

Chelan & Leavenworth Substation Property Planning

Board of Commission
Update

March 20, 2017

Today's Agenda

- Provide update on Chelan and Leavenworth since the March 6th Board update
- Share feedback from the Community Focus Group
- Review plan to proceed on both Chelan and Leavenworth

Requesting approval plan to proceed

Chelan North Shore Update

- March 6th Board Meeting
 - Reviewed costs drivers above the typical (~ \$5M Substation)
 - Additional transmission lines
 - Additional overhead distribution lines
 - Higher overall construction costs (\$12.3M to \$9.1M)
 - Community concerns about increased amount of overhead wires
 - Adding height to transmission lines (taller poles)
 - Adding distribution under-build on transmission (more wires)
 - Obstructing views of Lake Chelan
 - Customer advocating for underground options and options for paying for the added cost (surcharge and Local Utility District options)

Chelan North Shore Update





Staff efforts ongoing since the March 6th update

- High level review of view impacts on the North Shore from the 3 sites presented
- Review of current power line easement rights
- Further understanding of what under grounding the overhead power lines might entail
- Understanding that the further we move away from locating a substation from where the power is needed we are introducing more complications, cost and potential unintended consequences
- Continuing our discussions and learning with North Shore customers/community group

Proposed Washington Federal Savings Site Distribution

Chelan County P.U.D.

Legend

-  Existing Distribution OH
-  Existing Distribution UG
-  Existing Transmission
-  New Distribution

Washington Federal Site:

Trans: 0.6 mi
 Dist OH: 1.7 mi
 Dist UG: 3.2 mi
 Total T&D: 5.5 mi

Visual Impacts:

	Front	Rear	Line-of-sight
Trans:	0	80	0
Dist:	40	100	20
Sub:	0	5	0

Cost:

Earthwork: 703,000
 Substation: 3,403,000
 Distribution: 7,629,000
 Transmission: 592,000
 Total: \$12,327,000*
 *Incl. 20% Contingency

DBL UG

Circuit #1 & #4

DBL UB

DBL UG

Washington Federal Savings Site

UG

DBL TRANS

UG

RBLT OH

Circuit #2

Circuit #3

Easement Impacts**

Transmission: 1
 Circuit 1&4: 44
 Circuit 2: 4
 Circuit 3: 1
 50

**Estimated No. of Parcels







1 mi

Proposed Chelan Heights Site Distribution

Chelan County P.U.D.

Legend

-  Existing Distribution OH
-  Existing Distribution UG
-  Existing Transmission
-  New Distribution

Chelan Heights Site:

Trans: 0.3 mi
 Dist OH: 4.3 mi
 Dist UG: 0.9 mi
 Total T&D: 5.5 mi

Visual Impacts:

	Front	Rear	Line-of-sight
Trans:	3	30	0
Dist:	20	50	10
Sub:	3	30	0

Cost:

Earthwork: 442,000
 Substation: 3,403,000
 Distribution: 5,010,000
 Transmission: 253,000
Total: \$9,108,000*
 *Incl. 20% Contingency

Easement Impacts**

Circuit 1: 0
 Circuit 2: 0
 Circuit 3&4: 33
 33

**Estimated No. of Parcels





Proposed Uhrich Orchard Distribution

Chelan County P.U.D.

Uhrich Orchard Site:

Trans: 0.9 mi
 Dist OH: 6.9 mi
 Dist UG: 1.4 mi
 Total T&D: 9.2 mi

Legend

-  Existing Distribution OH
-  Existing Distribution UG
-  Existing Transmission
-  New Distribution

Visual Impacts:

	Front	Rear	Line-of-sight
Trans:	2	0	0
Dist:	25	65	12
Sub:	2	0	0

Cost:

Earthwork:	424,000
Substation:	3,403,000
Distribution:	8,021,000
Transmission:	456,000
Total:	\$12,304,000*

*Incl. 20% Contingency

Easement Impacts**

Circuit 1:	4
Circuit 2:	34
Circuit 3&4:	22
	<hr/>
	60

**Estimated No. of Parcels

Chelan North Shore Update

- March 16th met with Chelan Focus Group (Sixth meeting)
 - Reviewed aesthetics, costs and easements with (3) outlying sights previously reviewed at March 6 Board meeting
 - Reviewed costs drivers above the typical (~ \$5M Substation)
 - Discussed the undergrounding challenges associated with multi-circuit, extended length power lines
 - Sought input and agreement for a new approach to evaluate sites closer to the load center
- Focus Team Feedback
 - Strong team support to pursue new options closer to the load center
 - Advocating to underground power lines wherever and whenever possible
 - Look at other potential properties for future use beyond current need
 - Expressed appreciating for PUD continued outreach effort

North Shore Chelan Substation

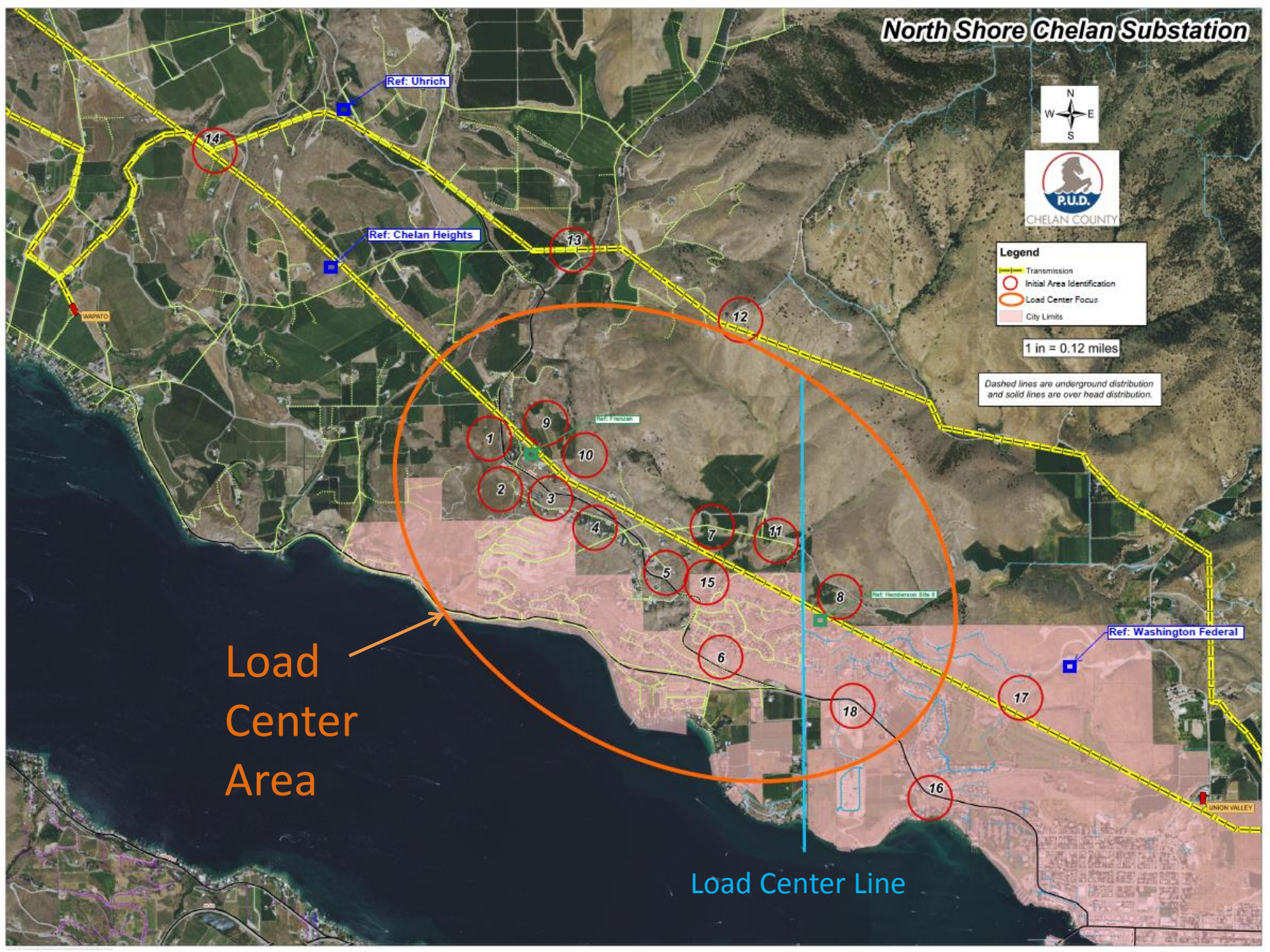


Legend

- Transmission
- Initial Area Identification
- Load Center Focus
- City Limits

1 in = 0.12 miles

Dashed lines are underground distribution and solid lines are over head distribution.



Load Center Area

Load Center Line

Chelan North Shore Planned Next Steps

- The 3 sites analyzed are not deemed meeting the goal of ***the best, for the most, for the longest*** due to aesthetic, cost and easement challenges
- Seek sites within the load center that:
 - Reduce the aesthetic impacts where possible
 - Minimize need for additional easements and land use permitting
 - Optimize proximity to existing Transmission and Distribution
 - Keep a reasonable overall cost expectation in the \$7 – 8M range
- Perform first level engineering and cost feasibility on (n) number of sites
- Communicate findings to Board and Focus Team

Chelan North Shore – Plan to Proceed

Does the Board approve of this plan?

Leavenworth Update

- March 6th Board Meeting
 - Reviewed initial engineering and costs comparisons for (3) sites:
 - Site 9 CCPUD existing substation
 - Site 8A City property adjacent to Chumstick Highway & intersection of North Road
 - Site 14 Mend property further West of Chumstick Highway
 - Review additional transmission and distribution line requirements for sites
 - Stakeholder feedback shows support for site 14 (Mend property)
 - PUD engineering analysis also supports site 14
 - Leavenworth focus group supports site 14
 - Site 8A is a viable option if site 14 does not forward

Leavenworth Update

Staff efforts ongoing since the March 6th update:

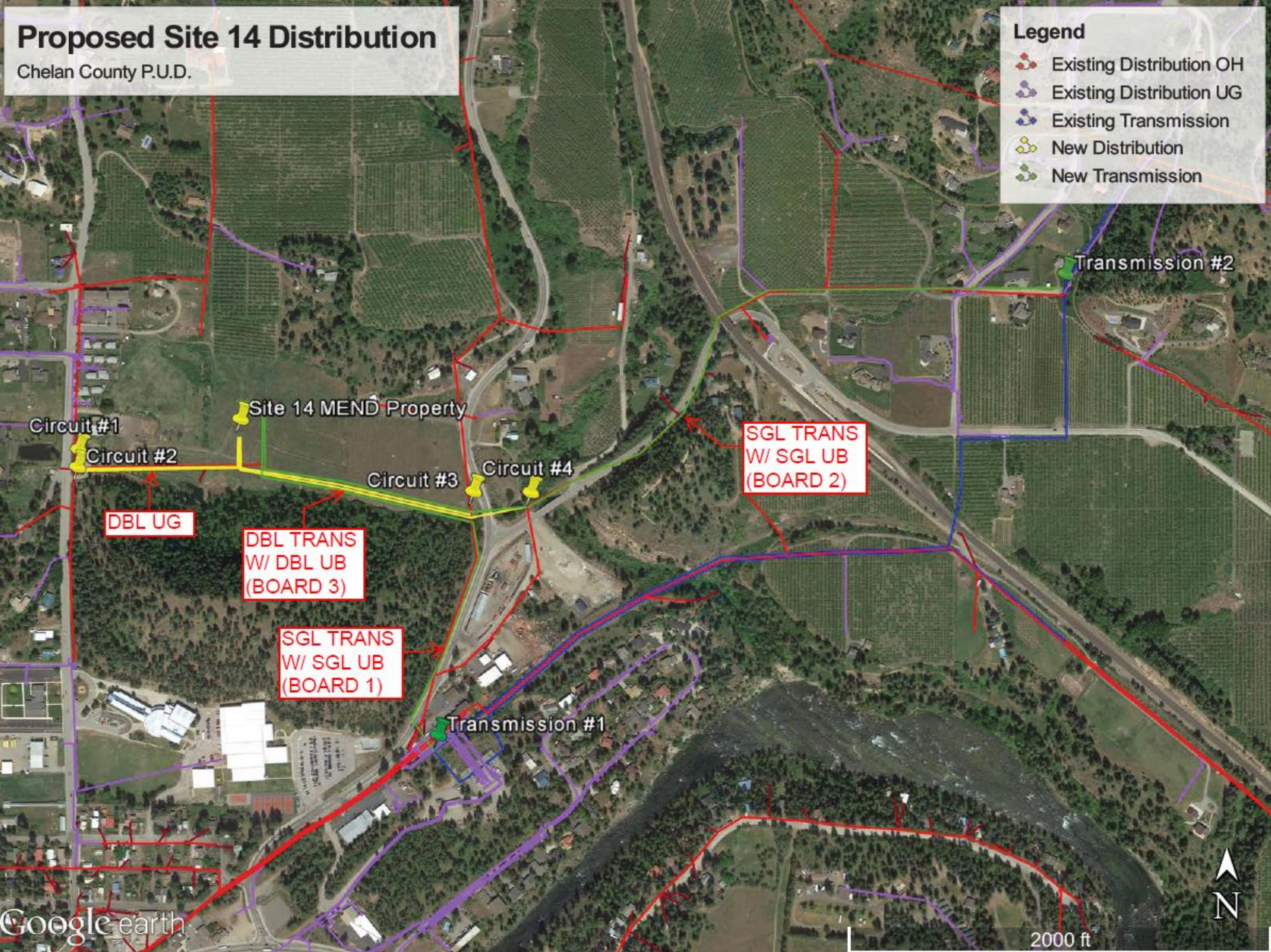
- Review of current power line easement rights
- Continuing our discussions and learning with both City of Leavenworth officials as well as representative from owner of site 14 (Mend)

Proposed Site 14 Distribution

Chelan County P.U.D.

Legend

- Existing Distribution OH
- Existing Distribution UG
- Existing Transmission
- New Distribution
- New Transmission



Leavenworth Plan to Proceed

- Perform deeper look at preferred site 14 feasibility, site conditions and mitigation efforts
- Identify and review options for Conditional Use Permitting
 - Road access, utilities, buffers, etc.
- Explore aesthetic impacts and mitigation options with the City of Leavenworth, Mend and nearby customers
- Keep site 8A as an alternative if site 14 does not move forward

Leavenworth – Plan to Proceed

Does the Board approve of this plan?

Questions?