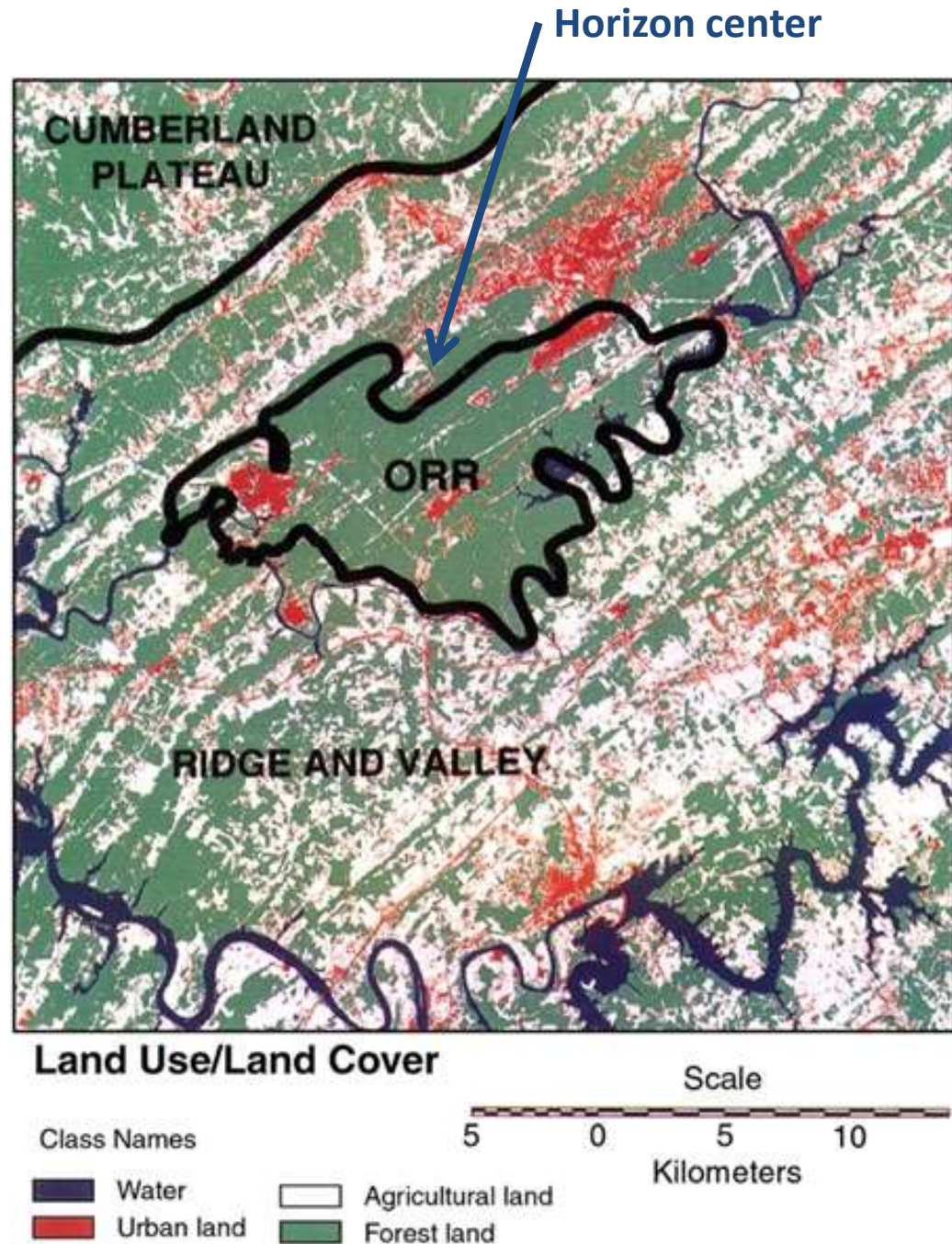


Plan for Providing Power Access to the Horizon Center in Oak Ridge

Virginia Dale

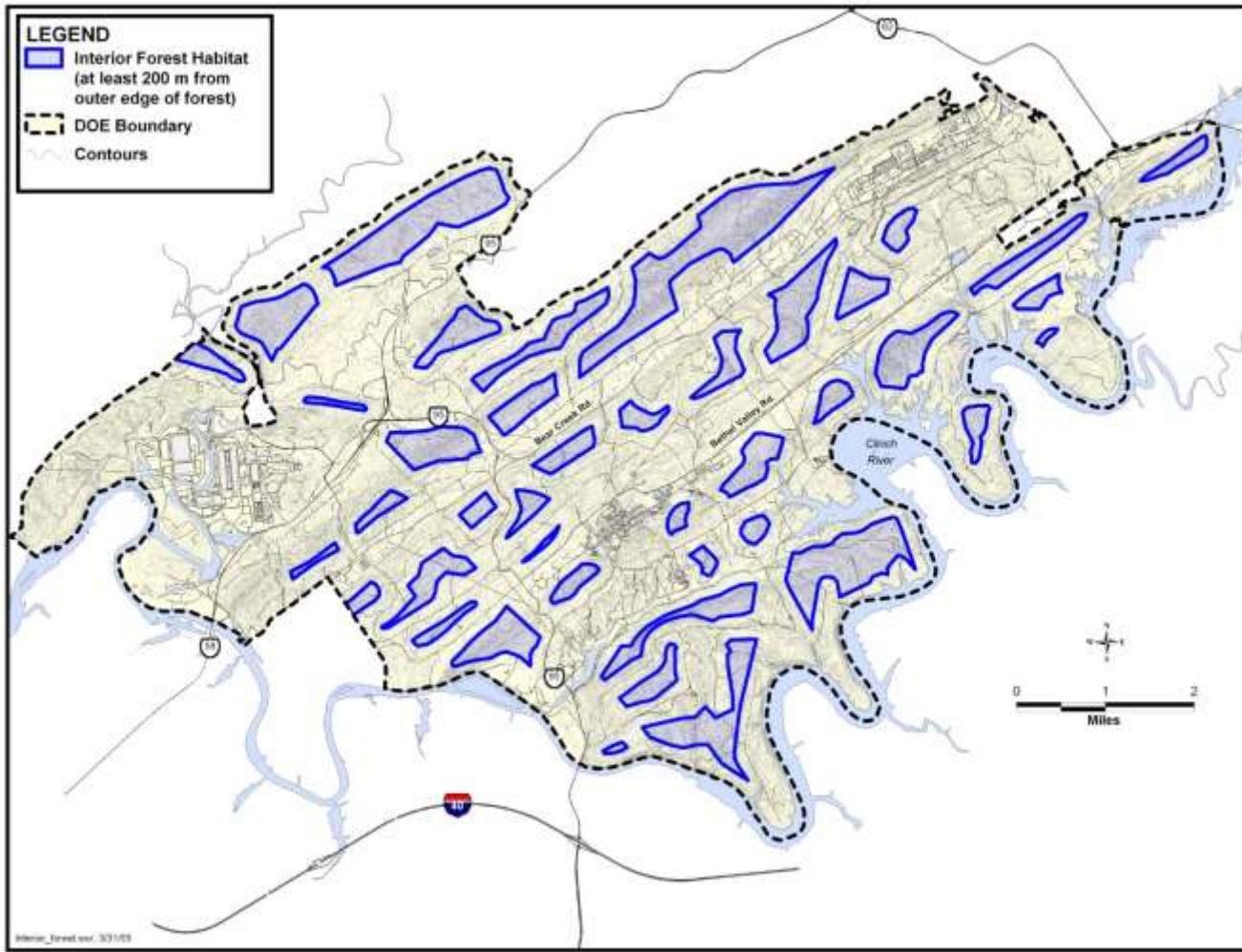
Advocates for the Oak
Ridge Reservation (AFORR)

April 29, 2014



History of the Oak Ridge Reservation (ORR)

- Established in 1942-43 as part of the Manhattan Project
- Originally more than 60,000 acres acquired by eminent domain by the United States Army Corps of Engineers
- Now the ORR is about 33,508 acres



Black Oak Ridge Conservation Easement (BORCE)

- Established 2007
 - Settlement in lieu of payment
 - Under Natural Resources Damages Assessment
 - For toxic contamination of Watts Bar Reservoir
 - 3073 acres set aside
 - Value of about \$6.6 million
 - Natural Resource Trustees
 - State of Tennessee
 - Tennessee Valley Authority
 - US Fish and Wildlife Service
 - Department of Energy
- Attributes
 - Conservation
 - Recreation
 - 11 miles of dirt and gravel trails
 - 2.6 miles of single track trails



Horizon Center



- More than 1000 acres with 7 sites advertised as having
 - Fiber optic and high speed telecommunications
 - Existing 13.8 kV, 3-phase, dual primary feed service with underground duct-bank
- Need more power - can only supply 8.4 MW with current lines
- Managed by the Community Reuse Organization of East Tennessee (CROET)

North Boundary Greenway

Whippoorwill Dr

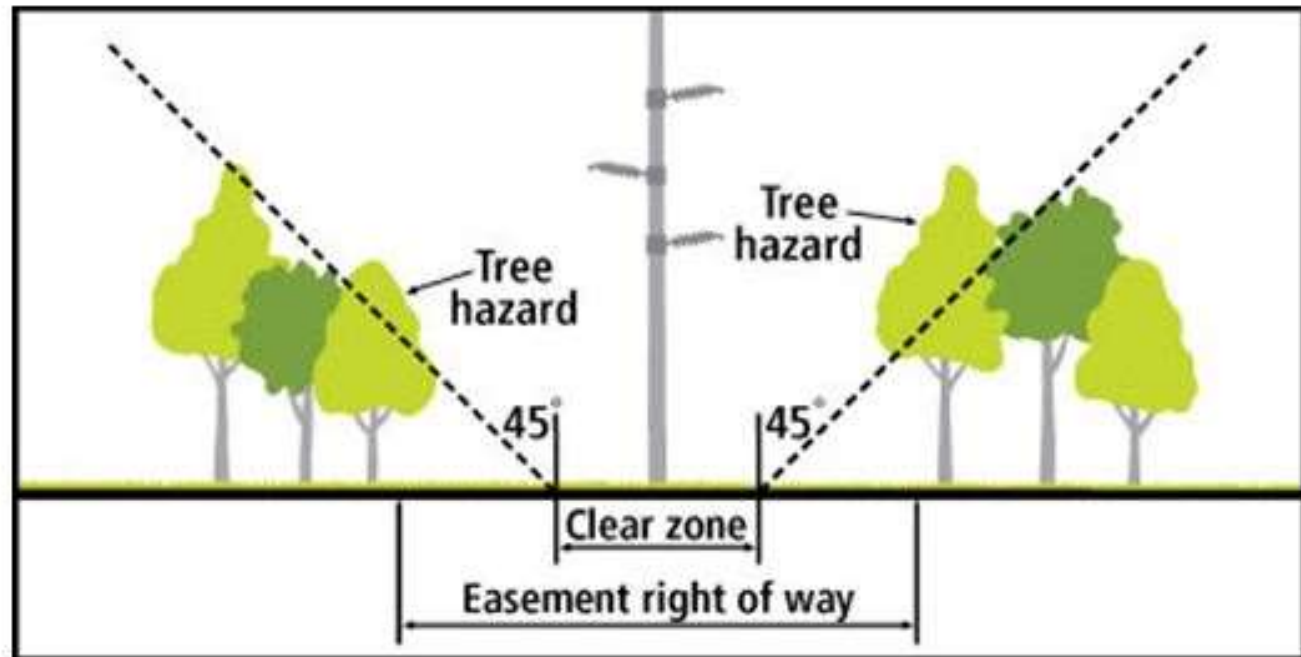


Pink = Proposed first phase of power line

Blue = East Fork Poplar Creek

Plan to Provide Additional Power to Horizon Center

- The Oak Ridge Industrial Development Board (IDB) has applied for a grant from the Tennessee Valley Authority to establish a power line to Horizon Center.
- The proposed power line cannot be built without degrading the BORCE
 - Trees on the BORCE will ne removed to comply with TVA Powerline Vegetation Standards.



The economics of the proposed power line project don't make sense:

- No industrial prospect(s) have been identified
- It might deplete the city's economic development funds managed by the IDB
- It would provide electric service to only one vacant parcel in the Horizon Center.
- Power could be supplied to the Horizon Center parcels (at similar cost) by
 - Upgrading the overhead power that now extends to the corner of the property and
 - Adding overhead lines inside the Horizon Center.
- This alternative option would
 - Avoid disrupting a popular recreational resource and a valuable natural area
 - Provide more development flexibility within the Horizon Center.



Alternative Option

Option	Cost	Impacts	Resulting Horizon Center capacity	Future projects and costs
New 13-kV power line on the greenway	~\$750K	Loss of natural area; damage to greenway	22 MW (14 MW is only available at 98-acre tract)	<ul style="list-style-type: none"> • ~\$360K plus more natural area & greenway impacts to run a 13-kV line to the 151-acre tract; this would bring total park capacity to 36 MW • Additional costs to add lines to distribute the added power within park using new underground lines • Possible 69-kV line later on same poles
Add capacity on existing Wheat Road line	\$1.1 M (in two install-ments)	Loss of aesthetics inside industrial park	28 MW (throughout the park)	<ul style="list-style-type: none"> • Additional cost for overhead lines inside park

Proposed Power Line to Horizon Center

- Advocates for the Oak Ridge Reservation (AFORR) & Tennessee Citizens for Wilderness Planning (TCWP) have requested the City to show stakeholders
 - Exactly where the power line is to go.
 - The number of trees & the extent of clearing required for this power line are going to be a real surprise.
- Full information should be provided to the community.



Extra Slides

Electrical capacity in the Horizon Center industrial park is currently limited by the capacity of the underground electric lines in the park.

- The existing lines can carry only 10.7 MW – a lot more than residents need, but not enough for industry. The power line that currently brings power to the park can carry even less than that – only 8.4 MW.
- The three tracts on the back side of the park that the IDB is trying to market right now have little or no available electric service.
- Because of the lack of distribution capacity within the park, the proposed 13-kV line along the greenway would only serve the 98-acre tract. (It could deliver about 14 MW, but only to that one tract, at a cost of about \$750,000.)

Need to consider overhead lines within Industrial Park

- Underground lines have less capacity and cost more than overhead lines.
 - This constraint drives need for new power
- A protective covenant established by CROET requires underground utilities inside the industrial park.
 - The covenant could be removed by the IDB, with agreement of the other property owners.
- All of the industrial sites in the park are accessible by roads. Overhead distribution lines could be built along those roads.

Additional options

- Existing power supply to the Horizon Center is on an overhead line that runs along Blair Road, Wheat Road (past the George Jones Church), and past the western entrance to the North Boundary Greenway, before heading underground.
- The line along Wheat Road can carry about 8.4 MW.
- Reconductoring that line at a cost of \$460,000 would increase capacity to 14 MW. Adding overhead lines inside the park could make that power available to the entire park.
- A second 13-kV line could be added to the existing poles at a cost of \$650,000. Assuming addition of overhead lines inside the park, the total capacity would be 28 MW at a cost of about \$1.1 million, plus the cost of the new lines inside the park.

