Project Background

The Community of Noatak is at risk of losing their water supply as land supporting critical infrastructure continues to erode into the Noatak River. On July 23rd, 2024, the Community noticed and reported that approximately 125 feet of the raw water transmission line (RWTL) was floating in the river (Figure 1). Erosion driven by high flows continued through at least August 5th, when a total of around 400 feet of the water supply line became exposed in the river (Figure 2). The floating water line has remained in operation to date but faces imminent failure from multiple risk factors including damage from high flows and debris, sagging and excess strain from receding river levels, the formation of river ice this winter, and most significantly, of sustaining damage from floating ice during the coming spring breakup.

Figure 1: Approximately 125 feet of RWTL Floating in Noatak River

Figure 2: Approximately 400 feet of RWTL Floating in Noatak River

Proposed Project

The emergency bypass would construct a RWTL bypass around the exposed section in the river (Figure 4). The section on Well Island and crossing the channel would be buried 8-inch arctic pipe for protection from flooding and ice. This section will require material to be excavated from the bed of a side slough on the Noatak River while water levels are low. If the slough still has flowing water through it when construction occurs, a temporary diversion embankment will be constructed using approximately 75 cubic yards of gravel. This embankment will temporarily stop the flow of water through the slough, in order to bury the RWTL. Once the RWTL is buried and the trench is back filled, the temporary dam will be removed, and water flow will return to normal.

The RWTL bypass will be connected to both wells with the ability to isolate Well #5 if it becomes lost to erosion. The existing power supply cable to Well #5, which is currently submerged in the Noatak River near the exposed RWTL, will continue to be utilized to power Well #5. A new power supply cable will be installed along the emergency bypass alignment to power Well #6.

The RWTL along the main shore would be placed above grade on the ground surface to reduce construction costs, to encourage property owner permissions by facilitating easy removal following construction of the permanent water supply infrastructure in the future. The bypass RWTL connects to the existing RWTL located in the road down to the boat launch. See Figure 4 below for project alignment.

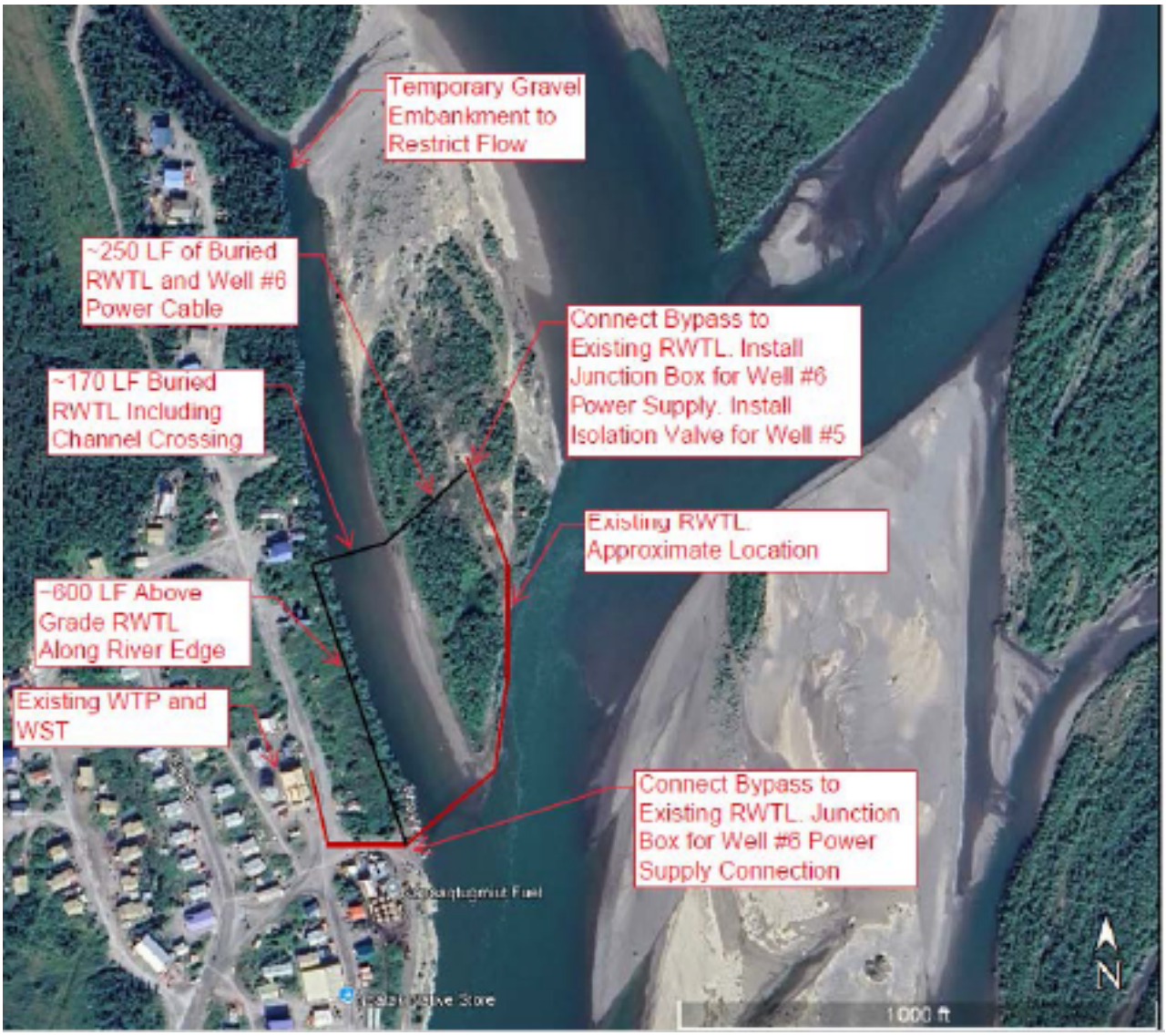

Figure 4: Overview of Emergency Bypass Alignment (in black)