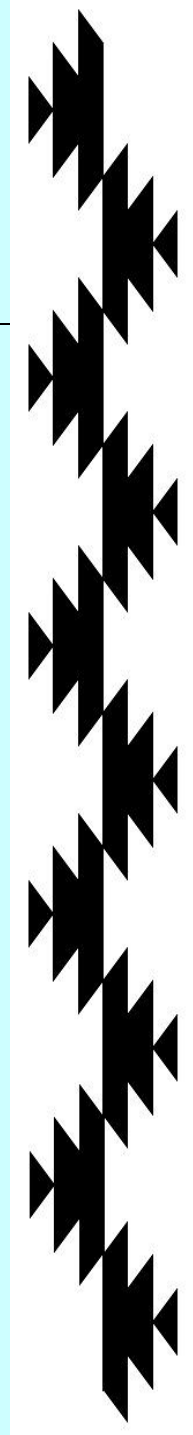
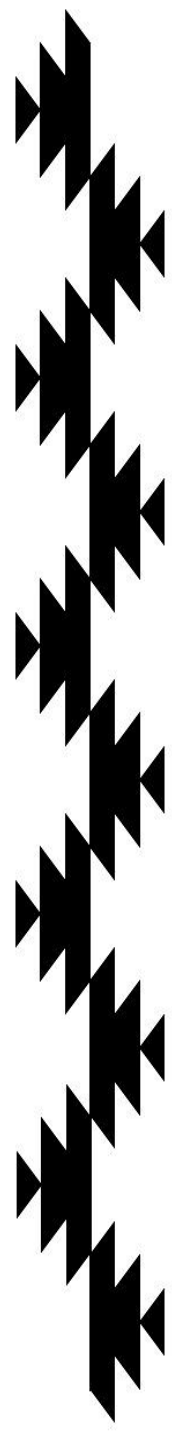


# Yurok Tribal Telecommunications & Electrification Projects



# Yurok Tribe

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# Project Goals

- Provide Electrical and Telecommunication Utilities to:
  - Schools, Churches, Fire and Police Stations, and Homes on the Up River Portion of the Yurok Reservation







# **RUS Electrification Grant Program**

**High Energy Cost Grant Program Grant to the Yurok Tribe from the RUS.**

**Twenty miles of electrical main line extension, installing 12.5 or 66 Kv lines to Wautek.**

**Yurok Tribal Electrical Trust Fund may also used to fund a portion of the project.**



# **Rural Telecommunications Infrastructure Grant Program**

**A fiber-optic line paid for by Verizon under the CPUC settlement would be installed on PG&E poles from the existing plant at Martins Ferry to Jack Norton School with a distribution nodes at Jack Norton School and Cappell Head Start.**

**Wire line Telecommunications Service Grant to the Yurok Tribe from the CPUC.**

**Twenty miles of a telecommunication main line extension including installing a main fiber optic and multi-pair lines concurrently with the electrification project is proposed.**

Description	Cost
<p><b>Phase 1. Main Line Extension.</b> Multi-Pair copper line run with Verizon installed fiber optic line. Copper lines attached to distribution hubs at Jack Norton School and Cappell Head Start.</p>	\$875,000
<p><b>Phase 2. Branch Line Extensions and Service Connections.</b> Multi-Pair copper line run from main line to individual service locations. Utility poles and underground conduit installed as necessary. Service connections from branch lines to service locations. (Water Stations extension included in Phase 2)</p>	\$2,835,000
<p><b>Phase 2a. Design, Inspection, and Acceptance Cost for Telecommunication Hookup.</b> Design review and construction inspection necessary for connection to existing telecommunication grid.</p>	\$30,000
<p><b>Phase 2. Total</b></p>	\$2,865,000
<p><b>Phase 3. Cellular Coverage Expansion.</b> Telecommunication and power lines extended to three cell tower locations. Cell tower construction and interconnection with existing telephone system.</p>	\$1,900,000
<p><b>Total Cost (Unmet Needs)</b></p>	<b>\$5,640,000</b>



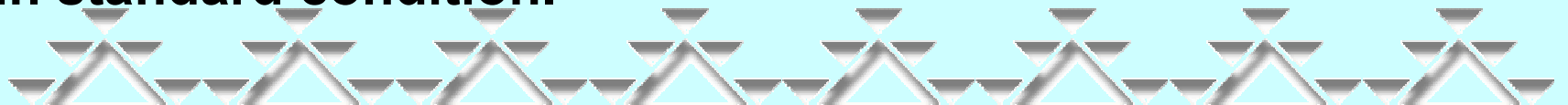
**Yurok Tribe Environmental Program and Tribal Historic Preservation Program are completing the NEPA compliance documents. USDA will release the funding once the EA is certified.**

**P.G.&E. is involved in the project engineering in collaboration with Yurok Planning Department Staff.**

**Cultural sites must be avoided. In several areas the electrical grid will be buried underground to minimize impacts.**

**Right of way negotiations are under way; however, there are outstanding unresolved issues**

**Homes that will be served will need to meet the Uniform Building Code (UBC) including 110/220 wiring and should be in standard condition.**







# Issues



- Technical issues of plant ownership and joint use agreements
- The Yurok Indian Housing Authority will need to survey and plan for new home construction and housing rehabilitation on the Reservation that meet the UBC.
- Surface drinking water sources should be evaluated and groundwater sources considered now that power will be available in the future.
- Land use policies should be considered to maintain orderly growth on the Reservation and to retain the pristine character of the Reservation.



New Village Weitchpec housing unit that will probably not meet UBC.





Pecwan Residence that probably will meet UBC.





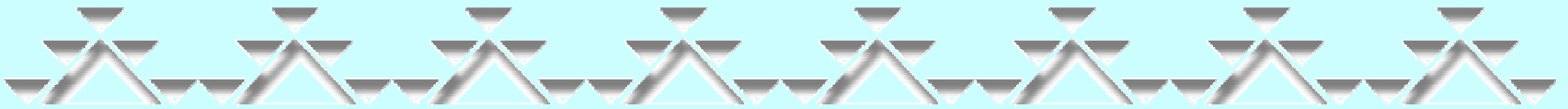
Wautec Residence that will meet UBC but will need to be inspected before power is provided.



# **DoE Tribal Grant Program**

**A study to determine the need for, and the economic feasibility of, a tribal electric power utility funded by the U.S Dept. of Energy**



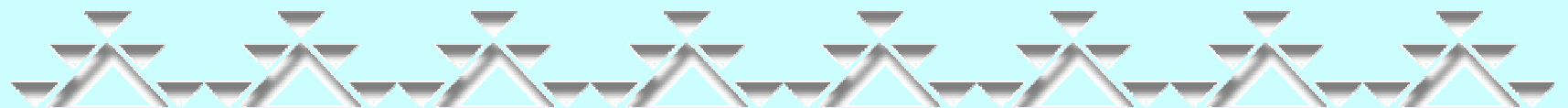


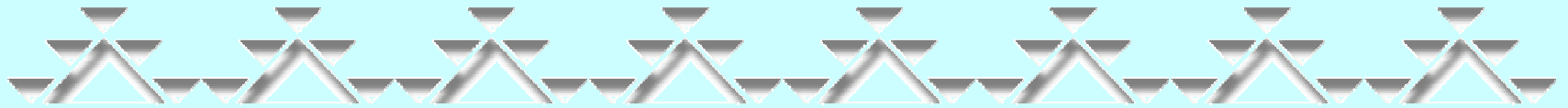
## **TASK 1 – NEEDS ASSESSMENT**

Currently conducting a study that includes an evaluation of utility needs of the residents of the Reservation and evaluation of the effectiveness of the existing infrastructure on the Yurok Indian Reservation.

## **TASK 2 – INVENTORY OF EXISTING FACILITIES**

Realizing that the Yurok Tribe has been very successful in establishing alternative energy systems in lieu of grid-based electricity, we will evaluate existing electrical service and the alternative energy systems already in place on the Reservation.



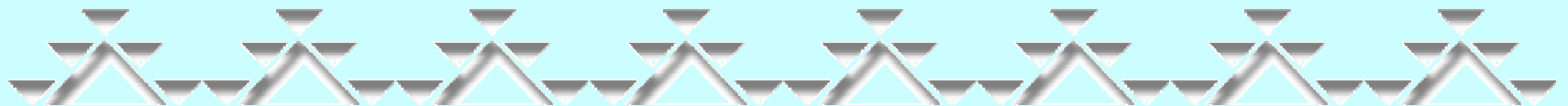


### **TASK 3 – ADVANTAGES AND DISADVANTAGES**

After the project team completes the needs assessment and inventory, we will evaluate the advantages/disadvantages of establishing a utility organization.

### **TASK 4 – COMPLETION OF A PROJECT FEASIBILITY STUDY**

The final element of the workplan is to incorporate all of the steps outlined in the above tasks into one comprehensive feasibility study.

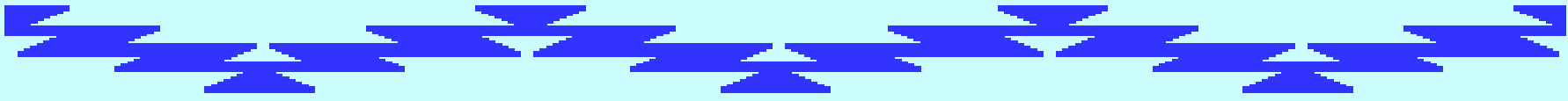




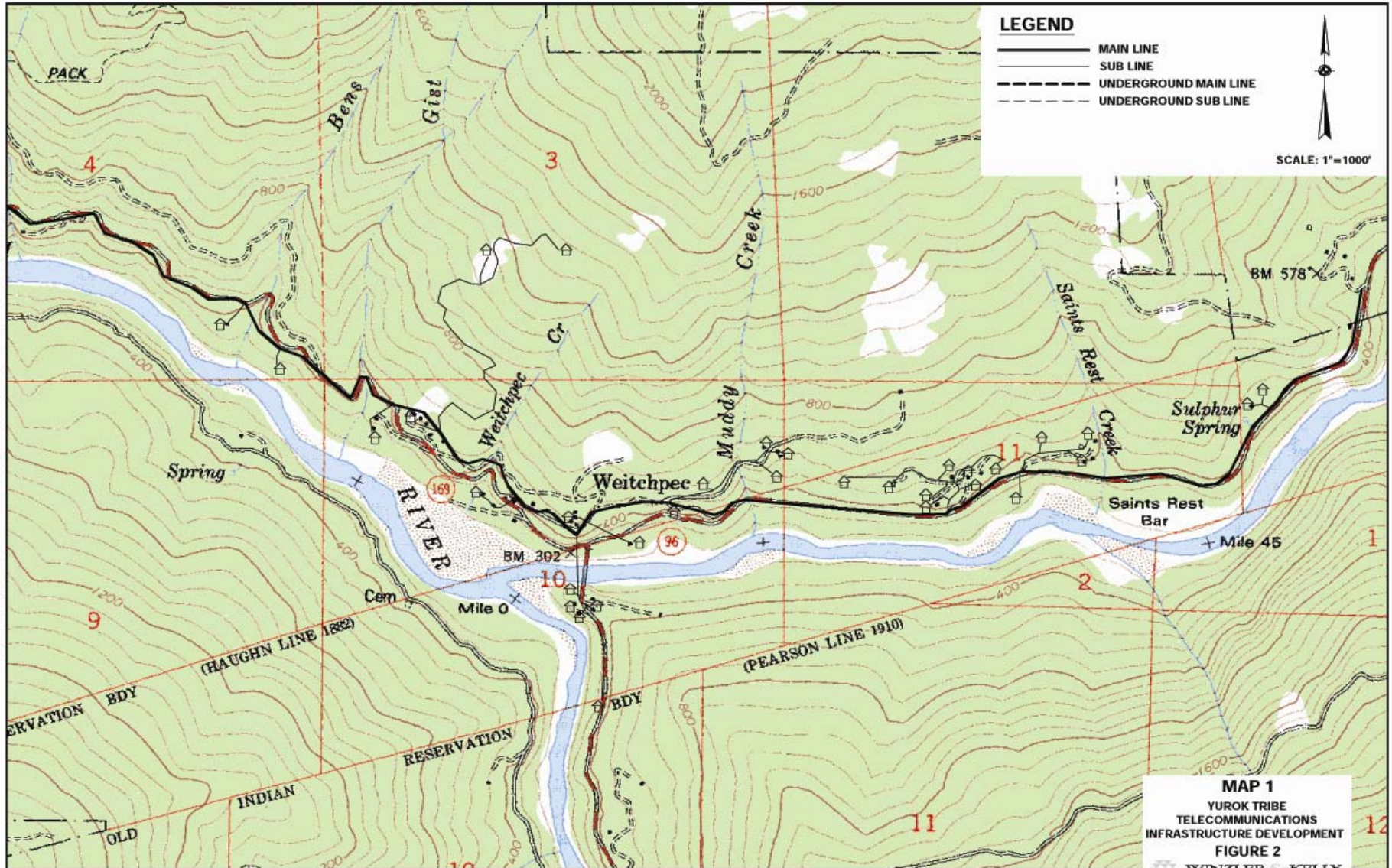
# Questions?



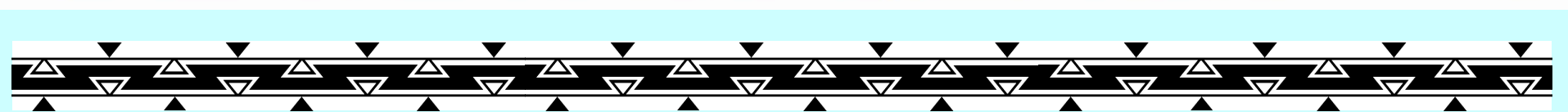
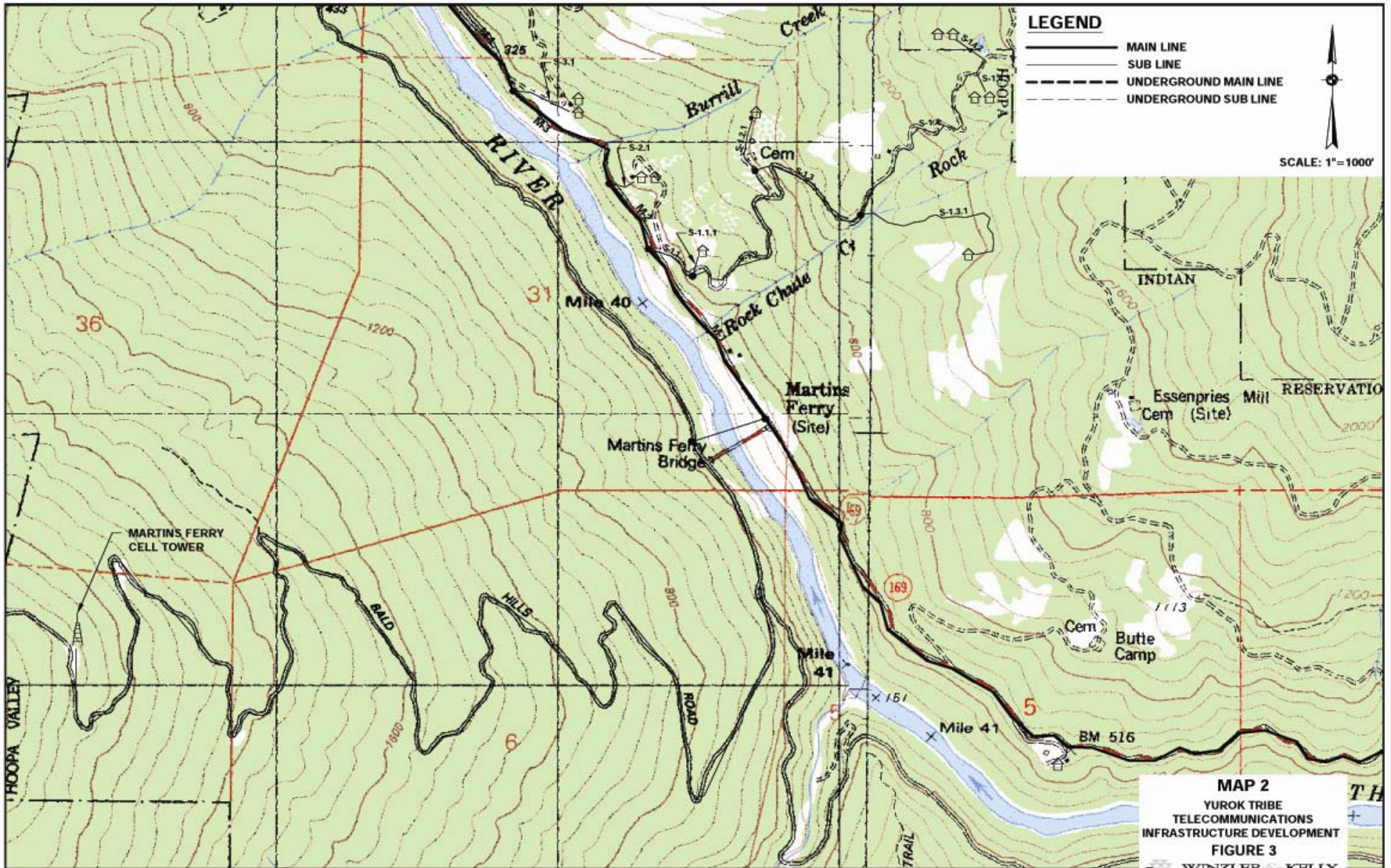




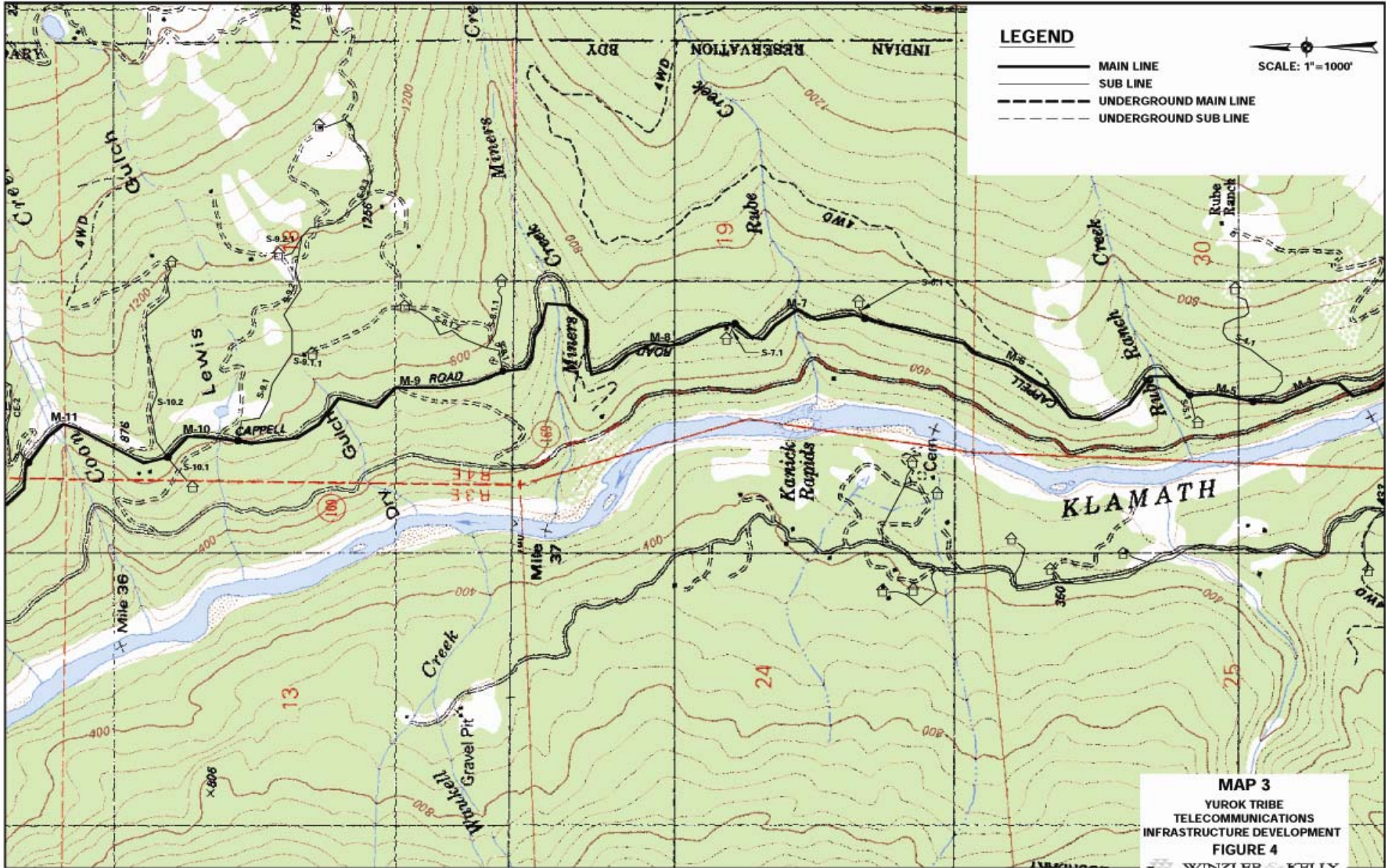
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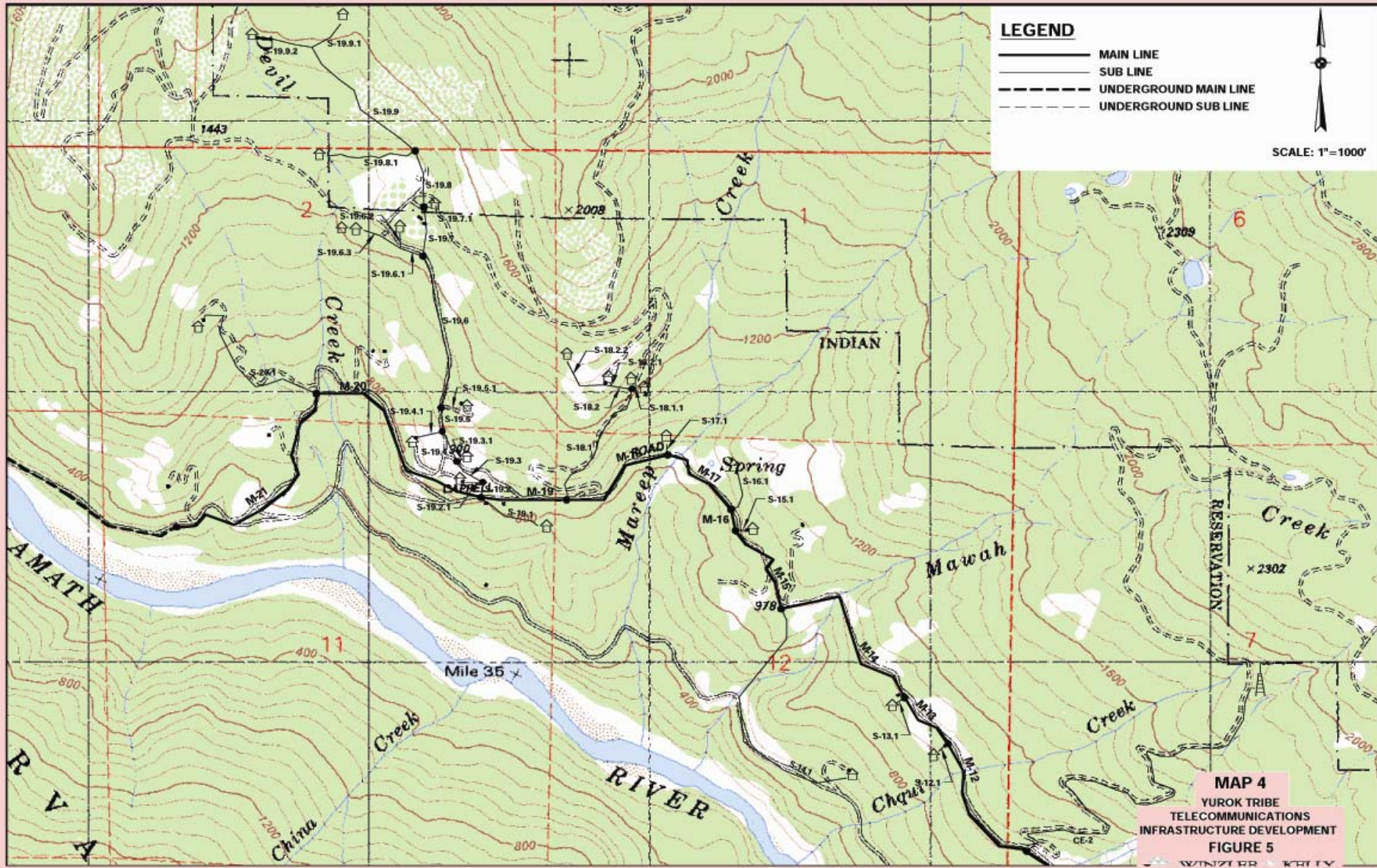




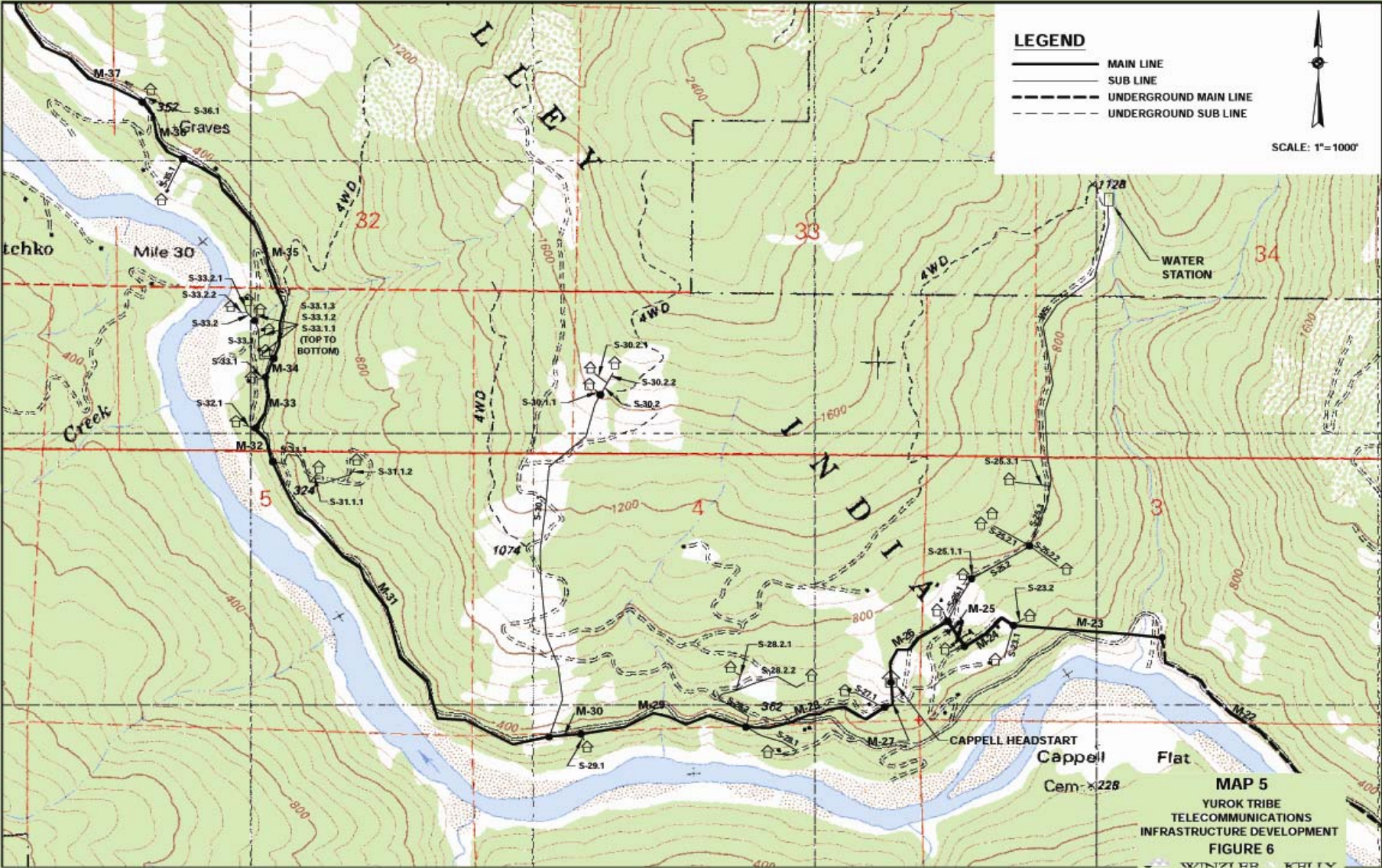




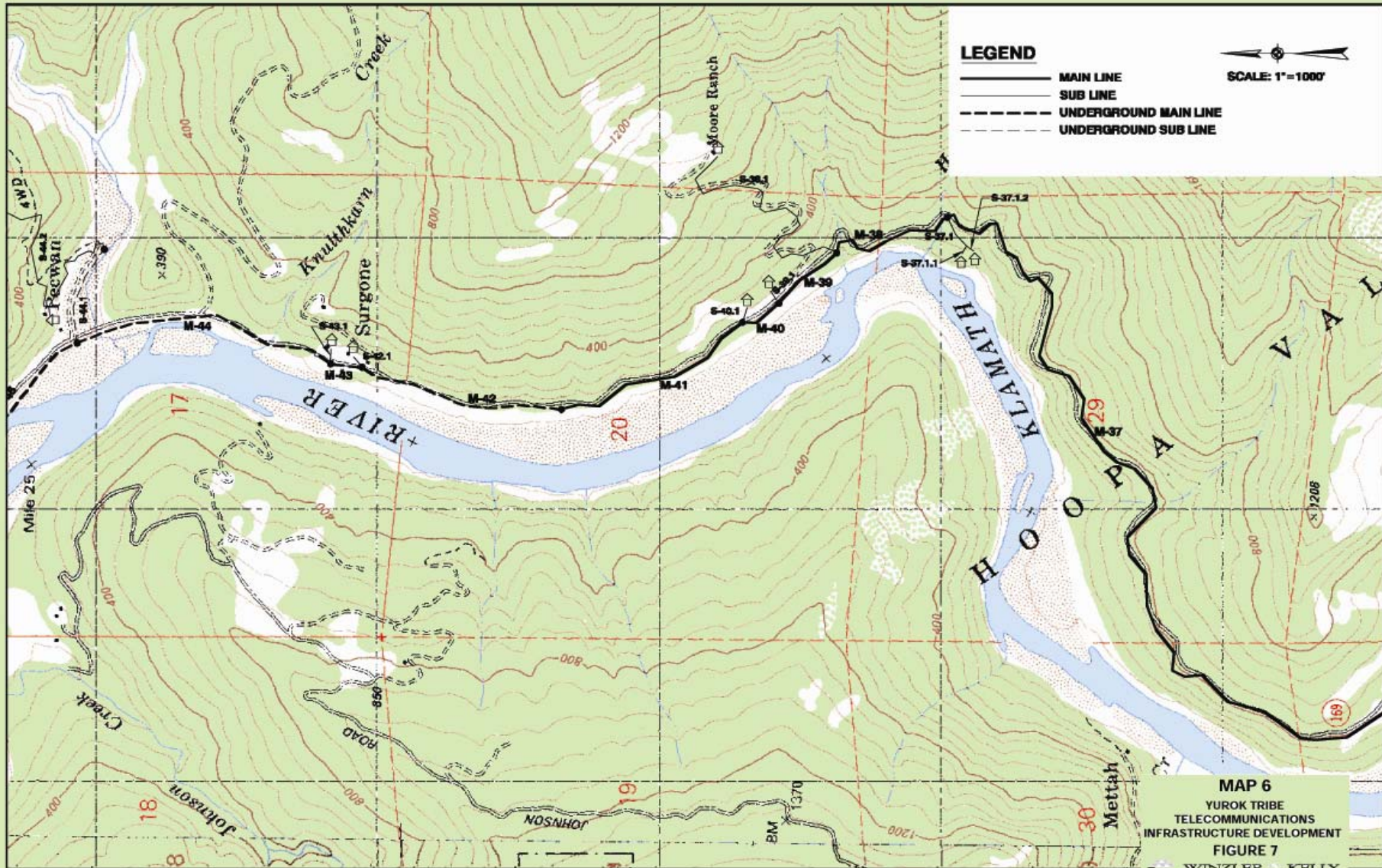












**LEGEND**

- MAIN LINE
- SUB LINE
- - - UNDERGROUND MAIN LINE
- - - UNDERGROUND SUB LINE



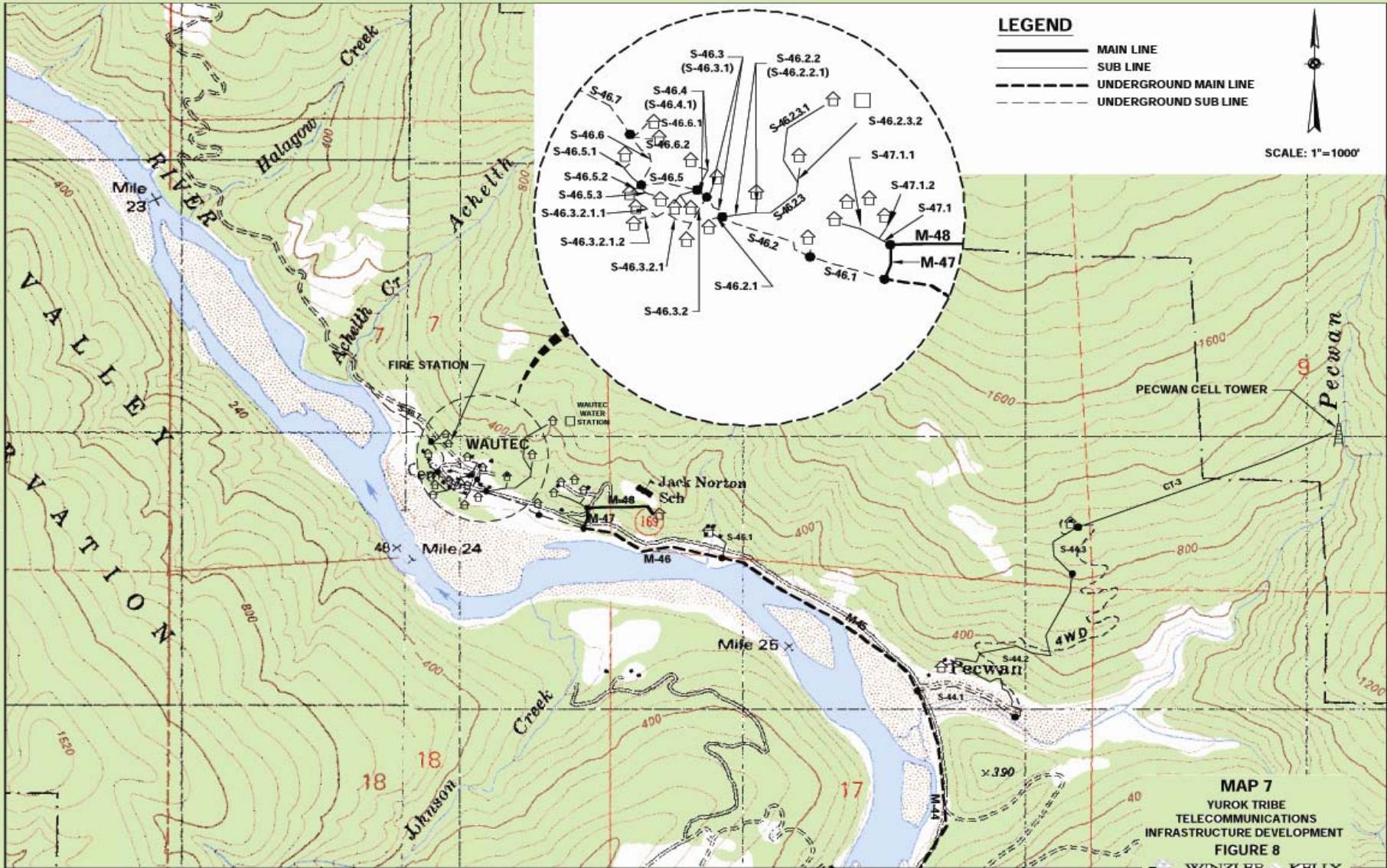
SCALE: 1" = 1000'

**MAP 6**  
 YUROK TRIBE  
 TELECOMMUNICATIONS  
 INFRASTRUCTURE DEVELOPMENT  
**FIGURE 7**

WINZLER & KELLY







# Project Timeline

	2004				2005				2006
	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2	Quarter 3	Quarter 4	Quarter 1	Quarter 2
<b>RUS Grant</b>									
Preliminary Layout of Electrical Utility Route	■--X								
ROW Acquisition	■-----X								
Environmental Assessment (NEPA)	◆								
Project Engineering (PG&E)	■-----X								
Develop Joint Pole Agreements	◆								
ROW Preparation and Clearing	■-----X								
Power Line Construction	■-----◆								
<b>CPUC Grant</b>	2	3	4	1	2	3	4	1	2
CPUC Award Notification	◆								
Community Meetings to Select Line Segments	■-----X								
Design by Verizon	■-----■								
Environmental Assessment (CEQA)	■--■								
Preparation of Construction Documents	■-----■								
Construction Award	■								
Construction Phase	■-----■-----■-----■								
Inspection & Acceptance by Verizon	■-----◆								
Project Implementation	◆								
Closeout Report Including Audit	■								
Project Completion	■								



## UNIT COSTS USED FOR COST ESTIMATES

Item	Unit	Cost (\$)	Source
Joint Utility Pole	each	\$ 3,000	PG&E and previous line extension
Joint Utility Trench	ft-1	\$8	RS Means Building and Construction Cost Data
Power Line Above Ground	ft-1	\$22	PG&E and previous line extension
Power Line Below Ground	ft-1	\$50	PG&E and previous line extension
Multi-Pair Copper Line	ft-1	\$7	Verizon
Service Drop	each	\$200	Verizon
Main Line Conduit	ft-1	\$6	Verizon
Branch Line Conduit	ft-1	\$4	Verizon
Pull Box	each	\$1,500	Verizon
Verizon Design	hr-1	\$70	Verizon
Verizon Inspection	hr-1	\$70	Verizon
Verizon Acceptance	hr-1	\$70	Verizon
Cell Tower	each	\$200,000	Verizon and previous installations
Cell Tower Interconnect	each	\$50,000	Verizon and previous installations

The unmet telecommunication needs of the Yurok Tribe are \$5,640,000. For the purposes of the Rural Telecommunications Infrastructure Grant Program, this amount is more than double the funding limitations of the program. Recommendations included:

- Cellular coverage (Phase 3) is eliminated.
- Certain line segments were eliminated in order to meet the ceiling limit of the Grant.
- High priority issues such as telephone service to the elderly and handicapped, medical necessity households, public safety providers, and areas of community clustering should be given preference.
- Tribe will conduct a series of public participation meetings to determine which line segments have a high priority.