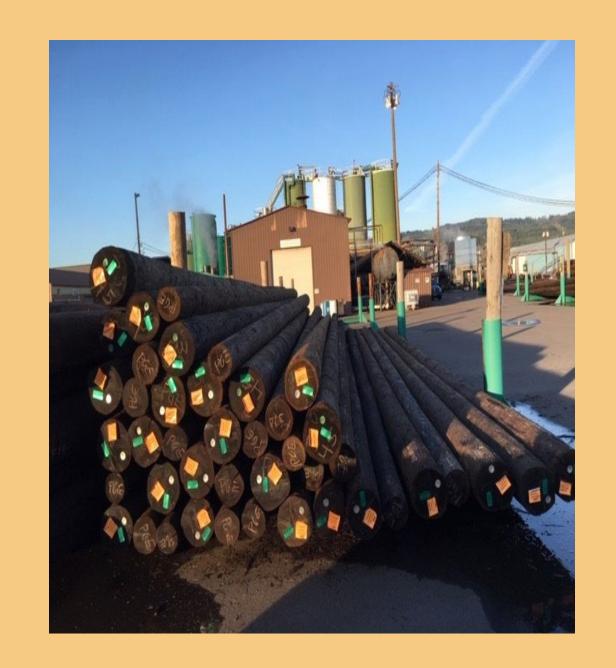


#### **Personal History**

- -Started with company in 2015.
- -Buy poles for yards in Sheridan and St Helens.
- -Going to be talking about the Doug-fir pole business

#### **Company Background**

- -6 pole yards in Oregon and Washington
- -5 treatment plants on West coast



#### **Utility Poles**





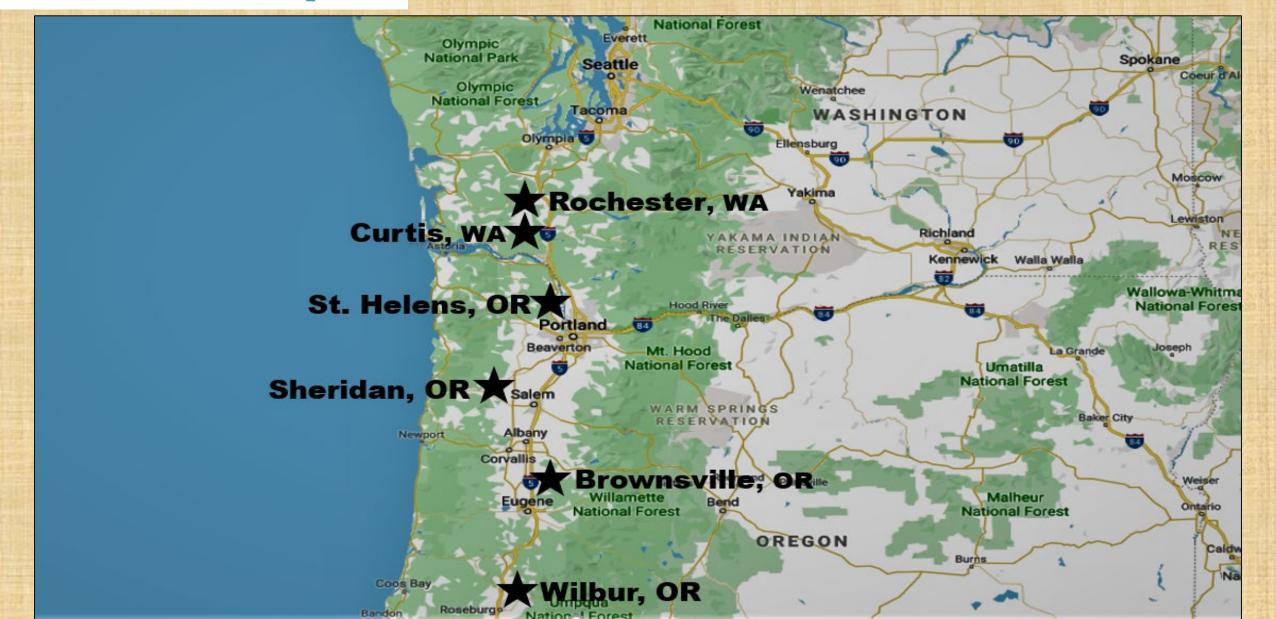
**Council On Forest Engineering** 

#### **Overview**

- -Approximately 120 million power poles in North America
- -Replacement of 1% per year (1.2 million poles)
- -Utility poles have a 40-70 year life span, depending on species, treatment, and location



### Western U.S. Douglas Fir Pole Yard Locations





-Each yard receives and peels an average of 7 loads of poles per day.





- -The company does not own timber land.
- -Poles are purchased from private lands, ODF, BLM and Forest Service timber Sales.



#### We Buy Poles From 30'-140'





30' Distribution Pole

140' Transmission Pole



-An average stand of timber might have 5-10% poles -An outstanding stand will have 30-40% poles



### Pole Timber <a href="#">Characteristics</a>

- 45 years and older
- Straight
- Well spaced limbs
- Free of defects
- No spike knots, scars or rot
- 12"-30" butt dia.
- Uniform taper
- Call if you need an evaluation



#### **Pole Defects**



**Sucker Limb** 



**Spike Knot-Included Bark** 



#### **Tree Growth Defects**





Thin Sap-Need At Least 1" Of Sapwood

Sweep



In current markets poles are worth approximately \$200-\$400 more than logs, depending on size, quality, and distance to mills.





Pole logging costs are generally higher than logs due to extra care required in handling.





45'-55' poles are always in high demand.

Most log trucks can haul poles 55' and shorter without the additional cost of a specialized pole truck.







- -Long poles have the highest value
- -Higher logging and hauling cost.
- -Capturing the value requires
- 1) Getting them to the yard in one piece, without damage
- 2)A road built for long loads



#### **Machine Falling Poles**

- -Most poles on the market are cut with a machine.
- -Fast
- -No man on ground. Safe
- -Don't get a good look at defects
- -More handling with machines with potential damage to pole



### Hand Falling And Bucking



#### **Advantages**

- -Cutter can walk strip looking for stumps and broken ground to avoid.
- -Cutter can see pole and defects as he works tree.
- -Full manufacture of pole in brush
- -Less handling
- -Less damage



#### **Disadvantages**

- -Good pole cutters are hard to find.
- -Slower than machine
- -Companies moving away from hand cutters on ground. dangerous job



#### Falling Damage



Visible Breakage



Internal breaks & driven knots can be hard to see in bark



## Most poles produced on shovel, or cat sides with a processor making the pole





#### Machine Damage



- -Grapples on shovels, cats and skidders
- -Heeling rack on shovels
- -Processor-wheels and knives





Landings need to be large enough to process, deck and load poles



# Poles also produced on yarder and helicopter jobs



Can be tough to save poles on steep ground



-Crane logging poles
120 feet and up in
British Columbia.
high value \$

-Trees limbed and topped prior to removal





#### Clearcut

- -Most poles on the market come off clearcut units.
- -Every tree is harvested and has potential to be a pole.



- -Clearcut ground is full of stumps with high potential for breakage.
- -Trees are fell into open ground with nothing to slow them down.

### McFarland Cascade® a Stella-JoneS company

#### **Thinning-Pre-Pole**

-Logging poles first before clearcutting a stand

-Main advantage is to fall poles into other trees to slow down the speed of tree and save the pole.



**Tree Fell Into Standing Timber** 

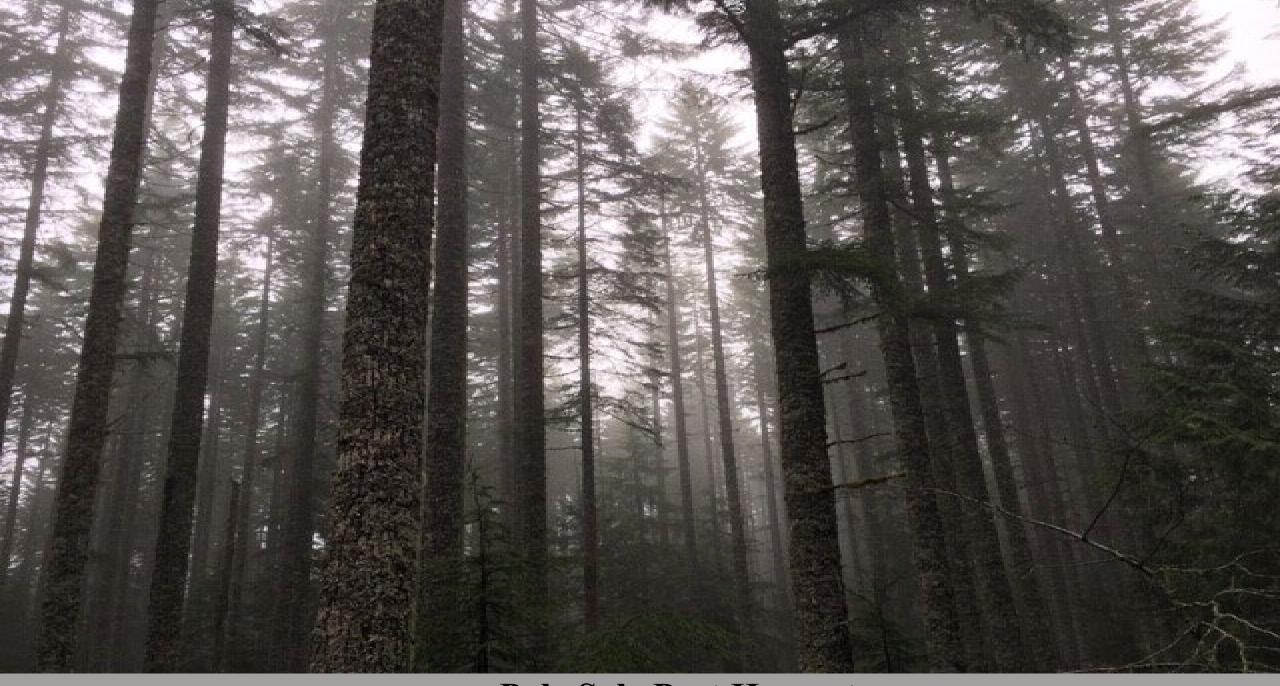


- -Opportunity to design sales for high value poles
- -This ODF sale removed 8 trees per acre in 85 year old timber
- -Removed 65'-135' poles
- -Post harvest stand had 85 trees per acre
- -Plan to manage residual stand for birds and wildlife
- -Sold by ODF for \$978.04/MBF in 2018

#### **Thinning-Pole Sale**



**Post Harvest Timber Sale Shown Above** 



**Pole Sale Post Harvest** 



#### Designing roads and landings for poles

- -The straighter the road the better for hauling long poles
- -If a low boy or long logger can make it, a specialized pole truck can get at least 90' poles out.
- -Tail sweep will be the limiting factor on the longest pole.





#### -Design crossings with

- 1) Long enough culvert
- 2) Wide enough road
- 3) Excavated banks for tail sweep
- 4) Remove trees for tail sweep & belly sweep
- -Greater the turn radius the better
- -100' radius good rule of thumb

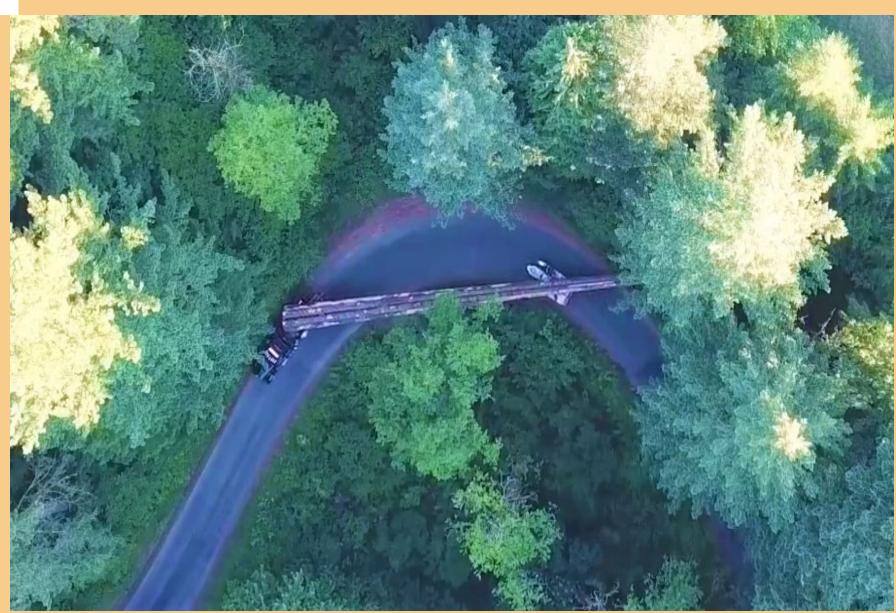
#### Stream crossings-tail sweep





### Belly sweep and tail sweep in a corner

- **-120' poles**
- -Requires steer trailer
- -Removal of trees on inside and outside of corner
- -Excavate banks where necessary







Short pipe (40') limits road width through crossing.

### Planning and communication between roads and timber.





-Switchback with elevation change 120' Poles

-Sharp Dips or humps can tear brake and air lines in half





-Avoid steep elevation changes in crossings and switch backs

#### **Switchbacks And Corners**





-Excavated nose of ridge and filled outside edges of road to increase turn radius



#### Road width in corners

Trailer On It's Side.

Road Was Too Narrow.

9' Road width





#### **Expanding road width**



- -Excavated the nose of ridge and widened road surface for tail sweep.
- -Slight slope of road to outside edge of curve helps trailer track better.



#### Road and landing location for poles



Poles are decked along the edge of road, parallel to the road. Flat ground and wide roads make best landing locations. Straight stretch and flatter the grade the better for loading.



#### **Intersections-Tail Sweep**

### Avoid narrow 90 degree corners when building new roads





Build junctions of new spurs with as wide of a curve as possible



#### **Highway Hazards-Tail Sweep**



-Signs, poles and roundabouts



#### **Highway Hazards**

- -Traffic
- -Distracted Drivers
- -Pilot Cars





# For evaluation of poles and roads in Oregon

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