Chignik Projects Update

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Bristol

ENGINEERING
SERVICES COMPANY, LLC

Topics

- Chignik Comprehensive Plan
- Tribal Transportation Safety Plan
- National Fish and Wildlife Foundation – National Coastal Resilience Fund Proposal
- East Side Electrical Distribution Upgrades PER
- Landfill Road and Indian Creek Bridge PER

Chignik Comprehensive Plan, Update

- Funded under remaining budget from Climate Resiliency Action Plan.
- Final Draft Plan issued in June 2024.
- Next Steps:
    - Find more funding to complete the report.

Tribal Transportation Safety Plan

- Funded under grant from Tribal Transportation Safety Fund
- TTSP Kickoff Meeting held on March 13, 2025
- TTSP Community Surveys sent on May 23, 2025
- Next Steps
    - Analyze survey data and update TTSP
    - Draft TTSP to client between July and December 2025
    - Draft Review Meeting between January and March 2026
    - Final Draft TTSP between April and June 2026
    - Resolution between July and August 2026
    - Final Adopted TTSP between September and October 2026

National Fish and Wildlife Foundation – National Coastal Resilience Fund Proposal

- Project targets understanding Nature-based Solutions (NbS) for erosion mitigation at the sub-regional Clinic.
- Funding request for: Site Assessments and Preliminary Design
- Pre-proposal was accepted!!!
- Full-proposal due on July 17, 2025

Figure 1: Aerial Map (Google Earth Pro, 2025)

East Side Electrical Distribution Upgrades PER

Funded by BIA Tribal Climate Resiliency Grant

Chignik Bay Electrical System consists of two areas:

- West Side
  - Upgraded 2008
  - Good Condition
- East Side
  - Not upgraded
  - Poor condition
  - ~ 70 years old

Methodology

- Desktop Data Collection
- Field Review – *June 2024*

  The underground system connecting the east and west sides of the distribution system was not reviewed and no maintenance/access vaults or handholes were located along this connection.
- Stakeholder Meeting –*June 2024*
- Alternative Analysis Memorandum – June 2025 (delivered)
- Next Steps
  - Review Alt Memo w/ Stakeholders
  - PER

Recommendations

Targeted System Upgrade – Rebuild portions of the existing distribution system to a higher standard and greater consistency

Provide Repairs or Upgrades to Facilities in Phases – to deficiencies and health hazards

Figure X: Community Electric Distribution

Targeted System Upgrade

- **Poles**: Replace with greater height and strength class.
- **Conductors:**
  - One standard primary conductor throughout the project.
  - Secondary Conductors with two sizes only (except for commercial loads),
- **Higher Rated Primary Insulators**
- **For underground electrical facilities:**
  - Enhanced protection for Pad-Mounted Equipment downslope of avalanches/landslide chutes
  - Installation of buried facility markers to help locating for maintenance

Repairs or Upgrades to Facilities in Phases

- **Power Generation System** - the generator system has multiple problems which require maintenance.
  - Generators 1 – 3.
  - Radiators – clogged.
  - VFD equipment – old and do not provide speed control.
  - Fuel System – No fuel tank inside the generator building.
- **Fuel Storage System** – contaminated with algae and sediment.
- **Repair Utility Bucket Truck** - 1987 International bucket/utility truck which is currently not operational.
- **Clean Up Laydown Yard** - large quantity of utility equipment resting on the ground
- **Disconnect Unused Secondary Meters** - the service equipment not code compliant or beyond useful service life.

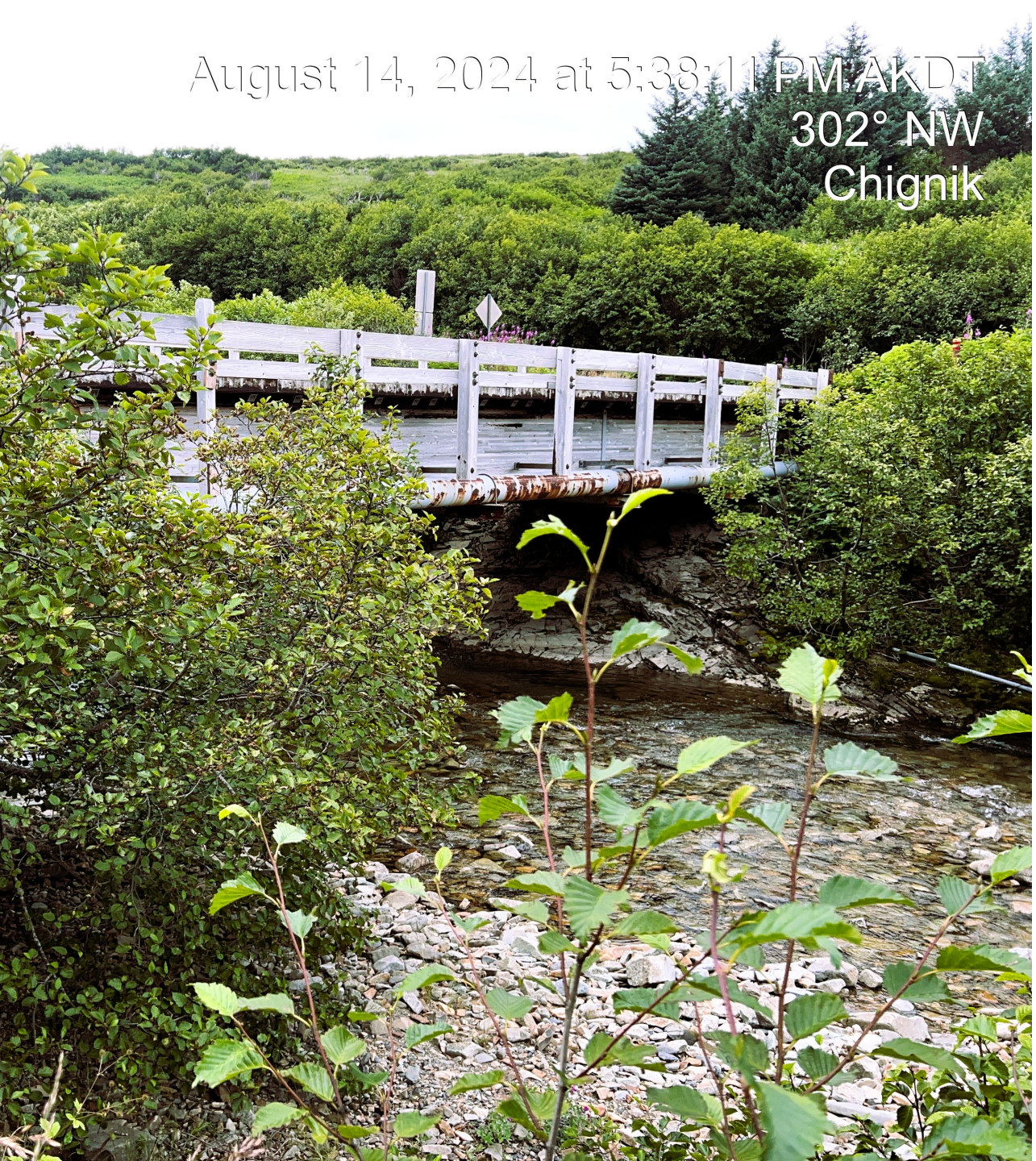
Estimated Cost and Schedule

Distribution System Cost Estimate

Upgrade	Quantities	Estimated Cost	Schedule
Replace Poles	44 each	$900,000 to $1,400,000	12 to 15 months
Replace OH Conductors	1,800 LF		
Markers for 2,900’ buried conductor	120 each		

Facilities System Cost Estimate

Upgrade	Quantities	Estimated Cost	Schedule
Power Generation System	1 each	$ 400,000	6 months
Fuel Storage System Repair – Clean tanks, filter fuel	1 each	$ 120,000	3 months (summer only)
Repair Utility Bucket – mechanic evaluation only	1 each	$ 13,000	2 months
Clean up laydown yard – 30’x40’ pre -engineered metal building and foundation	1 each	$ 1,300,000	12 -15 months
Disconnect unused secondary meters	~ 30 meters	$ 40,000	2 weeks



Indian Creek Bridge Alternatives

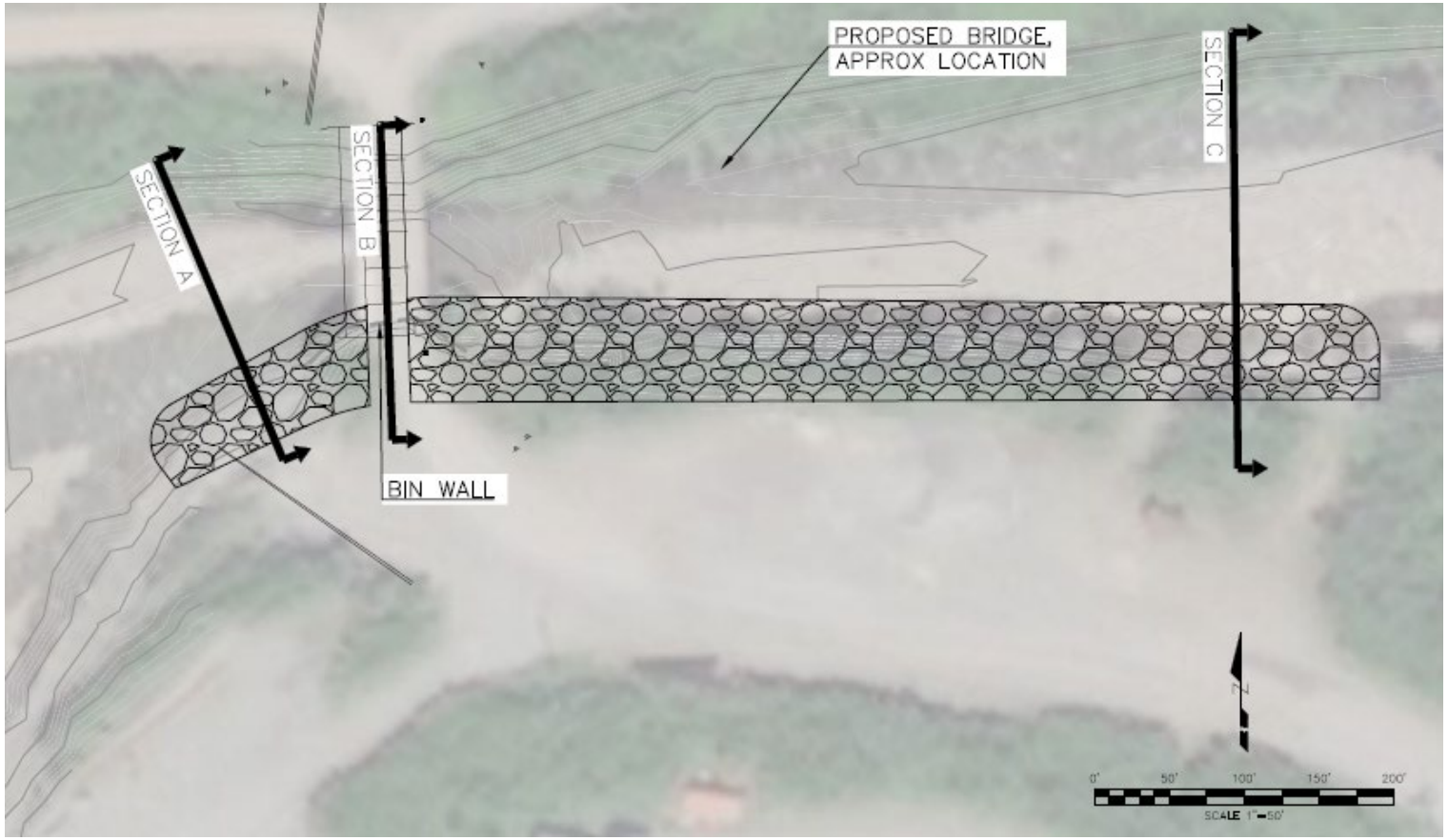
Funded by BIA Tribal Climate Resiliency Grant

Methodology

- Desktop Data Collection
  - Site Investigation – August 2024
  - Planimetric and Topographic Survey – August 2024
  - Hydrology – June 2025
  - Geotechnical – July 2025
- Next Steps
  - Alternatives Analysis Memo
  - PER

Erosion Protection

- To prevent flooding and stabilize and protect the existing or new bridge.
- Three sections, 450 linear foot (LF) protection.



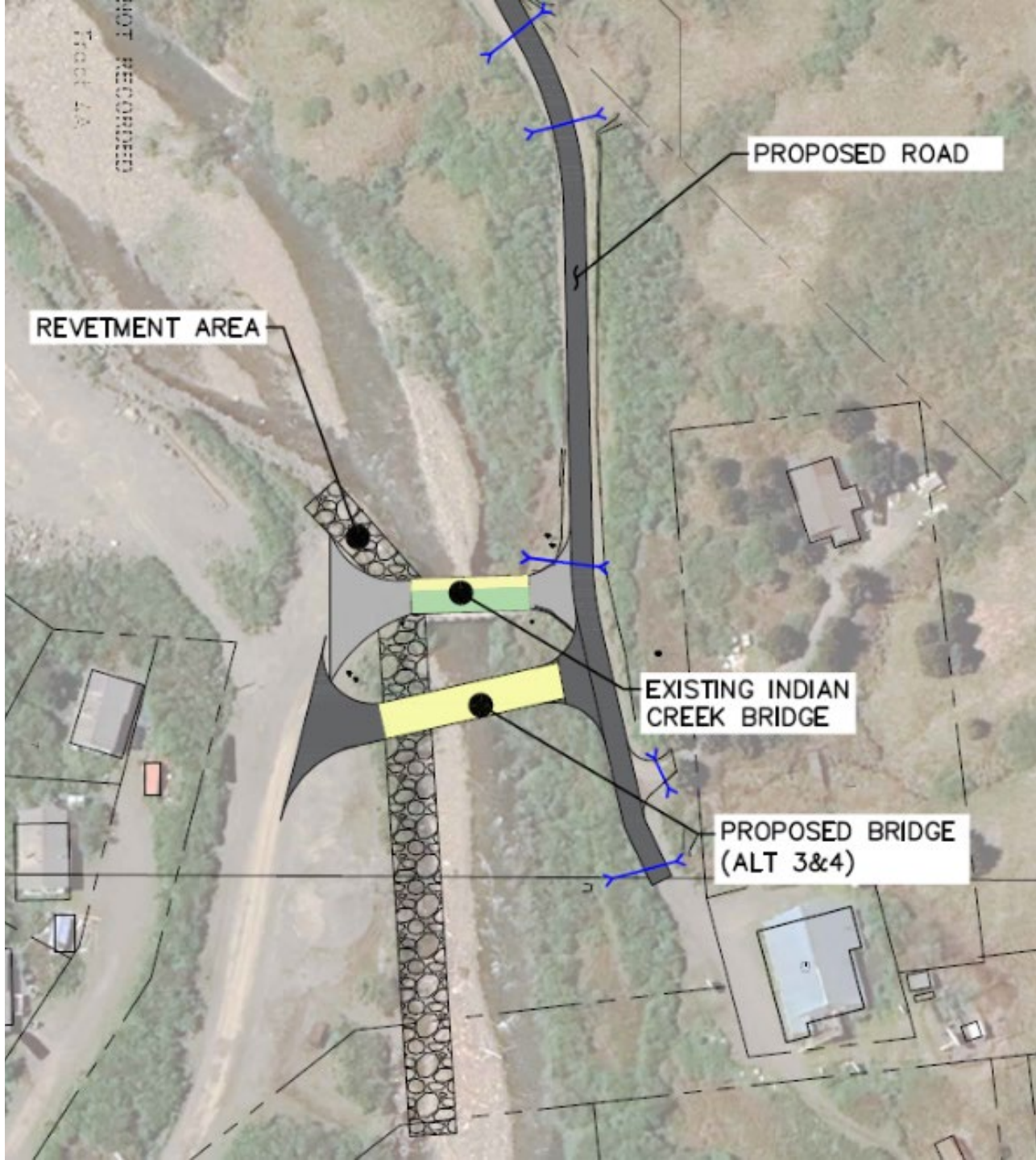
Erosion Protection Cost Estimate
-- Preliminary --

Section	Estimating Factor (CY/LF)	Unit Price ($/CY)	Unit Price ($/LF)	Total ($)
A	3.5	650	2,287	$448,260.00
B	3.9	650	2,504	$105,160.00
C	3.5	650	2,287	$1,392,810.00
TOTAL				$1,946,230.00

- Preliminary Cost Data
- All cost is in 2025 U.S. dollars.
- Construction administration is estimated at 15% of the project cost.
- Contingency is estimated at 20% of the project.

Bridge Alternatives

1. No Action
2. Bridge Rehabilitation
3. Bridge Replacement
    - ACROW
    - CONTECH

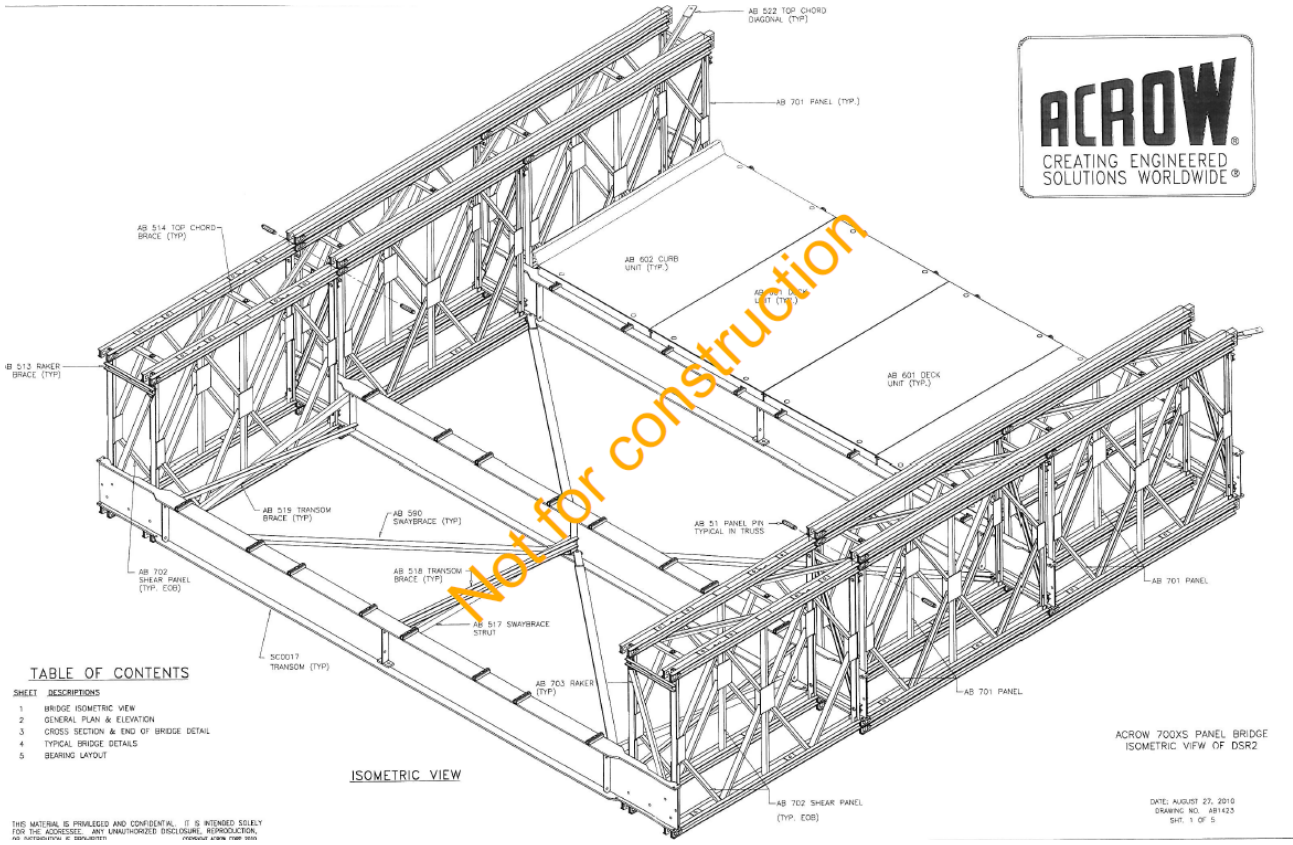


Alternative 2: Bridge Rehabilitation

- Repairs of Abutments
- Replace Wearing Surfaces
- Temporary Bridge or Temporary Access Closure

Alternative 3: Bridge Replacement: ACROW

- Prefabricated modular steel bridges.
- Length: 110 ft
- Standard widths: 12, 13, 13.75, 18, 20 ,24, 30, 34, and 36 feet.
- All the options include a 54-inch utility platform
- A 5 feet wide pedestrian pathway can be attached at either side of the road.



Alternative 3: Bridge Replacement: CONTECH

- Modular hot rolled galvanized beam-style bridge.
- Length 110 feet.
- Standard Widths: 14, 21, and 24 ft.
- All the options include a 54-inch utility platform.
- A 5 feet wide pedestrian pathway can be attached at either side of the road.

Bridge Alternatives Cost Estimate -- Preliminary --

- Preliminary Cost Data
- All cost is in 2025 U.S. dollars.
- Doesn't include Shipping cost
- Contingency is estimated at 20% of the project. – doesn't include

Acrow Bridge Alternatives Cost Estimated

Alternatives	Total Traveled Width (LF)	Pedestrian Pathway	Cost
A-1	13.7	No	$ 350,000
A-2	13.7	Yes	$ 397,300
A-3	20	No	$ 514,200
A-4	20	Yes	$ 558,000
A-5	24	No	$ 554,800
A-6	24	Yes	$ 590,000

Contech Bridge Alternatives Cost Estimated

Alternatives	Total Traveled Width (ft)	Pedestrian Pathway	Cost
C-1	14	No	$ 613,900
C-2	21	Yes	$ 960,800
C-3	24	Yes	$ 1,035,400

Landfill Road Alternatives

Funded by BIA Tribal Climate Resiliency Grant

Figure xx: Project Area (Google Earth Pro, 2025)

Methodology

- Desktop Data Collection
  - Site Investigation – August 2024
  - Planimetric and Topographic Survey – August 2024
  - Hydrology – June 2025
  - Geotechnical – July 2025
- Next Steps
  - Alternatives Analysis Memo
  - PER

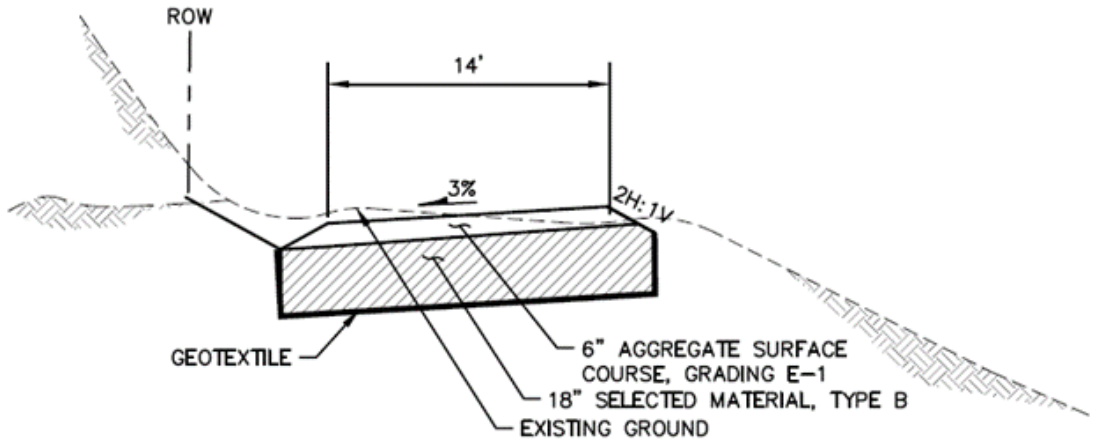
Alternatives

1. No-Build
2. Single Lane w/ Turnout Lanes
3. Two Lane Road

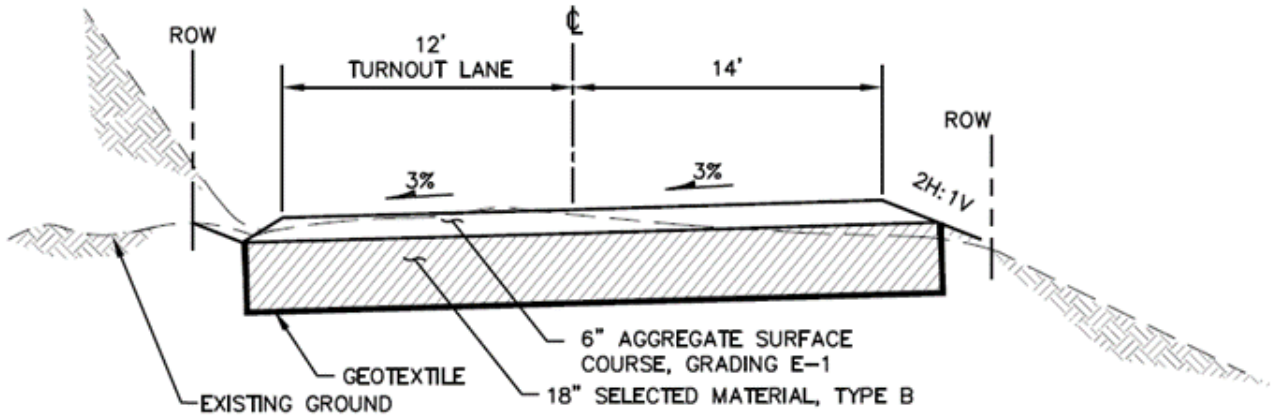
Figure X: Photo taken on Landfill Road

Alternative 2: Single Lane Road

- 14 ft wide lane
- 12 ft wide turnout lane
- Cross Slope: 3%
- 2H:1V back and fore slopes
- 10 ft horizontal clearance
- Drainage improvements



1 — ONE LANE TYPICAL SECTION
SCALE: NTS



2 — ONE LANE WITH TURNOUT TYPICAL SECTION
SCALE: NTS

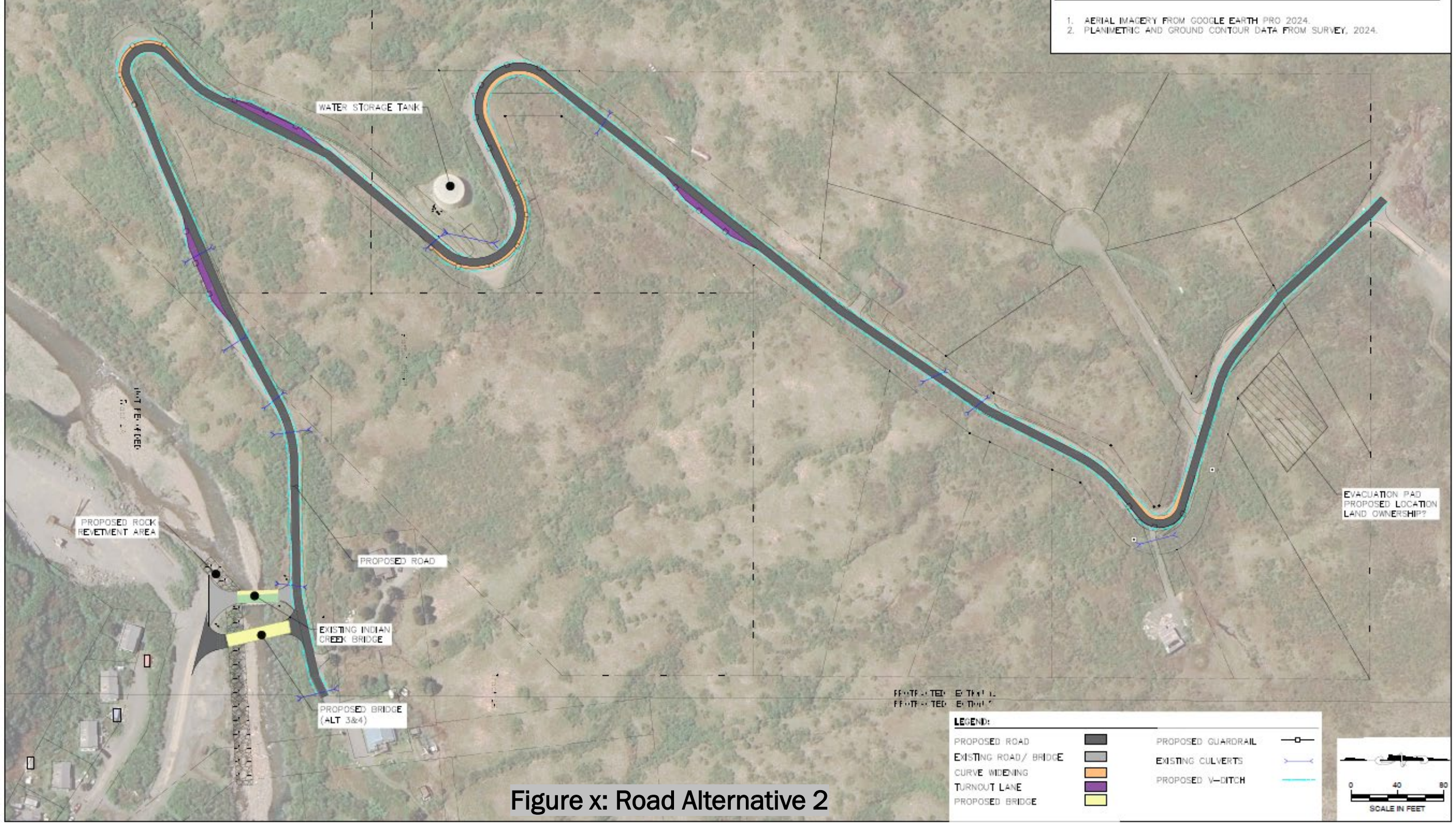
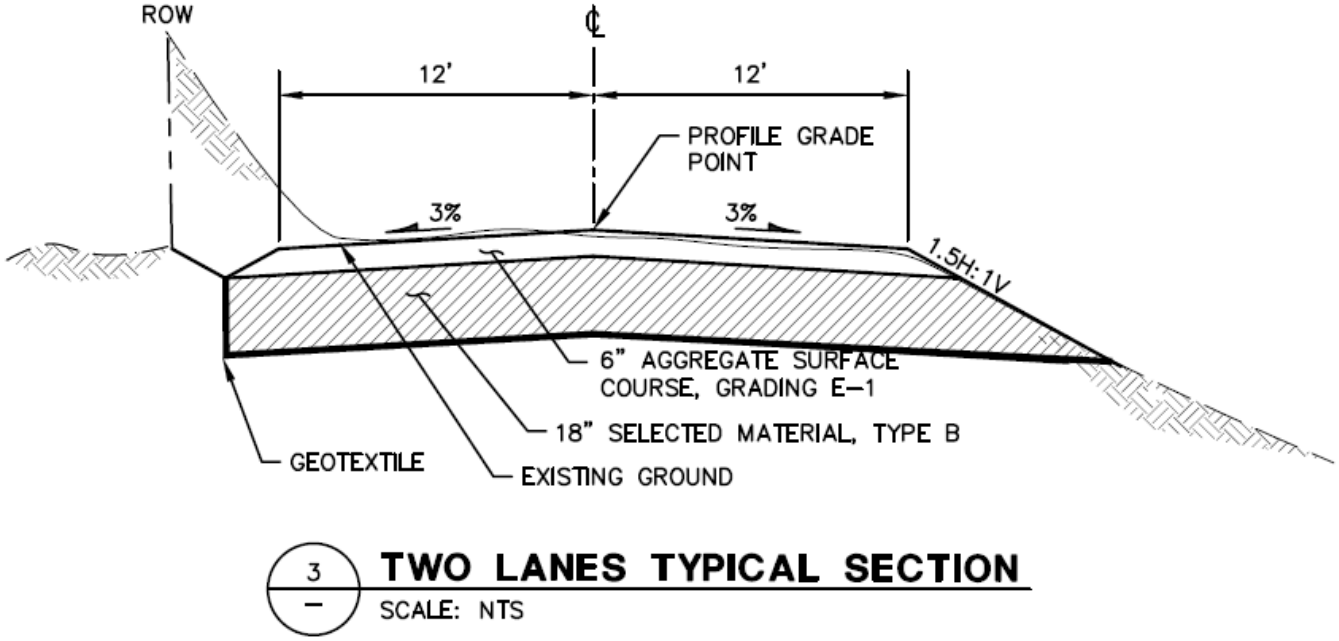


Figure x: Road Alternative 2

Alternative 3: Two Lane Road

- 12 ft wide lane
- 3% cross slope
- 1.5H:1V Slopes



3/– TWO LANES TYPICAL SECTION
SCALE: NTS

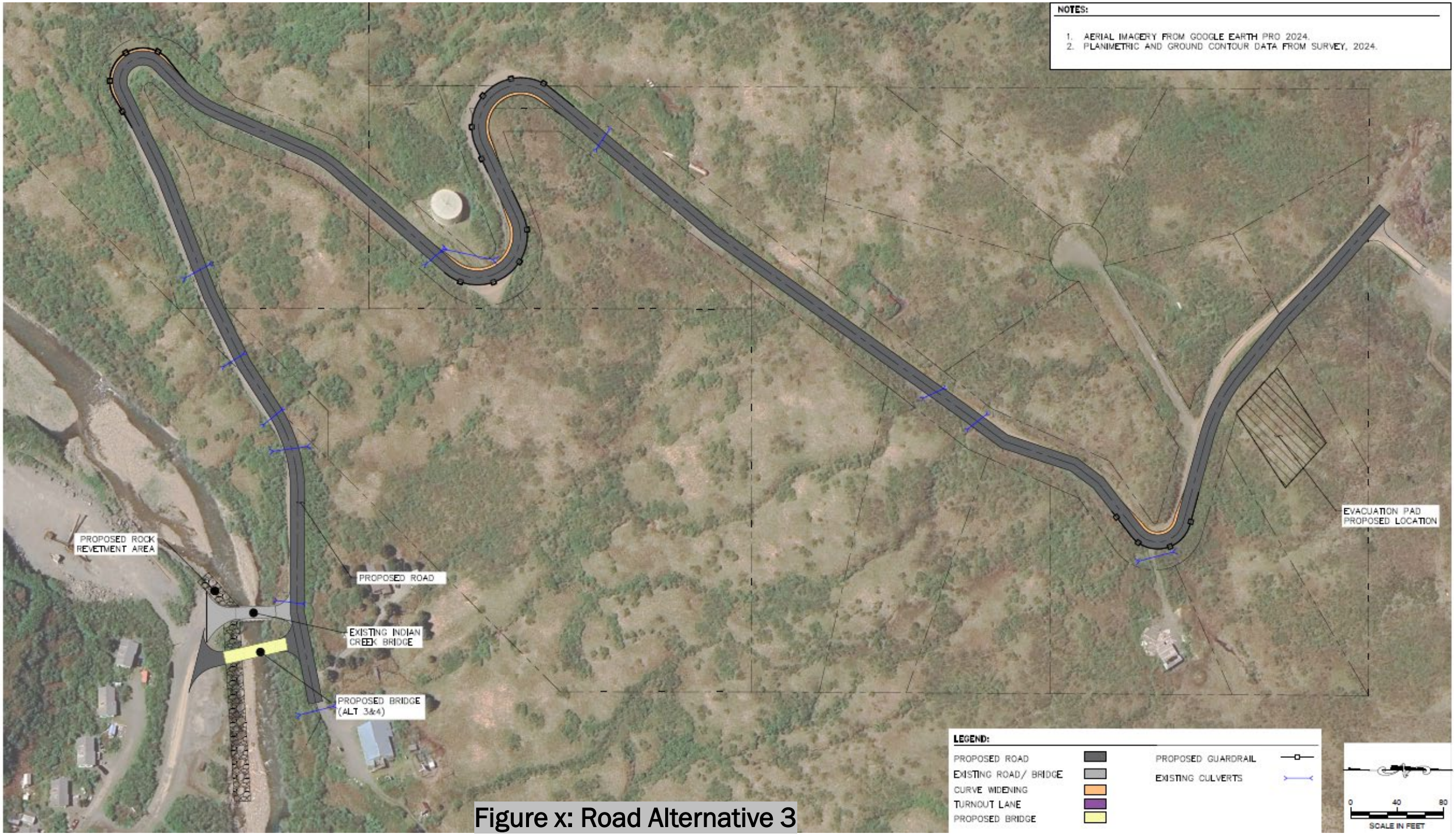


Figure x: Road Alternative 3

Cost Estimate
-- Preliminary --

- Preliminary Cost Data
- All cost is in 2025 U.S. dollars.
- Construction administration is estimated at 15% of the project cost.
- Contingency is estimated at 20% of the project.

	Alt 1	Alt 2
Basic Bid	$ 2,688,815	$ 3,066,665
Contingency	$ 537,763	$ 613,333
Construction Engineering	$ 80,664	$ 92,000
Total	**$ 3,307,242**	**$ 3,771,997.95**

Thank you

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Bristol

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