often result in refusals.

### **Field Visits:**

Each refusal requires a field visit by a knowledgeable SDG&E representative with the owner/ customer to evaluate the conditions on the property and to work within the PRC codes to solve the refusal. Here are some suggestions when communicating with sensitive refusal customers



- a. Follow all property access procedures described earlier in the “Private Property Access” section on page 34. If possible make an appointment with the owner and be on time.
- b. Introduce yourself as a SDGE representative (even if you’re a contractor). Always be polite, humble and always extend your hand for a hand shake with the customer/ owner. This is a positive gesture that humanizes the contact and often will reduce tensions.
- c. Educate the customer/ owner with PRC 4292 & PRC 4293 and answer all of their questions to the best of your ability. Often the owner still has many questions which were left unanswered.
- d. Continue to use the key word **“fire prevention”** throughout your conversation.
- e. Remind the customer/ owner that SDG&E is mandated to comply with “the laws” as written by the Public Utilities Commission (PUC) and the California Department of Forestry (CDF).
- f. If the issues is trees, remind them that pole brushing only involves clearing up to the 8 foot height unless there is dead wood within the tree and then trimming would have to be performed up to the cross arms.
- g. Explain that the utility poles have equipment that is designed to “fail” which protects their homes and property. The fuses, switches and lighting arrestors fail at the pole causing sparks and arcs which can propagate a fire out of the circle.
- h. If erosion issues are present you may need the assistance of the Contract Administrator to work with the customer/ owner to resolve or come up with a workable resolution. Remember, don’t make promises that you and SDG&E can’t keep.
- i. At the of your conversation recap what agreements have been made and that you will forwarding this information and entering it into the MDT. Leave your business card with the owner in case they have additional questions or future concerns.

It’s essential that all conversations and agreements are documented on the refusal form. Put the customer/ owners comments inside of quotation marks and write down their words exactly as they were presented to you. Never argue with the customer/ owner and refer them to the Pole Brushing Contract Administrator if they have more questions and issues which you can’t resolve.

The refusal document must have the following items completely filled in:

- a. VMA number
- b. Pole number(s) and Tree Id number(s) for each pole involved. Use the same refusal document for all poles on the same property.
- c. Thomas Brothers page and grid location
- d. **Owner** (not the tenant) name, address and correct phone number(s).
- e. The owner should sign the form, if they refuse to sign the document place your initials, date and time and note that the owner refused to sign the form.
- f. In the “discussion with property owner section”, describe why the customer does not want any work done and summarize the key issue(s). Always ask what can be done to resolve the refusal. Document all the pertinent details: hardware involved, the fire risk, the condition and amount of vegetation and if there is any irrigation present. A photograph for the file would be helpful.

- g. If the owner refuses to have our brush contractors perform the work, but is willing to do the work themselves, note that on the refusal. Document the conditions at the pole and note that you have educated the owner on the laws and what exactly needs to be done to keep the pole in compliance for the year. Be sure you answer all of their questions. For the initial clearing around the pole give the owner/ customer two weeks to perform the work agreed upon and then come back and evaluate the pole to ensure it meets PRC 4292.
- h. Remind the owner/ customer that this work needs to be done **every year**.

## Appendix 1 - Non-exempt Hardware:

There are various types of exempt and non-exempt hardware on the utility poles. The pole brush pre-inspector will check each pole in every span for the five main non-exempt hardware categories and create a brush record in the MDT identifying the pole as a managed pole requiring brushing. A color 2"x2" pre-inspector tag is stapled to the utility pole with the pre-inspector's initials and date. The pre-inspector tag color is changed every cycle to aid the brushing contractors, auditors and supervisor/ leads during the Quality Assurance audits. **ORANGE** tags identify poles that have been chemically treated by the brushing contractors and must NEVER be removed at anytime. Landscape Exemption poles will be tagged with the **WHITE** side of the pre-inspector tag identifying it as a managed inventory pole but not requiring brushing. The pre-inspector will remove previous year's color tags and properly discard them off the owner's property.

When the pre-inspector identifies exempt hardware or no hardware on the pole a Quick check is used to identify the utility pole as a non-managed pole that does not require brushing. Annual listing, inspections and auditing is necessary to catch hardware added or removed since the last listing cycle which occurs often. The five main non-exempt hardware categories are:

**Split bolts** (single split bolts or double which range in size located on primary and transmission circuits to include Fargo and LM connectors. Only Idle de-energized split bolt connectors are exempt, see photo on the next page.)

**Hot Tap Clamps** (all hot tap clamps are non-exempt including those that are spring loaded and piercing tree wire)

**Lighting Arrestors** (all types to include the ceramic and polymer style and regardless of their length)

**Fuses** (the only exempt fuse is the non-explosion fuse which is encased by sand, see photos provided.)

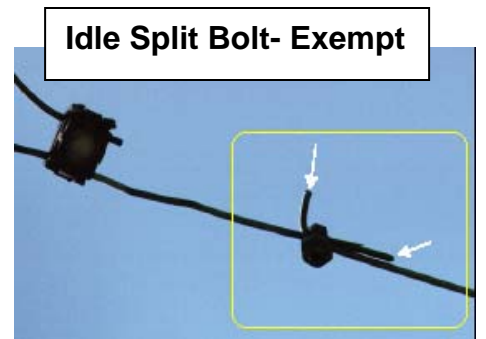
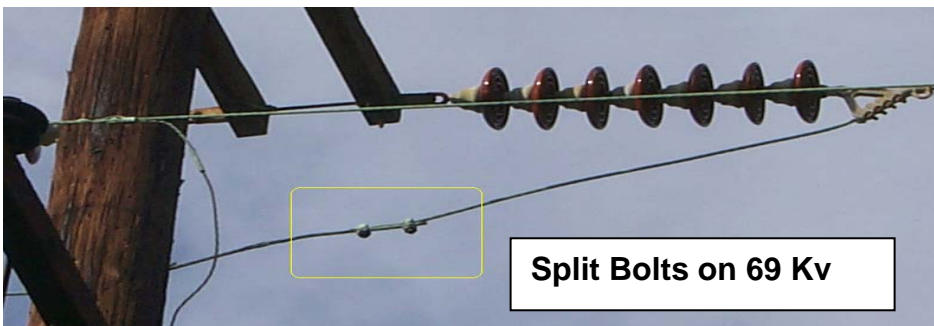
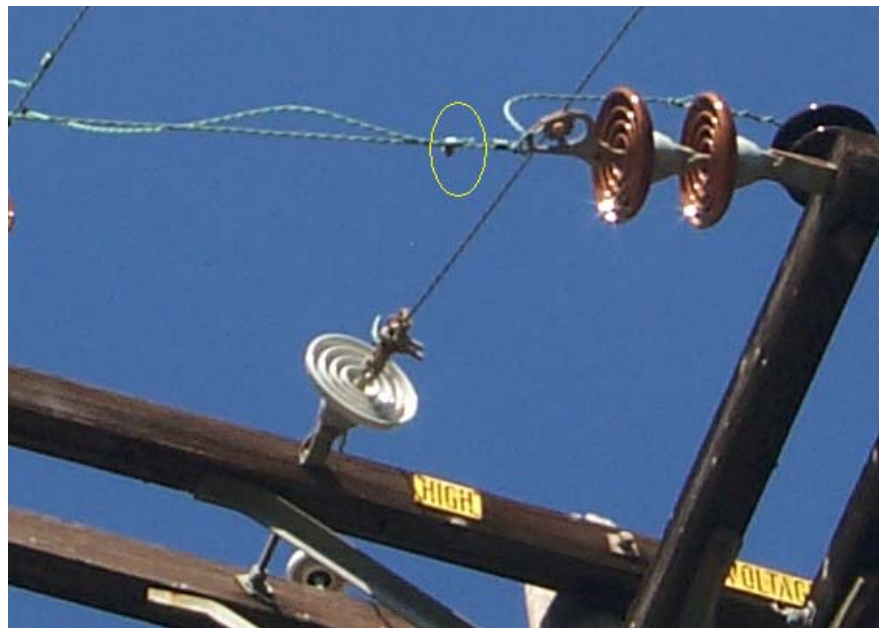
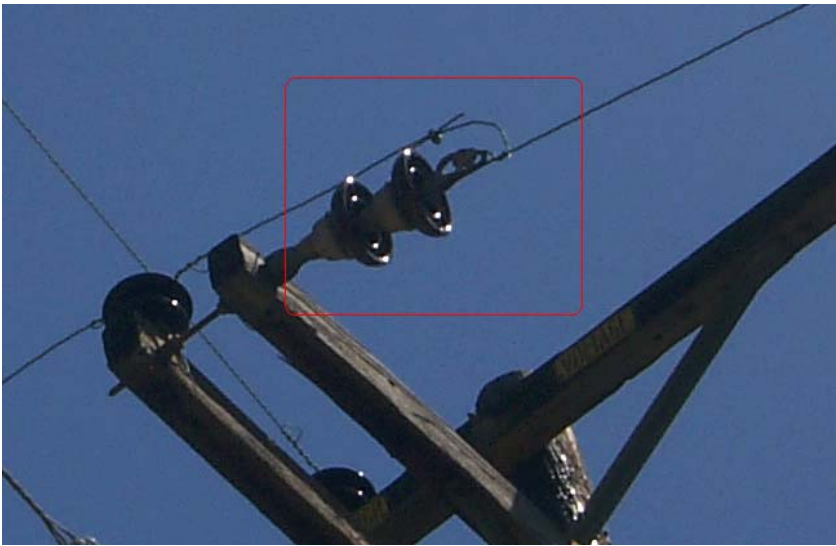
**Switches** (all hook, gang and SCADA remote controlled switches are non-exempt which includes solid blade disconnects and inline blade disconnects).

### Split Bolts:

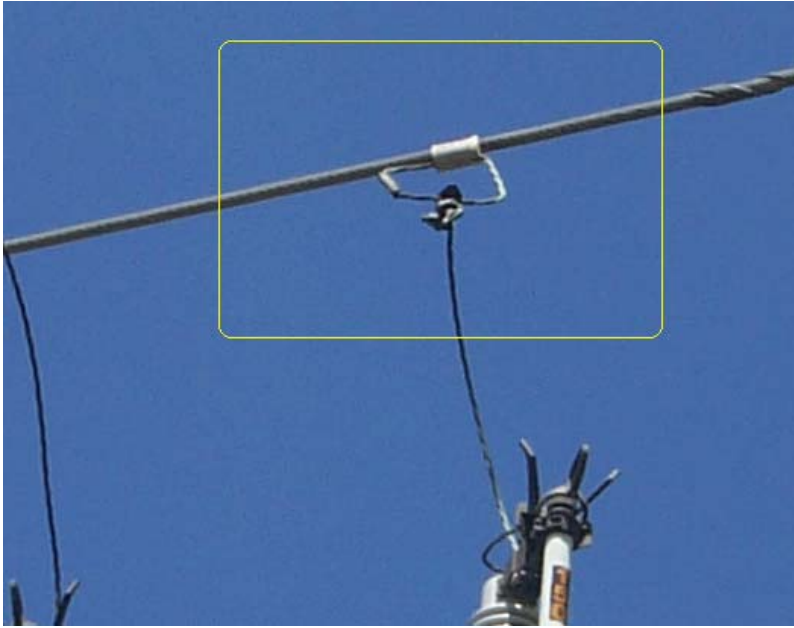
Split Bolts can be very hard to spot and often require binoculars and a 360 degree view of the utility pole.





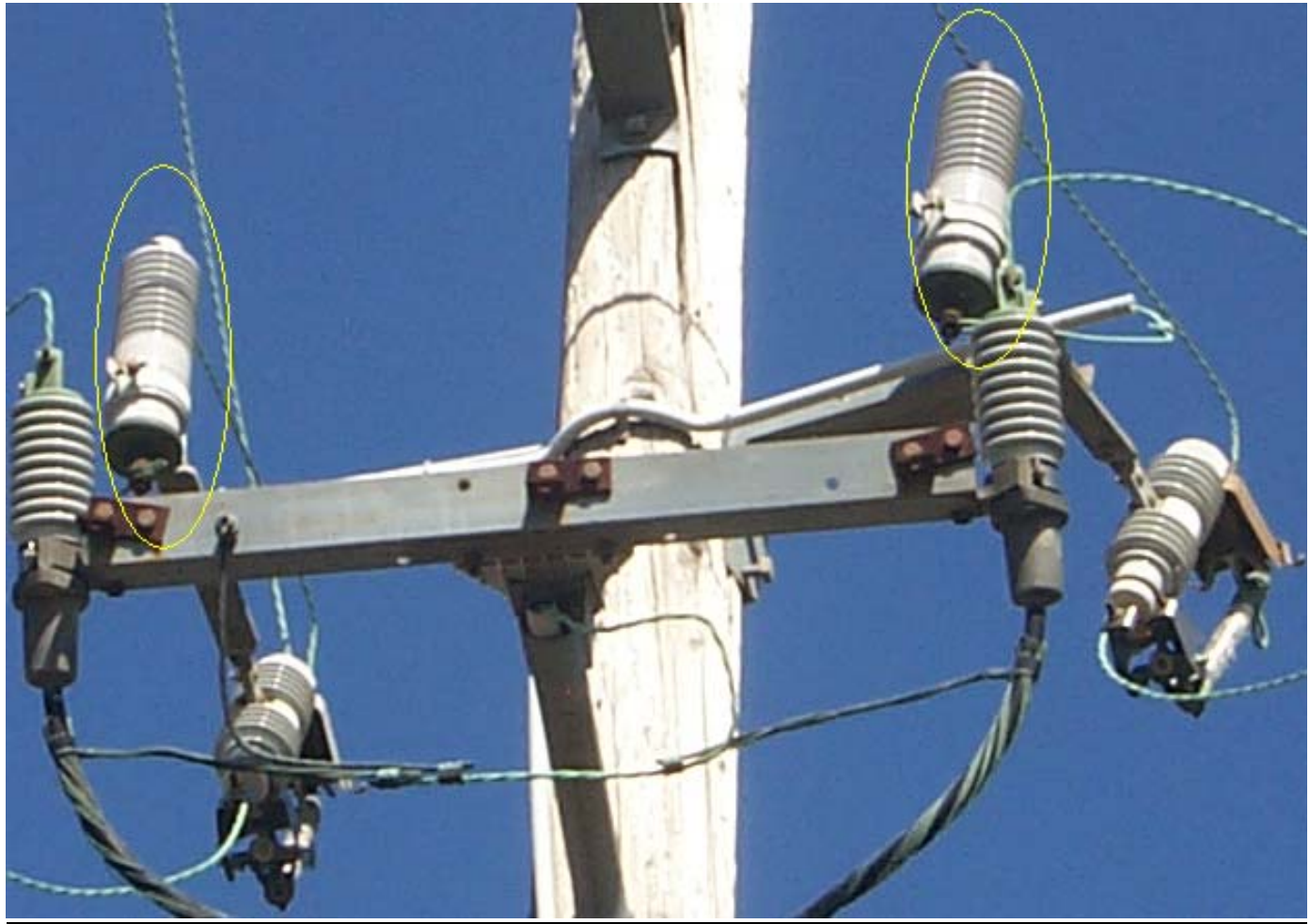


## Hot Tap Clamps:



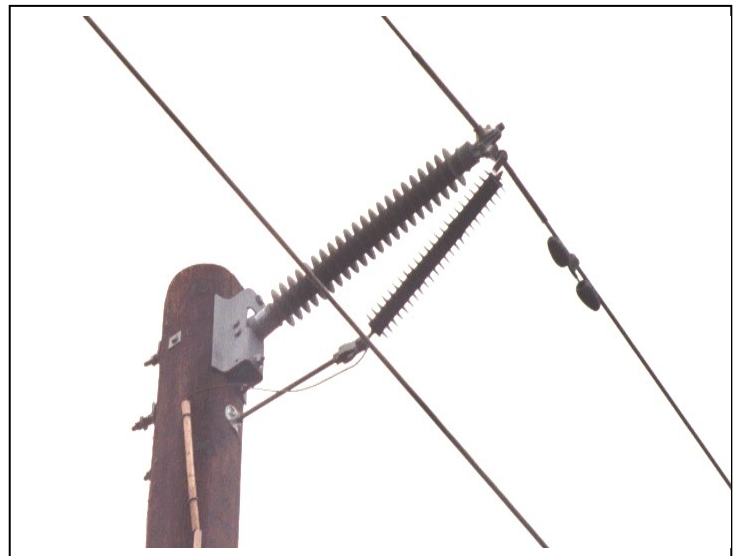
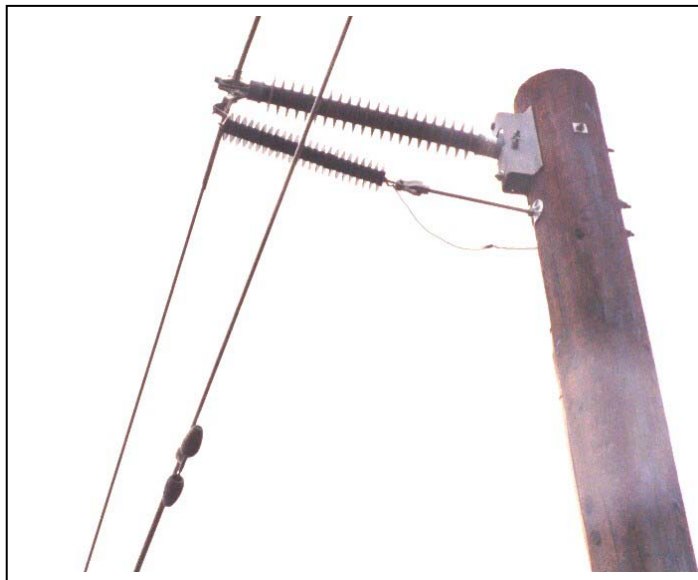
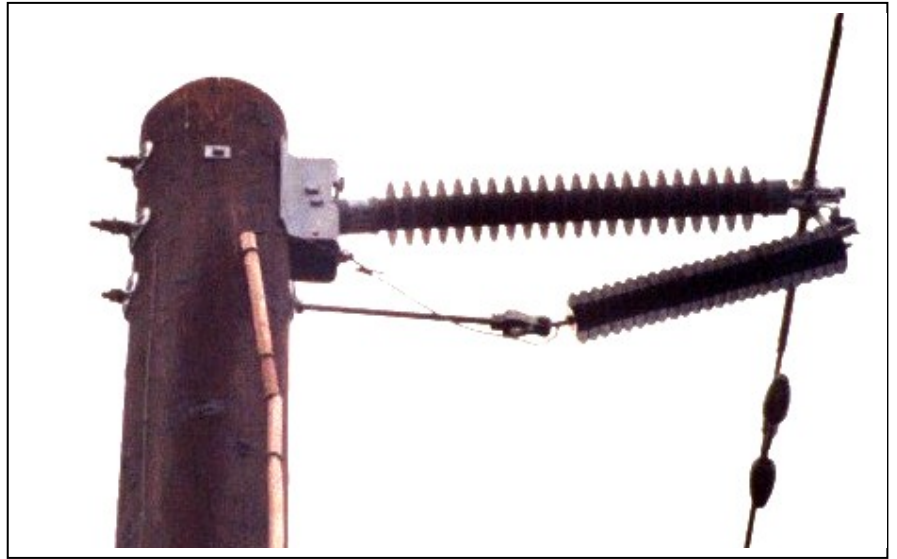
**All hot tap clamps with a classic ring at the bottom are Non-Exempt in SDG&E territory.**

## Lighting Arresters:



**ALERT**

**Transmission Line Lighting Arrestors being used:**

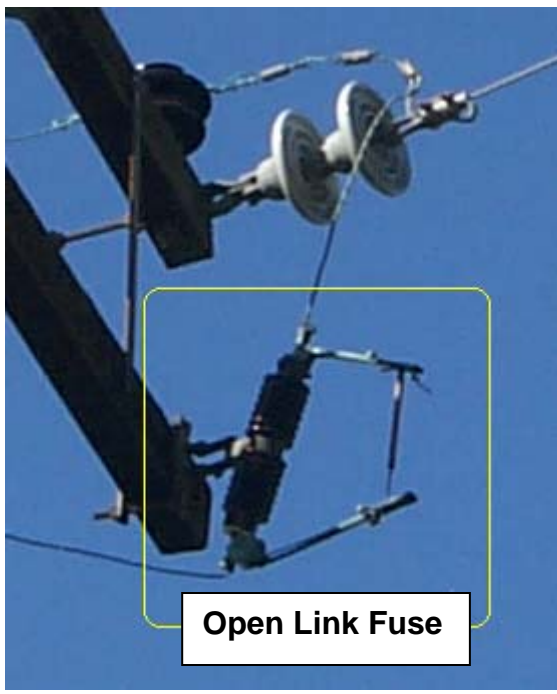
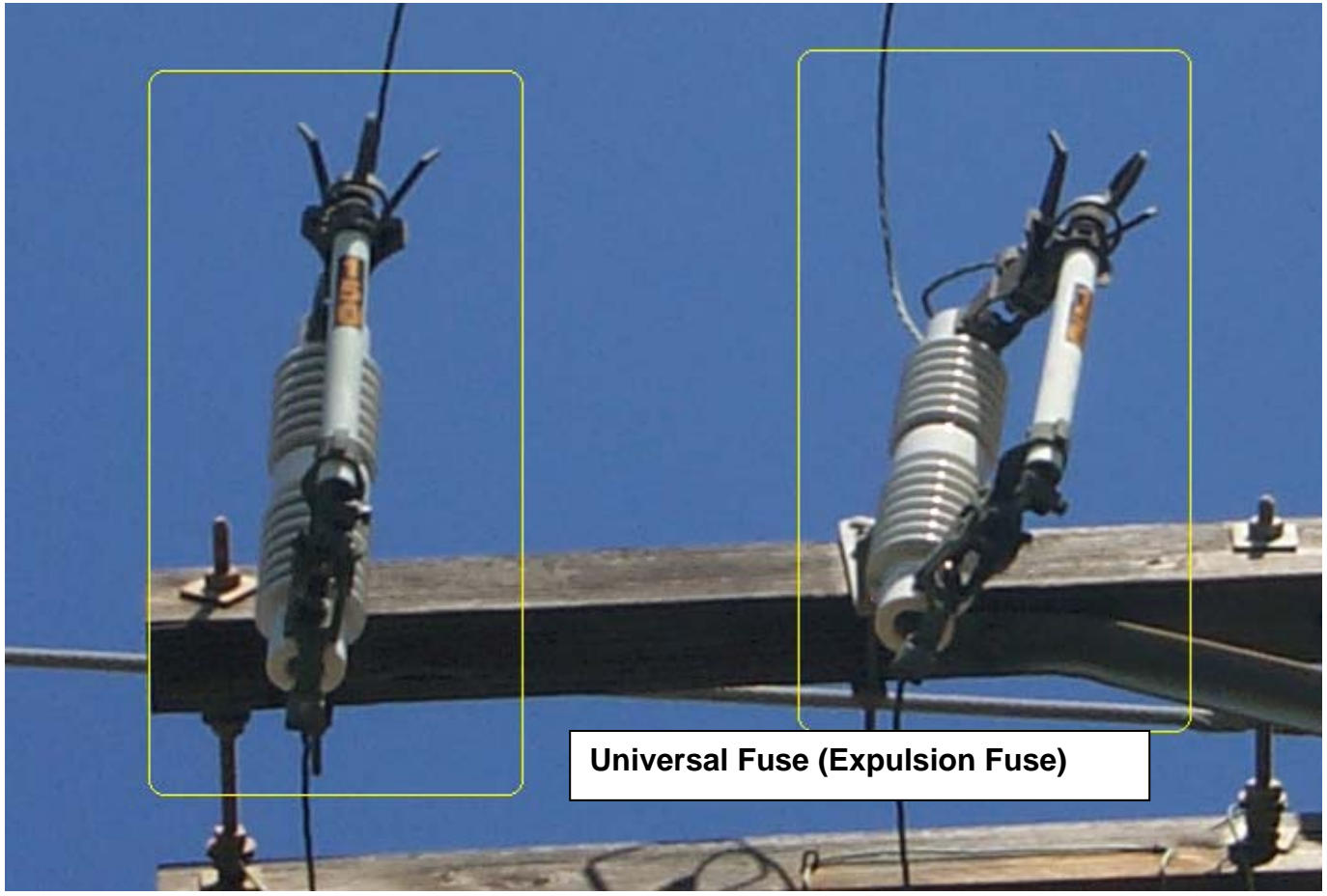


**ALERT**

**Transmission Line Lighting Arrestors being used:**



# Fuses:





**Arm mounted cutouts with Solid Blade Disconnects are listed as Fuses. Under no conditions are they ever exempt in SDG&E territory.**

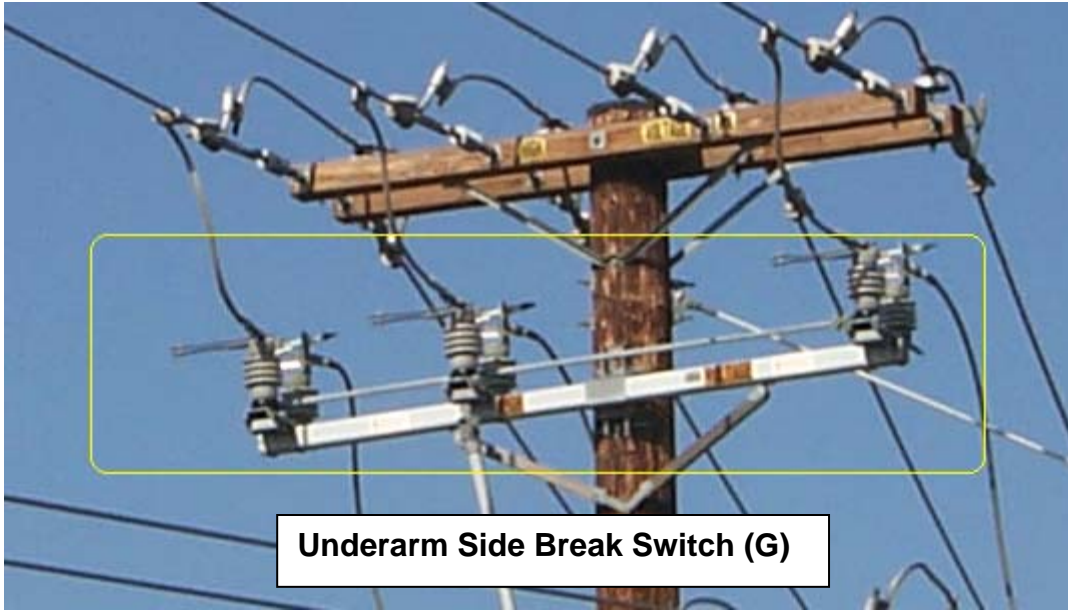


**Non Expulsion Fuse- This is the only fuse that is Exempt within SDG&E territory.**

## **Switches:**

Switches are categorized by the action or movement that the arms make when making contact. There are three categories:

- (a) The Hook Switch (H) which moves in a up and down, hook in and hook out action.
- (b) The Gang Switch (G) which moves in a side to side action.
- (c) The remote controlled Automatic (A) switches which have a gang (G) switch action but are activated by a radio signal from a substation. When this remote switch is on 69 Kv it requires a 20 foot brushing circle. A transmission Air Switch on 69 Kv also requires a 20 foot circle.



**Many switches have a lock on the handle mechanism to prevent unauthorized opening and closing of the circuit.**



**Grasshopper Switch (H)**

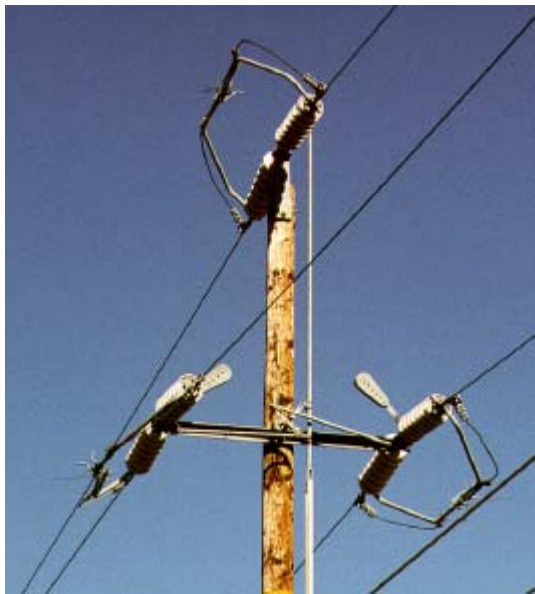


**Solid Blade Disconnect can be mounted in any position. In SDG&E territory the solid blade disconnects are listed as Switches.**

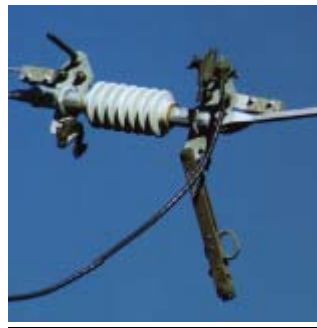
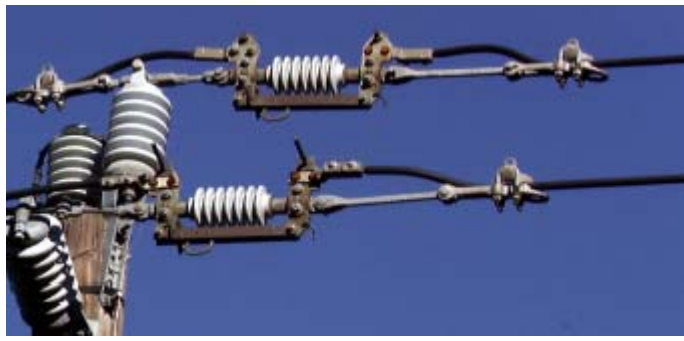




**SCADA switch will not have a lock or handle but a metallic box on the side of the pole which houses the remote radio receiving equipment. If the SCADA switch is on a 69 Kv line the brush circle radius must be increased to 20 feet.**



















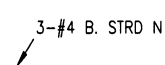






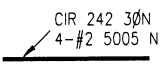



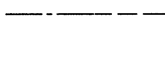












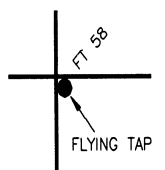





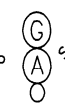
**Transmission Air Switch (H) on 69 Kv circuit which requires a 20 foot brush circle.**





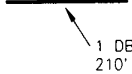






























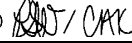
**In Line Disconnects are listed as switches within SDG&E's territory. Under no conditions will In Line Disconnects be exempt.**

**The Exempt hardware can be found in the latest version of the CDF Power Line Fire Prevention Field Guide. Extensive classroom and field training will be provided to review how to identify exempt and non-exempt hardware, what the function of the equipment is and how does the hardware fail and propagate fires. The purpose of the section was to supplement the CDF Fire Prevention manual, not replace it.**

# Appendix 2 - Hardware Symbols- Overhead

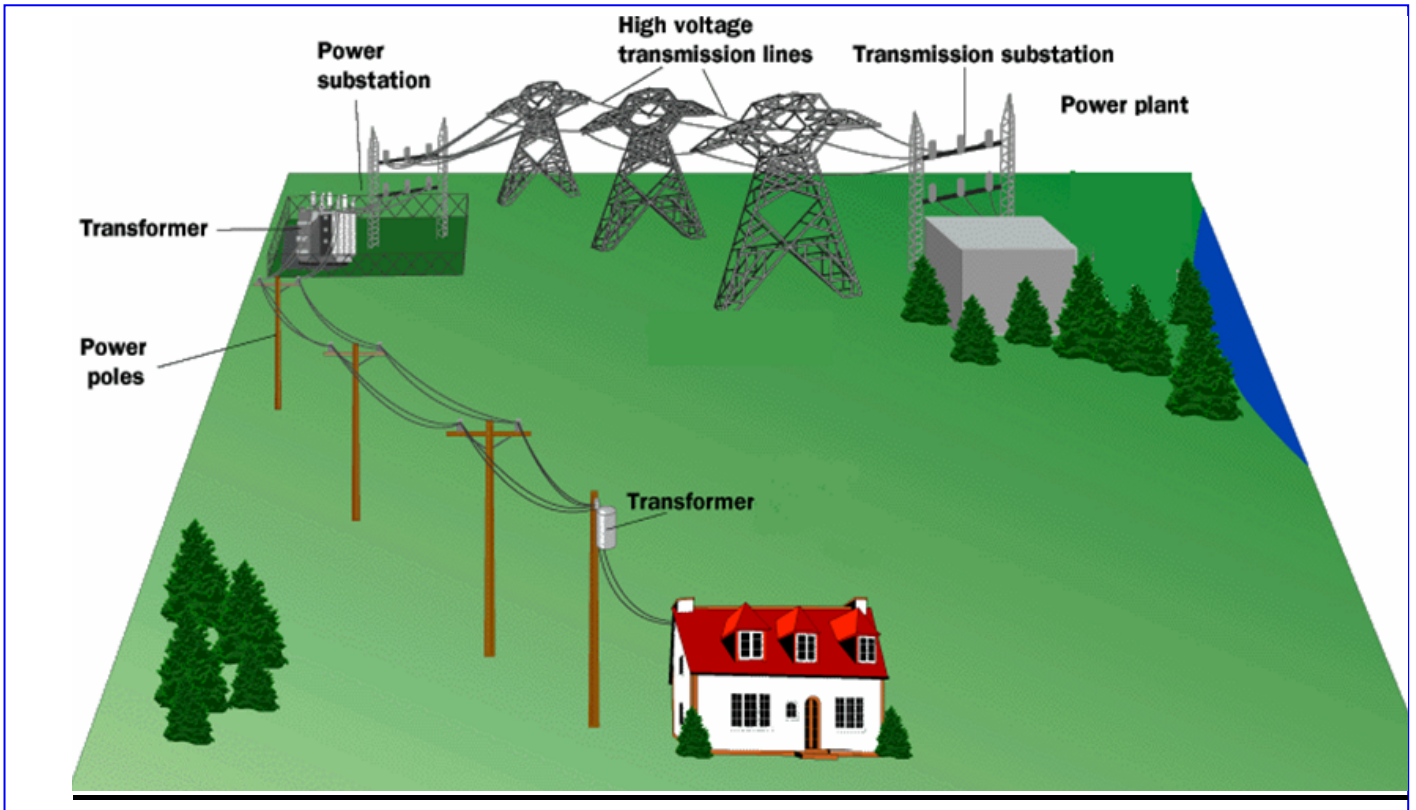
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<b>GROUNDING BANK STATION</b>  242-74GB 3-50 YF P99032	<b>STREET LIGHT TRANSFORMER STATION</b>  242-85RO 1-25R P45433	<b>SUBSTATION 12/4</b>  POWAY SUB 12/4	<b>OVERHEAD STREET LIGHT</b>  P00710	<b>REGULATOR STATION (3 PHASE)</b>  242-227G 100A P124450	<b>CUSTOMER GENERATION STATION</b>  CG01-16-601 242-16M JP521881	
<b>POLE</b>  P567332	<b>STUB POLE</b>  P1167405	<b>REGULATOR STATION (PHASE 1)</b>  242-105G 25A JP55609	<b>SWITCH (GANG)</b>  242-43 JP44302	<b>SECONDARY CIRCUIT &amp; POLE LINE</b>  3-#4 B. STRD N	<b>SWITCH (HOOKSTICK)</b>  242-12 P445760	
<b>SINGLE PHASE TRANSFORMER STATION</b>  242-85 1-15 HE P44212	<b>SECONDARY CABLE POLE</b>  P990321	<b>TRANSMISSION POLELINE &amp; CIRCUIT</b>  CIRCUIT 903	<b>STEP UP STATION</b>  242-60SU 12000/2400/4160Y P114532	<b>PRIMARY CABLE POLE</b>  P667990		
<b>PRIMARY CIRCUIT &amp; POLE LINE</b>  CIR 242 3ØN 4-#2 5005 N	<b>STEP DOWN STATION</b>  242-143SD 12000/2400/4160Y P445320	<b>THREE PHASE TRANSFORMER STATION</b>  242-143 J-75HF P554354	<b>PRIMARY METERING STATION</b>  242-60M P993111	<b>SUPERVISORY CABLE</b> 	<b>TERMINATION (SECONDARY DEAD ENDS)</b>  JP556753	
<b>RECLOSER</b>  242-20R P44358	<b>SUBSTATION 69/12</b>  ASH SUB 69/12	<b>TRANSMISSION DOUBLE POLE</b>  Z557090	<b>TRANSMISSION POLE</b>  Z554354	<b>TRANSMISSION TOWER</b>  Z113454	<b>FUSE (CUTOFF)</b>  CIR 242 3-30A P334143	<b>ELECTRONIC SECTIONALIZER (CUTOFF)</b>  CIR 455 3-100A P19928
<b>SCADA ANTENNA POLE</b>  P123456A	<b>OH SCADA RTU POLE</b>  SCADA 62 P123456A	<b>DPQM</b>  107-2 107-DPQM P123456	<b>LOADBREAK GANG OPERATED SWITCH</b>  58-23-L P234567	 FT 58 FLYING TAP	<b>SERVICE POINT</b>  SP	
<b>PRIMARY DEAD END (MULTIPLE CIRCUITS SINGLE CIRCUIT OPEN)</b>  CIR 242 OPEN CIR 242 OPEN P435431	<b>PRIMARY DEAD END (MULTIPLE CIRCUITS)</b>  CIR 169 OPEN CIR 242 OPEN P89000	<b>THREE PHASE TRANSFORMER STATION (DBL POLE)</b>  242-241 J-37.5 HGT JP44530	<b>THROWOVER AT A SUBSTATION</b>  AUTO 206-VT PREF 208-VT ALT VISTA SUB 12/4KV	<b>SCADA MATE OH GROUP SWITCH</b>  SCADA 86 715-16 P19689		
Indicates Latest Revision		Completely Revised	New Page	Information Removed		
<b>REVISION</b> DATE 1-1-98 APPD <i>BO/CMK</i>	<b>SDG&amp;E ELECTRIC STANDARDS</b> <b>GFMS</b> <b>OH STANDARD FACILITY MAP SYMBOL TABLE</b>				OH 212.7 UG 3112.7	

# Appendix 3 - Hardware Symbols- Underground

PAD MOUNTED SUB 	JOHNSON STEP-DOWN 12/4 KV D104329	BOOST STATION (3 PHASE) <input checked="" type="checkbox"/>	CUSTOMER GENERATION 	DUCT BANK SECONDARY -----	ATLAS TEXT 23.11E
DUCT BANK (PRIMARY) 	CAPACITOR CM OR CW STATION (SWITCHED) 	DUCT BANK (STREET LIGHT) -----	PAD 	STEP DOWN STATION (3 PHASE) <input checked="" type="checkbox"/>	SWITCH ON-OFF 
DUCT BANK (SUPERVISORY) -----	PRIMARY CIRCUIT 	SUBSURFACE ENCLOSURE 	DUCT BANK (TRANSMISSION) & CIRCUIT 	PRIMARY HANDHOLE 	TERMINATOR 
BRIDGED FUSE 	PRIMARY METERING STATION 	SWITCH-FUSE (PAD MOUNTED) 	FUSE CABINET 	REGULATOR STATION (3 PHASE) <input checked="" type="checkbox"/>	THREE PHASE TRANSFORMER (OPEN DELTA) 
FUSED ELBOW 	SECONDARY CIRCUIT 	THREE PHASE TRANSFORMER <input checked="" type="checkbox"/>	GROUP SWITCH 	SECONDARY HANDHOLE 	SUBSURFACE TRANSFORMER (THREE PHASE) 
MANHOLE 	SINGLE PHASE TRANSFORMER <input checked="" type="checkbox"/>	THREE PHASE TRANSFORMER (CLOSED DELTA) 	OPEN (CALLOUT ONLY) 	STEP UP STATION (1 PHASE) <input checked="" type="checkbox"/>	VAULT 
UNDERGROUND STREETLIGHT 	THROWOVER 		UG SCADA CABLE 	PADMOUNT SERVICE RESTORER 	
PMH3 	GROUPS SWITCH W/SCADA 		SCADA RTU 	PMH5 SWITCH 	
Indicates Latest Revision		Completely Revised	New Page	Information Removed	
SDG&E ELECTRIC STANDARDS				REVISION	
OH 212.8 UG 3112.8				DATE 1-1-98 APPD 	
GFMS UG STANDARD FACILITY MAP SYMBOL TABLE					

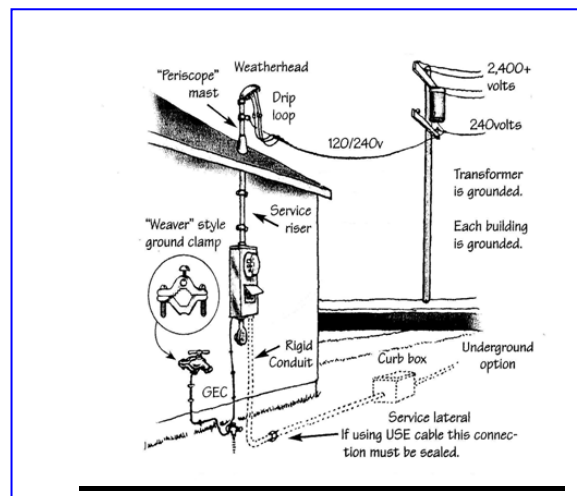
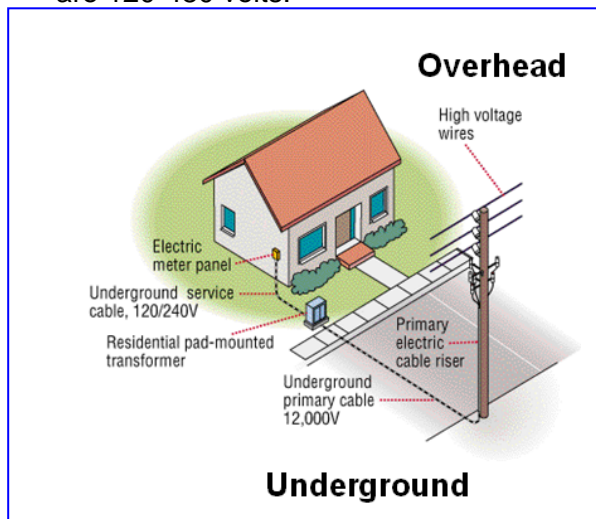


# Appendix 4 - Overhead Electrical Distribution:



Electricity is produced by two practical methods for manufacturing electricity in the large quantities needed to supply an area such as California. They are hydro-electric generation, which utilizes falling water as a means of turning a turbine generator, and steam generation, which requires a fuel to convert water to steam, which in turn drives a turbine generator. SDG&E currently does not generate electricity but plans to do so in the near future. Our electricity is purchased on the open market from several generation stations though out the Southwestern United States.

The power plant produces electricity up to 20,000 volts which is then stepped up by switchyards up to 500,000 volts. The transmission voltages in common use are 50,000 to 500,000 volts which are then transmitted over the tower lines to other transmission and distribution substations. The electricity can travel for hundreds of miles before it reaches SDG&E's substations which take the transmission current and step it down to the primary distribution current which is commonly 12,000 volts. There are many more miles of primary distribution poles than transmission poles. Transformers are on the utility poles near the homes or business which take the 12,000 volts and step it down to secondary voltages which are 120-480 volts.



# ◆ Pole Hierarchy

◆ The Higher The Placement Usually Means Higher Voltage

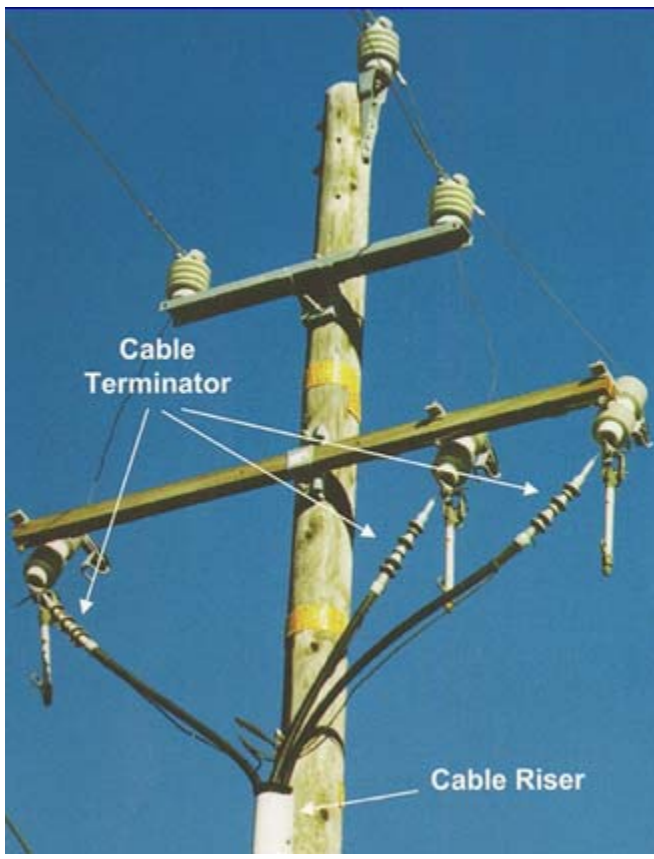
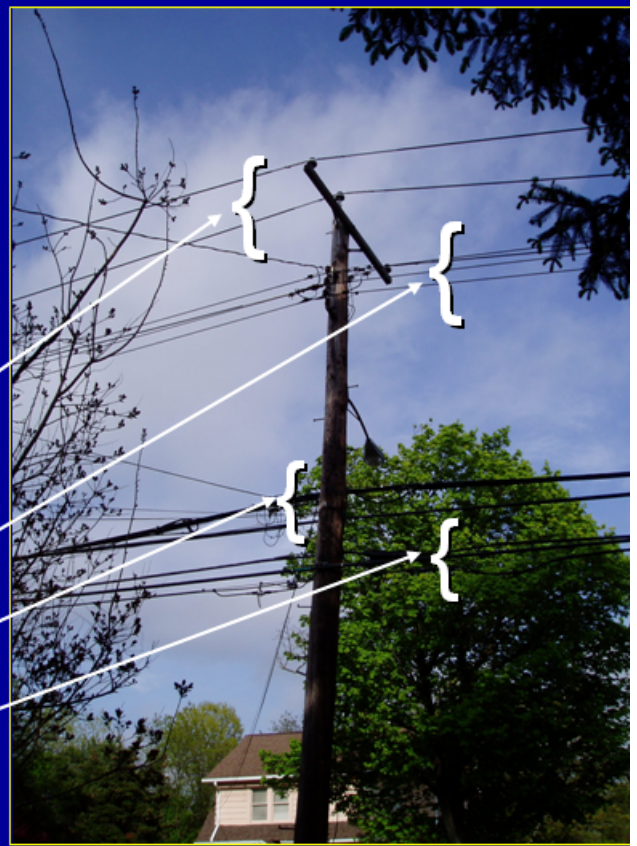
High (Primary) Voltage

Secondary Voltage

Telephone

Cable

(In Some Cases Cable May Be Higher Than Telephone)



Primary underground feeds:  
The cable terminator (aka potheads), is the last insulation before the cable goes underground. An underground transformer (green box) will be necessary to take the 12 Kv and step it down to household current of 110 volts.



### **Secondary Underground Feed:**

**The 12 Kv goes through the transformer and is stepped down to household current. The underground current is now 110 volts and only an underground pad mount connection is needed to connect to the home.**

# Appendix 5 – Sample Data Collection Form

Date: \_\_\_\_\_

Lister: \_\_\_\_\_

Pole # _____	Tree ID # _____	VMA # _____
Owner Name: _____		
Address: _____		
Number	Street	City                      Zip
Fuse	<input type="checkbox"/>	
Switch	<input type="checkbox"/>	Home Phone: _____
Lightning Arrestor	<input type="checkbox"/>	
Hot Tap Clamps	<input type="checkbox"/>	Phone 2: _____
Split Bolt Connectors	<input type="checkbox"/>	
Clear: Grass	<input type="checkbox"/>	Call Customer:
Leaves & Debris	<input type="checkbox"/>	Call - Make Appointment <span style="float: right;"><input type="checkbox"/></span>
Light Brush	<input type="checkbox"/>	Contact before trim <span style="float: right;"><input type="checkbox"/></span>
Heavy Brush	<input type="checkbox"/>	Need to put away Dogs <span style="float: right;"><input type="checkbox"/></span>
Hardscape Exemption	<input type="checkbox"/>	To Access Locked Gate <span style="float: right;"><input type="checkbox"/></span>
Landscape Exemption	<input type="checkbox"/>	<b>Justify:</b> _____
Trim Above Light	<input type="checkbox"/>	<b>Access:</b>
Trim Above Heavy	<input type="checkbox"/>	Contact before trim <span style="float: right;"><input type="checkbox"/></span>
Haul trimmings from site	<input type="checkbox"/>	Call for Access <span style="float: right;"><input type="checkbox"/></span>
No Chemical Treatment	<input type="checkbox"/>	Dogs in yard – O.k. <span style="float: right;"><input type="checkbox"/></span>
Caution - Irrigation System	<input type="checkbox"/>	Beware Of Dog(s) <span style="float: right;"><input type="checkbox"/></span>
Barbwire	<input type="checkbox"/>	GATED Community <span style="float: right;"><input type="checkbox"/></span>
Sloping Terrain	<input type="checkbox"/>	
Poison oak	<input type="checkbox"/>	<b>Property Alert:</b>
No Number on Pole	<input type="checkbox"/>	Sensitive Customer <span style="float: right;"><input type="checkbox"/></span>
<b>Access Via:</b>		<b>Facilities Exist:</b>
Easement Road	<input type="checkbox"/>	In field, but not on map <span style="float: right;"><input type="checkbox"/></span>
Private Road	<input type="checkbox"/>	On map, but not in field <span style="float: right;"><input type="checkbox"/></span>
4 Wheel Access Only	<input type="checkbox"/>	
No vehicle Access	<input type="checkbox"/>	<b>Notification:</b>
Hike in, Can't turn around	<input type="checkbox"/>	Verbal Refusal <span style="float: right;"><input type="checkbox"/></span>
		Signed Refusal <span style="float: right;"><input type="checkbox"/></span>
<b>Located:</b>		
In backyard	<input type="checkbox"/>	Number on Pole is _____
In orchard	<input type="checkbox"/>	Meter Number _____
Near VMA boundary	<input type="checkbox"/>	<b>Additional Comments:</b> _____

**“J Sheet”**



# Appendix 6

## How to fill out a GMDT

**SDGE**  
**GFMS MAPPING DISCREPANCY TRANSMITTAL** N# 11259  
\*SDGE Energy Services  
 CUSTOMER INFORMATION — COMPLETE AND RETURN TO ELECTRIC MAPPING AND RECORDS

FROM \_\_\_\_\_ DATE \_\_\_\_\_

CUSTOMER PRIORITY DESIGNATION:  ASAP  10 - 15 DAYS  15 - 30 DAYS  OVER 30 DAYS

TITLE \_\_\_\_\_ WORK LOCATION \_\_\_\_\_ EXT. \_\_\_\_\_

1. DESCRIBE CURRENT FIELD CONDITIONS.

2.  SEE SKETCH BELOW 3.  ATTACHED DPSS PRINT SCREEN 4.  ATTACHED MAP(S) AS BUILTS 5.  FIELD VERIFIED

DATE RECEIVED: \_\_\_\_\_ BY: \_\_\_\_\_ COMMENTS: \_\_\_\_\_

ASSIGNED TO: \_\_\_\_\_ DATE ASSIGNED: \_\_\_\_/\_\_\_\_/\_\_\_\_ PRIORITY:  1  2  3  4 DATE COMPLETED: \_\_\_\_/\_\_\_\_/\_\_\_\_

COMMENTS: \_\_\_\_\_

DISTRIBUTION: GOLDENROD TO CUSTOMER RETURN ALL OTHER COPIES TO MAPPING & RECORDS  
 PINK COPY RETURNED TO CUSTOMER WHEN RECEIVED IN MAPPING & RECORDS, YELLOW COPY RETURNED TO CUSTOMER WHEN SOLUTION COMPLETE

- (1) For Pole Brushing GMDT's write "VMS Poles- initials" Example: VMS Poles- MO
- (2) Insert the name of the Pole Brushing Contract Administrator.
- (3) Insert the date the form is filled out.
- (4) For Pole Brushing GMDTs write "Contract Administrator".
- (5) For Pole Brushing GMDTs write "CP22C".
- (6) For Pole Brushing GMDTs write "8617"
- (7) Provide a description of what needs to be added or removed from the maps. Use the following guide to provide as much information as possible and if known. Often the information can be found on the pole itself or comparing the pole next to the one you want digitized.
- (8) Place an "X" in box 4 and 5 stating that maps are attached and that the information was field verified.

## **WIRE:**

Missing wire needs to be shown on the facility map by highlighting what needs to be added. Indicate the number of conductors (wire); 2, 3 or 4. Indicate if the circuit is Primary voltage or Secondary voltage. If conductors (wire) need to be removed indicate from what point to what point should be removed on the facility map by crossing out the area to be removed.

## **TRANSFORMERS:**

Identify the transformer as single phase or three phase using the correct symbology.

Indicate the size of the transformer(s), example 15 or 25, if known.

Indicate the type of transformer(s), example H or HE, if known.

Indicate the quantity of transformer(s), example 1, 2 or 3.

## **POLES:**

Identify the height of the pole, example 45 feet, 55 feet or 70 feet. Often this can be found on the pole or in the MDT using the facility browse feature.

Identify the class of the pole, example 3 or 5. Often this can be found on the pole or in the MDT using the facility browse feature.

Identify and use the correct suffixes for the pole, example P for Primary Pole, Z for a Transmission Pole, S for a stub pole, and J for telco owned- SDG&E attached, . Use the correct pole number on the pole or contact an SDG&E representative to give you a new pole number to use on your GFMS form.

- ➡ It's critical that the placement of all facilities are as accurate as possible. Often a handwritten sketch is submitted which has to be transferred onto a current facility map.

The GMDT form distribution is as follows:

- Originator keeps the Golden rod copy.
- Pink copy will be returned to the originator upon receipt of the GMDT at mapping and records.
- Yellow copy will be returned to the originator upon completion of the digitizing of the facilities requested.

Attach a current facility map and place a "X" in box 4 indicating that the facility map is being submitted with the GFMS form. Place a "X" in box 5 stating that the information being submitted has been field verified. DO NOT draw a sketch in the box with a "N", use a current facility map. Leave the remainder of the form blank for Mapping and Records.

If you have any questions about how to correctly complete a GFMS Mapping Discrepancy Transmittal form, call your lead/ supervisor or Contract Administrator.

## Vegetation Management Services REFUSAL FORM

VMA Number \_\_\_\_\_

To be filled out after property owner/agent refuses permission to enter property or to complete required work.

**Important: San Diego Gas & Electric is required by law to maintain safe distances between trees and powerlines. Refusal of necessary line clearance work increases the risk of safety hazards on your property such as power outages, electrocution, and fires.**

PROPERTY OWNER

AGENT

CONTRACTOR INFORMATION

NAME OF PERSON REFUSING			CONTRACTOR NAME	
STREET ( )	CITY	ZIP	CONTRACTOR'S REPRESENTATIVE ( )	TITLE
PHONE NUMBER		T.B. MAP#	PHONE NUMBER	
SIGNATURE		DATE	SIGNATURE	DATE

**DESCRIPTION OF VIOLATION (Required):**

CODE VIOLATION (Please Circle One) PRC 4293 PRC 4292 G.O. 95 Other \_\_\_\_\_

Tree(s) clearance to nearest primary conductors \_\_\_\_\_ ft (If more than one tree enter the range e.g. 4-6 ft)

Tree(s) species \_\_\_\_\_

Tree ID number(s) \_\_\_\_\_

Facility numbers \_\_\_\_\_

**DISCUSSION WITH PROPERTY OWNER:**

Representative / Company	Date	Type of Contact	Reason for Refusal

Original = SDG&E

Yellow = Contractor

Pink = Property Owner

## Appendix 8 – Sample Pole Brush Refusal Handout for Customers



A  Sempra Energy™ company

San Diego Gas & Electric  
Vegetation Management- Pole Brushing  
8315 Century Park Court CP22C  
San Diego, CA 92123-1530  
Telephone: 858-654-8617

### **Please read this important information about REFUSING to allow SDG&E to comply With State Laws.**

The purpose of this notice is to inform property owners about California State Law requirements regarding clearing flammable vegetation around high voltage power poles. San Diego Gas & Electric's Vegetation Management Program provides for public safety by reducing the risk of igniting flammable vegetation at the base of our power poles. SDG&E contractors will remove vegetation from around the pole(s) on your property that require clearance **no cost to you**.

#### **It's the LAW!**

**State Laws require utility companies to maintain specific clearances around high voltage power poles having specific types of electrical equipment.**

- **Public Resource Code, Section 4292-** requires SDG&E to maintain minimum firebreak clearances for the prevention of vegetation fires for those areas under the responsibility of the State of California Department of Forestry and Fire Protection and the United States Forest Service.
- **Title 14, California Code of Regulations, Section 1254-** defines firebreak clearances of flammable vegetation materials located around power poles:
  - (a) **At ground level-** remove flammable materials, including but not limited to ground litter, duff and dead or desiccated vegetation that will propagate fire to a minimum of 10 feet measured horizontally from the outer circumference of the specified pole.
  - (b) From 0-8 feet above ground level remove flammable trash, debris or other materials, grass, herbaceous and brush vegetation. All limbs and foliage of living trees shall be removed up to height of 8 feet.
  - (c) From 8 feet to the horizontal plane of the highest point of conductor attachment remove dead, diseased or dying limbs and foliage from living sound trees and any dead, diseased or dying trees in their entirety.



## **You Are Responsible!**

Property owners have an obligation to allow SDG&E the ability to maintain its facilities. Penal Code, Section 420.1 states that no one can restrict another's right to access or maintain their easement. SDG&E has the right to access and maintain its facilities through direct or secondary easements, franchise and prescriptive rights, which include the right to clear flammable vegetation and/or remove trees and the right of ingress/ egress over private land to reach those facilities.

As the property owner, please realize the liability you are accepting by allowing a hazardous condition to exist. In the event of a vegetation fire starting around the base of an uncleared pole, your property and others could be at risk. SDG&E will seek reimbursement for all claims and costs resulting from a fire where access to clearing vegetation is denied. If you have liability insurance coverage, we strongly suggest that you advise your insurance carrier that SDG&E has placed you on notice of a potentially hazardous condition created by refusing to allow SDG&E to comply with the law. You may wish to contact your attorney and obtain any advice they may have regarding your liability exposure.

SDG&E is committed to comply with all state and federal fire and safety regulations. Your cooperation will reduce the risk of vegetation fires in our community and allow us to continue to provide reliable electrical service to you and your neighbors.

Please contact SDG&E's Vegetation Management Program at 858-654-8617 to discuss any concerns, or to answer any questions you may have.

***Please, don't allow hazardous conditions***

***to be the cause of***


***FIRES and INJURIES.***

**Let's help keep our community safe.**

## Appendix 9 - Sample Tree Refusal Handout for Customers



San Diego Gas & Electric  
8315 Century Park Court Suite 22C  
San Diego, CA 92123-1550

A  Sempra Energy company

### PLEASE READ THIS IMPORTANT INFORMATION NOTICE ABOUT REFUSING TO ALLOW TREE TRIMMING NEAR HIGH VOLTAGE POWERLINES

The purpose of this notice is to inform property owners about the requirements of maintaining safe distances between vegetation and high voltage power lines. San Diego Gas & Electric Company's Vegetation Management Program, ensures the safety of the public by reducing the risks of fires and personal injuries from overgrown vegetation coming in contact or growing near electric facilities. SDG&E contractors will trim trees on your property that present a hazard, at no cost to you.

#### It's The Law!

State Law requires utility companies to maintain specific clearances (depending on the voltage running through the line) between electric power lines and all vegetation.

- **CPUC General Order 95, Rule 35-** requires SDG&E to maintain minimum clearances between vegetation and high voltage power lines. To minimize repeated trimming on a tree, utilities need to achieve at least one year of clearance.
- **Public Resource Code, Section 4293-** requires SDG&E to maintain minimum clearances, for fire prevention purposes, for those areas under the responsibility of the State California Department of Forestry and Fire Protection.
- **Cal OSHA, Title 8, Article 37-** States that no person shall come within 6' to 16' of energized high voltage power lines, and that no boom type of lifting or hoisting equipment shall come within 10' to 20', depending on the voltage of the high voltage power lines. This also means, there cannot be personnel or equipment in trees, such as Avocado or other fruit trees, six (6) feet or less from the high voltage power lines.

( over )

## You Are Responsible!

Property owners have an obligation to allow SDG&E the ability to maintain its facilities. Penal Code, Section 420.1 states that no one can restrict another's right to access or maintain their easement. SDG&E has the right to access and maintain its facilities through direct or secondary easements, franchise and prescriptive rights, which include the right to trim and / or remove trees and the right of ingress / egress over private land to reach those facilities.

As the property owner, you must realize the liability you are accepting by placing personnel and property in danger by delaying any required tree trimming to be performed by SDG&E. In the event your tree(s) cause damage to SDG&E property, the property of others, or bodily injury, SDG&E will seek reimbursement for all damages directly from you. Any third parties who have sustained damages as a result of your denying the tree trimming activity to be performed, will be referred directly to you for recovery of their losses. If you have liability insurance coverage, SDG&E strongly suggests that you advise your insurance carrier that SDG&E has placed you on notice of a potentially hazardous condition created by your refusal to allow its contractors to trim the trees. You may wish to contact your attorney, and obtain any advice they may have regarding your liability exposure.

Should you continue to deny SDG&E access and the ability to maintain its facilities, SDG&E will provide an escort for its contractors to ensure proper exercise of its easement rights, to restore public safety around its facilities. This escort will be comprised of personnel from SDG&E Security Operations and/or the local law enforcement agency.

Please contact the SDG&E area representative to discuss any concerns, or to answer any questions that you might have.

**DO NOT ALLOW YOUR TREES TO BE THE CAUSE OF  
FIRES, INJURIES OR DEATHS! LET'S MAKE YOUR  
PROPERTY SAFE!**



Ticket I.D. No.: 25030

**SDG&E - Vegetation Management Program  
TREE REMOVAL AUTHORIZATION**

As the authorized agent, I \_\_\_\_\_ (print name) do hereby authorize SDG&E to remove \_\_\_\_\_ (quantity) \_\_\_\_\_ (species) located at \_\_\_\_\_ (property address, city, & zip code).

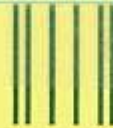
This work will be done by SDG&E **at no cost to me**. I understand that; (1) wood over 3 inches in diameter will be cut, whenever practical, into a manageable size and left at the site, unless requested otherwise, (2) branch debris will be removed from the site by SDG&E, (3) SDG&E will not grind/remove stumps.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Phone No. \_\_\_\_\_ (hm) Phone No. \_\_\_\_\_ (wk)

VMA # _____	Tree I.D.# _____
Crew type: lift/climb (circle one)	Start pole# _____ Stop pole # _____
Ownership: private/city/county/state/federal (circle one)	
Comments: _____	

FORM 111-04152 1/99



NO POSTAGE  
NECESSARY  
IF MAILED  
IN THE  
UNITED STATES

**BUSINESS REPLY MAIL**  
FIRST-CLASS MAIL PERMIT NO. 1012 SAN DIEGO CA  
POSTAGE WILL BE PAID BY ADDRESSEE



**SAN DIEGO GAS & ELECTRIC**  
PO BOX 129831  
SAN DIEGO CA 92112-9749





## New Transmission Vegetation Work Summary

### Steel Transmission Tower and Pole Brushing

In an effort to reduce fires caused by SDG&E facilities the Transmission Construction Maintenance (TCM) Department is requiring Vegetation Management to clear all flammable vegetation around any steel transmission pole or tower with an above grade exposed ground wire.



**Example:** Above grade exposed ground wire (Left is a steel tower footing; Right is a steel pole footing)

The exposed ground wires have been identified by SDG&E as being a potential fire starting threat. To mitigate this hazard, Vegetation Management has been assigned to oversee the inspection, data collection and work flow to insure that these structures are cleared on an annual cycle.

In addition to the risk of fire starts, it is also been deemed that vegetation obstructing the view of the cement footing as well as any vegetation that can be used to climb onto the structure be removed. The additional vegetation removal criteria are to ensure compliance with transmission safety standards not related to fire prevention.



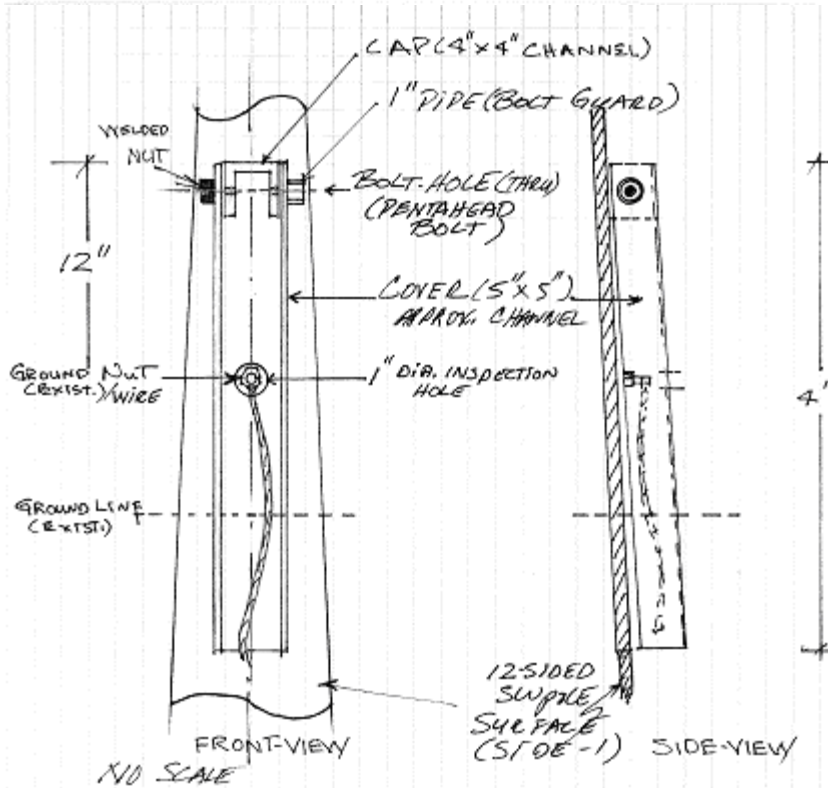
**Example:** These trees can be used to climb the structure and require removal.

The scope of this work includes all steel transmission structures that have 138 and 230 kV lines. The 500 kV line was excluded because it is maintained on a separate work schedule, which is overseen by TCM. The voltage is indicated by the first 3 digits in the tie line number and the first digit on 69 kV lines (i.e. TL23030 or TL614). The steel 69 kV structures have been designed with a steel cover placed over the exposed ground wire, so the risk of fire starts is negligible. Currently the 69 kV lines being converted from wood poles to steel poles have the ground wire cover on them. All structures completed before the ground wire cover was standardized in installation are being retrofit. The retrofit was intended to reduce theft of the copper wire; in turn some of the covers still have exposed portions of the wire. If a steel 69 kV pole has not yet been retrofit with the ground wire cover upon inspection, or if the wire is not completely covered, it is to be listed with the same criteria as the 138/230 kV structures and the vegetation will be removed.

PROJECT GROUNDING ASSEMBLY COVER JOB NO. SKETCH  
 SUBJECT REF. VALMONT DWG AG5031A COMPUTED BY \_\_\_\_\_ DATE \_\_\_\_\_  
GROUND NUT DETAIL 5. CHECKED BY \_\_\_\_\_ DATE 9/15/08

DETERMINE CHANNEL SIZES WELD LOCATIONS & BOLT SIZE AND HOLE DIAMETERS.

THANKS JES  
9/15/08



**Example:** The general construction plans for the exposed above grade ground wire cover. The assembly was originally to prevent theft, but alleviates the fire threat.



**Example:** Exempt above grade ground wire covers. These poles do not require brushing.



**Example:** Above grade ground wires without the cover. These poles require brushing.



**Example:** The ground wire cover does not completely cover the copper wire creating a fire hazard. These poles will require brushing.

Based on these needs the following criteria have been put into place:

- All vegetation within 5 feet of the tower or pole footing will be removed to bare soil and up to 8 feet above ground
- Vegetation encroaching the climb guard on towers and the lowest step on poles will be pruned back to a distance of 10 feet
- Vegetation under the towers and between the footings will be mowed down to 1 to 3 inches high

Updating a Record

1. Update the customer information with any new owner or tenant information associated with the location. Add any SDG&E keys or access issues involved with brushing the structure. Always be aware of U.S. Forest Service and CAL Department of Fish and Game boundaries. These areas require specific access requests as do military installations. They will all be properly identified on the pre-inspection map.



**Edit Brush** [1783687, 194583]

Brush | Location | Refusal

Vegetation Address Street City Zip  
 10201X JAMACHA BL SV 91977

Type Federal Poles Z200599 Z200599

Notes  
 Type Description  
 Call Customer Call first - Contact owner before trim:Phone  
 Access to property : Schlage key required  
 Misc. Information : 1-Contact Fred Workman 619 247-9399  
 Misc. Information : 2-BEFORE entering preserve  
 Misc. Information : US Fish and Game Wildlife Refuge

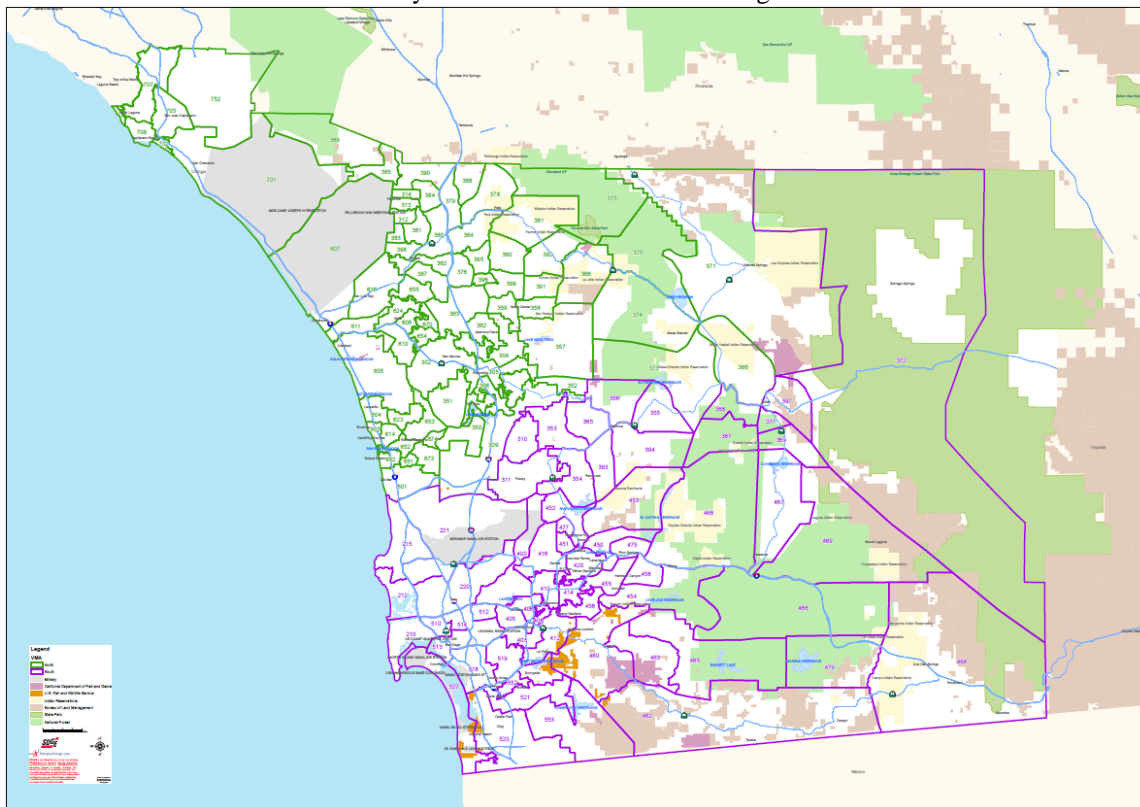
Owner  
 Name (Same as Tree)   
 Address Street City Zip  
 10201X JAMACHA BL SV 91977

Thomas Brothers 1291 - H4  
 VMA 460

Contact  
 Name  
 Phone  
 Time

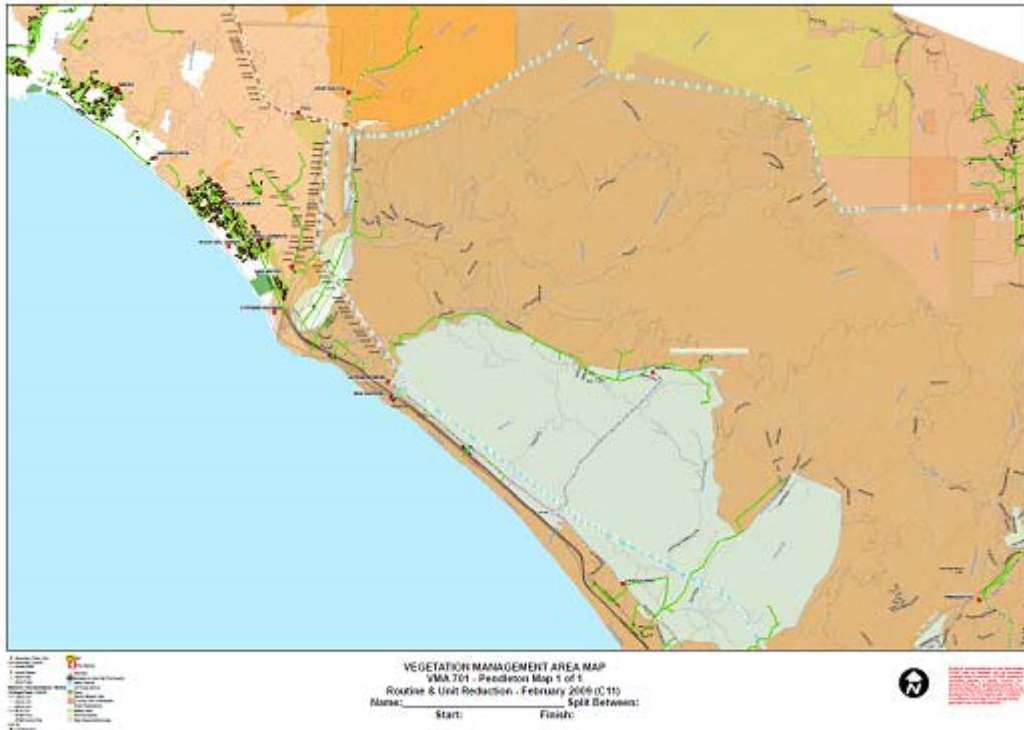
FU2375 - No Chemical [Update] [Cancel]

**Example:** Location page of a Steel Transmission Tower on a US Fish and Game Wildlife Refuge. There are certain contacts for Forest Service Areas and Fish and Game that the PI may not have access to. If the contact information is unknown always consult the lead before leaving the record.



**Example:** Map of the entire service territory of SDG&E showing the different land ownership. Pre-inspectors receive a map for every VMA shown in purple on above overview map.





**Example:** Pre-Inspection map showing all the ownership agencies within the VMA.

2. Provide detailed directions to the structure, being that most of the transmission lines are on SDG&E easement roads; they are not always easily located or traversed. This information is to be written in the brush notes page as a list. The contractors do not have MDT's so the most accurate directions are very helpful. The tie-line number should also be included in the record, which can be found on the structure usually underneath the pole number or on one of the legs of the tower (i.e. 23041).



**Example:** 230 kV tie line



**Example:** 69 kV tie line

**Edit Brush** [1783687, 194583]

Brush | Location | Refusal

Pole ID : Z200599

Status  
 No Work Required  No Status Change - Edit Only  
 Needs Brushing

Possible Notes  
 Sunrise Trim  
 Sunrise Removal  
 ESA Restriction  
 Cleveland National Forest  
 Tree-house  
 Major Woody Stem  
 Access from alley  
 Access easement road  
 Hike in - can not turn around  
 Located in backyard  
 City Tree  
 Trees in canyon behind house

Applied Notes  
 1- Access Preserve 25yds S/O Whitestone Rd  
 2- Follow dirt rd 2.5mi to locked gate  
 3- From locked gate drive 0.25mi S to locked gate  
 4- Head N on dirt rd to 1st split - head E up mou  
 TL632 and TL13824  
 4X4 Required  
 Clear Grass  
 Clear Leaves and Debris  
 5 foot ground clearance  
 Steel Transmission Pole Brushing

Last Visit : Thu April 01, 2010 @ 10:06:46 AM  
 Last Brush :

BJ2238 FU2375 - No Chemical

Update Cancel

**Example:** Brush page showing all the information needed to brush the pole (directions, tie-line, ground clearance, type of work required, and miscellaneous information)

- Update the brush page with any vegetation notes necessary (i.e. Clear Grass, and Clear Leaves and Debris). If there is a tree granting climbing access to the structure the canned comment “Remove Encroaching Vegetation” is to be added to the record. The notes change annually due to the amount of vegetation growth and the use of herbicides. The canned comment: “clear light or heavy brush” is primarily used for the first brush cycle and should be removed when necessary along with the “trim above ground” comment. The structures are cleared twice a year curbing the vegetations ability to reestablish itself. The “5ft ground clearance” comment will be added to all records requiring maintenance, along with the comment “Steel Transmission Pole or Tower Brushing” accordingly.



**Example:** heavy brush towers (add comment “clear heavy brush,” these towers will not need this comment the following year)



**Example:** These two towers were brushed 4 months prior to the photo. Both towers had heavy brush underneath and near their footing. Due to the time frame of brush cycles, the vegetation cannot reestablish itself and only light

grasses and weeds should be present for the next inspection. Therefore, the following year the pre-inspector should remove the canned comment “clear heavy brush.”

4. LC or LT. The criteria for LC status is different for steel transmission brushing than PRC-4292, being that part of the vegetation removal is conducted for visual inspection. The structure may pose very little, if any fire danger, but if the ground wire is not visible the structure will be cleared. As well as if there is vegetation encroaching the structure allowing climbing access.



**Example:** This pole will be cleared this year, but might be Landscape Exempt the following year.



**Example:** The palm requires removal. It provides access to the climbing guard

5. Add any miscellaneous information to the record such as “poison oak.” The canned comment “4x4 Required” is very important for the contractor because they will have to hike to the structure if the proper truck is not utilized. The contractor will also have to hike in all their equipment and they are required to haul all debris from site. If bees are in the area near the structure it should be noted with a CAUTION: on the brush notes page. This note can be queried by SDG&E so the bees can be removed before the work is released to the contractor. Noise made by the equipment used by the contractors agitates the hive and then the brushers are repeatedly stung.



**Example:** Beehive 20ft from the radius on 2 downed poles. The contractors were swarmed when they started their equipment.



**Example:** Poison Oak. Some of the contractors are immune so the comment determines who will brush the pole.

6. Any structure that has not been cleared in the past and requires brushing should be updated with LC status and the canned comment “Alert: New pole requires brushing” needs to be added. SDG&E requires that these poles be inspected by a biologist and possibly an archaeologist to make sure the work is not disturbing any sensitive species beyond their mitigation. San Diego is home to many culturally sensitive areas along with sensitive species of plants and animals.
7. There are many raptor species in the area and they often choose the tower or pole arms to establish their nest. The presence of the nest on any structure creates ESA restrictions for what time of year the vegetation may be cleared



from the structure. These nests can be hard to see and easy to overlook. If a nest is present on a structure, add the canned comment “raptor nest” to the record. These structures will be cleared outside the breeding season to avoid disturbing the species.



**Example:** Raptor nest in a steel transmission tower near Mission Valley

### Transmission Reliability Pole Brushing

The focus of the Transmission Reliability Pole Brushing is to insure that 138 kV and 230 kV wood transmission poles survive a fire from an outside ignition point. Poles that are surrounded by flammable non-maintained vegetation and are in locations that are fire prone will be brushed. Brushing includes the removal of all flammable non-maintained vegetation within a 10 foot radius of the pole from the ground to 8 feet above the ground.



**Example:** 138 kV poles located on the edge of very flammable canyon.

The criteria used for selecting a pole brushing site included the following factors:

- The presence of flammable vegetation within 10 feet of the pole
- The proximity of naturally vegetated non-urban areas
- Spotting potential of fires from other natural non-urban areas to reach the pole
- Accessibility and visibility of the pole
- Potential for fire movement through SDG&E easement





**Example:** 138 kV poles located in rolling fields with a lot of grasses which will eventually dry out.

Inspections of these sites are to be completed on a special inspection annually. The data collected will be maintained in the Vegetation Management System (VMS). The sites that do require pole brushing will be maintained on an annual cycle.

#### Listing Procedures:

- Update customer information and any keys or access issues associated with the location.
- Update brush information: Clear grass, Leaves and debris as necessary, and the comments: “10 foot ground clearance” and “Transmission Reliability Pole Brushing”
- Add directions to the pole if the address is a matrix (meaning there is no physical address or owner associated with the location).
- Add any miscellaneous notes such as “4x4 required,” “poison oak,” “beehive in or near the radius,” or “raptor nest.”
- If the pole has never been cleared in the past add the “Alert: New Pole Needs Further Evaluation” comment and update the record LC with all the associated brush notes required for clearing.

### TCM Inspection Vegetation Clearance

The purpose of the TCM Inspection Vegetation Clearance project is to put vegetation related inspection issues for transmission poles on a maintenance schedule. Previously, inspection issues and infractions relating to vegetation near transmission poles were dealt with reactively through an internal system at SDG&E known as Task Tracker. These were jobs recognized by linemen and other SDG&E employees in the field and handled on a case by case basis. SDG&E has determined that it would be more efficient to initiate special vegetation based inspections for these issues and create a maintenance schedule.

The scope of the vegetation related issues were limited to three main vegetation infractions or impairments to inspection:

1. Vegetation at the base of the pole: Poles where vegetation at the base restricts the visual inspection are to be cleared to bare soil within 5 feet of the pole. Poles surrounded by knee high grasses or where more than half of the base is visible do not meet the pole brushing criteria and will not be cleared.



**Example:** Two poles where the vegetation is too thick for inspection



**Example:** These two poles had tall grass that could be cleared away easily enough not to require brushing. From a distance they can appear to be in thick brush

Listing Procedures:

- Update customer information and any keys or access issues associated with the location.
- Update brush information: Clear grass, Leaves and debris, along with the comment “TCM Pole Butt Clear 5 Feet”
- Add directions to the pole if the address is a matrix (meaning there is no actual address or owner associated with the location). The poles are very hard to find if there is no address or directions and it is one of the easier steps to forget.
- Add any miscellaneous notes such as “4x4 required,” bees hive in or near the radius, or raptor nest.
- If the pole has never been cleared in the past add the “Alert: New Pole Needs Further Evaluation” comment and update the record LC with all the associated brush notes required for clearing.

**New Brush** [1691358, 327752]

Brush | Location | Refusal

Pole ID : Z???????

Status  
 No Work Required  No Status Change - Edit Only  
 Needs Brushing

Possible Notes  
Trim dead wood above 8ft to crossarms  
Cleveland National Forest  
Brush Outside of Fence Only  
Raptor Nest  
Hard Packed Soil  
Irrig Ornamentals  
Leave Healthy Ornamentals; Clean Under  
Maintained Yard  
Healthy Iceplant  
No Number on Pole  
Transmission Reliability Pole Brushing  
Signed Refusal - Do not trim.  
Verbal Refusal - Do not trim.  
Poison oak  
Sunrise Trim

Applied Notes  
Pole located 25yds W/o int- Echo Hills- Bound:  
Alert: New pole needs further Evaluation  
Roadside pole  
TL636  
Clear Grass  
Clear Light Brush  
Clear Leaves and Debris  
5 foot ground clearance  
TCM Pole Butt Clear 5 Feet

Last Visit :  
Last Brush : TCM Pole Butt Clear 5 Feet

OJ34 - Listed Clear

Create Cancel

**Example:** Brush record for a new pole only requiring brushing for pole butt. The pole was updated with the information needed for brushing, add the “Alert:” comment and update as No Work Required.

2. Vegetation at the base of anchor rods: Anchor rods that are overgrown with vegetation restricting visual inspection of the anchor rod where it meets the ground are to be cleared of all vegetation within 3 feet of the anchor rod. Anchor rods surrounded by knee high grasses or anchor rods where more than half of the base of the anchor rod is



visible do not meet the brushing criteria. The anchor rods will be only cleared once and inspected on a special inspection.



**Examples:** Anchor rods that require brushing. The top right photo is a completed job with a 3ft radius around the anchor rods. These are done on a case by case basis and will only be cleared once

3. Vegetation impairing climbing space: Poles that have vegetation preventing a lineman from climbing to the transmission lines are to be cleared. When trimming is to occur it should create approximately 3 feet of space around the pole so that a lineman may easily climb the pole. Lines accessible via bucket truck are excluded from vegetation climbing space needs (i.e. roadside poles).

Edit Brush			[1753462, 228383]
Brush	Location	Refusal	
Pole ID : Z179151			Status <input type="radio"/> No Work Required <input type="radio"/> No Status Change - Edit Only <input type="radio"/> Needs Brushing
Possible Notes No Number on Pole Transmission Reliability Pole Brushing TCM Pole Butt Clear 5 Feet Signed Refusal - Do not trim. Verbal Refusal - Do not trim. Poison oak Sunrise Trim Sunrise Removal ESA Restriction Cleveland National Forest Tree-house Major Woody Stem Access from alley Access easement road Hike in - can not turn around		Applied Notes TCM Climbing Space TL619 Located in backyard	
Last Visit : Thu August 27, 2009 @ 02:32:38 PM			
Last Brush :			
SS3809 - Compltd/Trimmed			<input type="button" value="Update"/> <input type="button" value="Cancel"/>

**Example:** Pole record where the only brush criteria is climbing space access.



**Example:** Pole requiring climbing space. It is located in a backyard butting up to a canyon. There is no bucket truck access and the pepper tree in growing too close to the pole.



**Example:** From one side of the pole it appears to need trimming for climbing space. But the proximity to the parking lot allows bucket access negating the climbing access issue.



## Local Responsibility Areas (LRA):

Local Responsibility Areas are land areas where Cal Fire, the US Forest Service or the Bureau of Land Management is not the primary fire protection agency. These are land areas that are “within the exterior boundaries of any city.” (Section 4127 (b), *Power Line Field Prevention Guide*) LRA have traditionally been excluded from the rigorous pole brushing guidelines in State Responsibility Areas (SRA) and Federal Responsibility Areas (FRA) because most or all of the LRA land contain minimal wildland fire risk.

SDG&E recognizes that despite the LRA classification there are areas within the LRA boundaries that would support a significant wildland fire. In these areas which can support a significant wildland fire, poles with non-exempt hardware are recorded in the VMS database and brushed.

SDG&E has created a pole brushing criteria for poles with non-exempt hardware in LRA. This criteria includes acreage, fuel type, slope, values threatened and access. The LRA pole listing procedures are to only be applied when a Pre-inspector is in LRA, which are designated on Pre-inspection maps. The following is a detailed description of each criteria for listing a pole for brushing in LRA.

- ✓ Acreage: Land areas that are approximately 1 or more acres.
  - An acre of land is roughly equal to the size of a football field.
  - If the area around a pole is 1 or more acres but is split by maintained or well worn dirt roads it does not meet the LRA criteria for pole brushing.



P277890 has lots of dry grasses at the base of the pole and would require brushing in SRA.

Since P277890 is in a LRA, major paved roads and has to burn, it will not be



surrounded by less than 3 acres brushed.

- ✓ Fuel Type: Land areas that exceed the acreage requirement and are covered with non-irrigated contiguous chaparral and grasses.
  - If the vegetation is regularly mowed / plowed, or the brush / grass is sparse over the 1 + acres, it does not meet the LRA pole brushing requirements.

This is a 9 acre field but it would not be considered for pole brushing because the vegetation is mowed regularly.



- ✓ Slope: Land areas that have slopes create the potential for rapid uphill fire runs.
  - Land areas that have a slope greater than 10% are considered as having the potential for rapid uphill fire runs. (A 10% slope is equal to walking 10 feet horizontally and over those 10 feet moving up one foot vertically.) If the slope is less than 10% the preheating factor of a fire moving up a slope is not considered significant.
  - Poles that are at the peak or near the peak of a hill are not considered significant because of the short distance to the top of the slope. It is very common with homes along the south rim of Mission Valley (the north most homes in University Heights, Kensington and Normal Heights) to have a utility pole five feet down slope of their backyard. Over time the repeated brushing of these poles will erode a homeowner's backyard causing thousands of dollars in damage. These poles are not brushed.

This pole should not be brushed because it is at the top of the canyon and brushing will cause significant erosion damage to homes above.





- ✓ Values Threatened: Land areas that contain or are bordered by infrastructure (communication towers, residential structures or commercial buildings, etc.).

Homes at the top of a canyon are valuable structures that are protected by pole brushing.



- ✓ Access: Land areas that do not provide quick and easy access for fire suppression resources.

- Places that do not have roads, are blocked by houses and gates, only have one way in and out or are at the bottom of canyons qualify as places with poor access and would increase the amount of time it would take for a fire crew to respond to the fire.

These poles have poor access due to very steep slopes that increase fire suppression response time.



*It is important to note that not all of these five factors need to be present at a pole for the pole to need brushing. It is required that meet the acreage and fuel type before the pole can be considered*

*the pole must requirement for pole brushing.*



This pole does not meet the access criteria. The pole is on a major road and visible from Interstate 8 but we brush the pole because it meets the acreage, fuel type, slope and values threatened criteria.



This pole is easily accessible and the flammable vegetation is downhill of the pole.

significant amounts of brush is so large that this pole will be



But this pole also is surrounded by and the acreage brushed.

**LRA Poles in the Management System**

**Vegetation (VMS)**

All LRA poles need to be able to be identified in the VMS so that they can be tracked. There are two major rules for tracking LRA poles in the VMS.

1. Only poles that need brushing have pole brush records in LRA. If a pole has non-exempt hardware in LRA and is Landscape Exempt do not create a pole brush record. Landscape Exempt poles in LRA are not recorded in the VMS database.



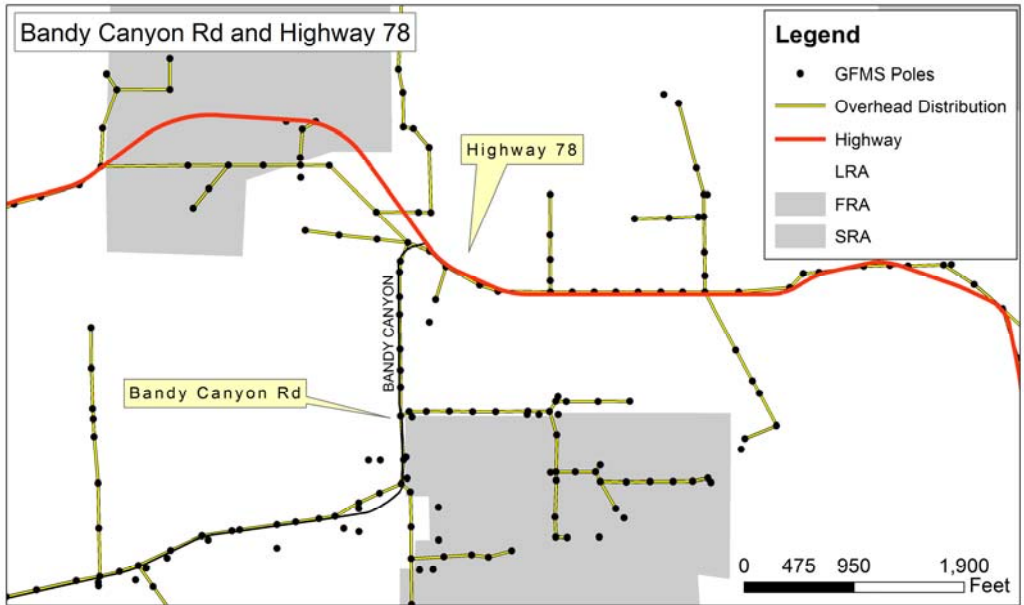
2. Add the canned comment “LRA Pole” to the brush notes for every LRA pole. The “LRA Pole” canned comment is how the LRA poles are tracked in the VMS.

(Note: New LRA poles are subject to the same environmental review process as SRA/FRA Poles. All new poles should be given a LC status and the “Alert:New pole needs further Evaluation” as well as the “LRA Pole” comment in the brush.)

## **LRA Special Situations**

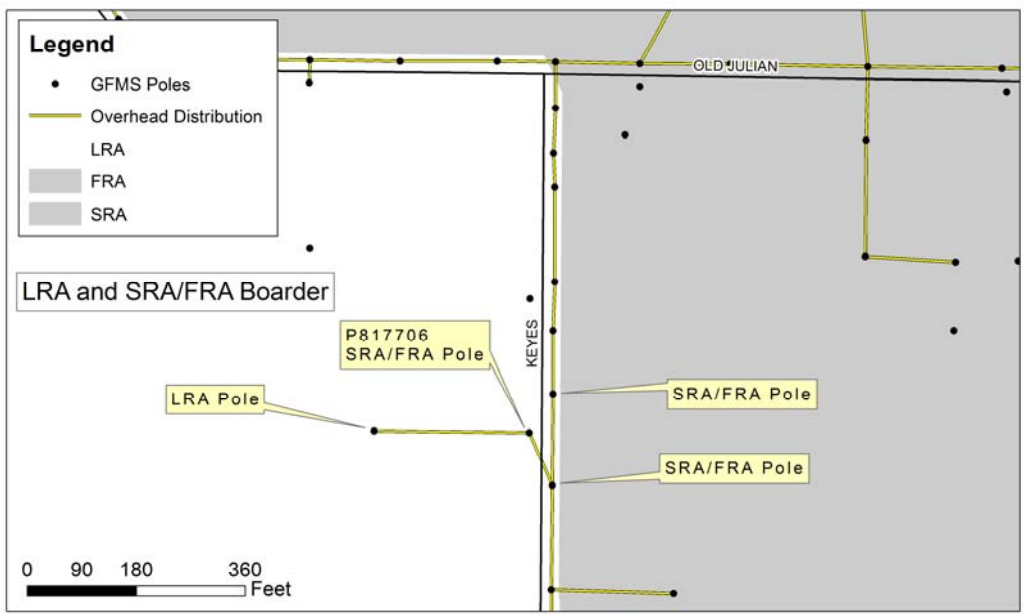
Within the LRA there are special situations which require modified listing criteria. These situations are listed below.

- o La Jolla / VMA 215: There are two canyons in the La Jolla area that have wood poles with transmission and distribution lines on them. These two canyons contain thick flammable brush with steep slopes. At the top of these canyons are many biotech companies that are dependant on the power SDG&E provides. In order to protect these unique businesses SDG&E has determined that it is necessary to brush these poles to prevent any possible fire starts and to insure that if a fire were to occur in these canyons the poles would have a decreased chance of destruction. The two locations are shown below:
  1. Genesee Sub to North End of Campus Point Drive (T.B. 1228 C1 - 1208 B7): This line is accessed via easement road across from 4377 Eastgate Mall Drive. The two pole lines run from Z69538 / FM13752 to Z96525 / FM13782. All poles in this canyon with transmission and distribution lines on them require pole brushing. Some of these poles have non-exempt hardware on them as well and you will need to update the hardware as necessary in the brush notes tab.
  2. General Atomics / Tower Road (T.B. 1208 A6): All of the poles between Z63343 / DB10 and Z63457 / FY5104 have transmission and distribution lines and require brushing even if there is no non-exempt hardware on them. Some of these poles also require an expanded pole brushing circle of 20 feet. Leave all brush instructions in the brush notes that expand the pole brush radius past the standard 10 feet.
- o SRA / FRA Proximity: LRA that are adjacent to SRA and FRA present a greater fire risk because the chance of a large fire is higher if the fire were to spread or spot from LRA to SRA or FRA lands. When LRA borders SRA or FRA the fire risk increases and the pole brushing criteria is expanded so that more poles are brushed. An example of this expanded brushing criteria is the area around San Pasqual Valley Rd (Hwy 78) and Bandy Canyon Rd. The intersection of Hwy 78 and Bandy Canyon Rd is in LRA, but less than a quarter of a mile West on Hwy 78 is SRA.



The portion of Hwy 78 that is LRA is so close to SRA and large areas of flammable vegetation that any poles with non-exempt hardware are brushed regardless of the five criteria for brushing poles in LRA. The basic rule of thumb for listing LRA poles that are adjacent to SRA or FRA is that ***if a fire could spread or spot into SRA or FRA the pole must be brushed*** regardless of the acreage, fuel type, slope, values threatened or access. The result of this is that the closer the pole is to SRA or FRA the more likely it will be brushed.

- **LRA Borders:** It is quite common that poles appear to be within a few feet of the LRA and SRA/FRA border. Often times LRA boundaries are drawn along roads that have a circuit that runs along the road. In these situations where the poles are within 10 to 15 feet of the LRA boundary they are to be considered as being in SRA or FRA lands. In situations where circuits and LRA borders run along the same road all of the poles are to be considered in SRA/FRA lands and listed accordingly.



P817706 is in Ramona and lies close to the LRA and SRA/FRA border. The LRA ends at Keys Rd and it appears that P877706 is on the West side of the road. In this situation P817706 is considered a SRA/FRA pole even though it lies on the side of the road opposite of the SRA/FRA. If a road is the boundary between LRA and SRA/FRA the whole road easement is considered a part of the SRA/FRA. If P817706 had non-exempt hardware the pole would be put into the system **without** the "LRA Pole" comment in the brush notes and updated as LC or LT.