GREAT NORTHERN ENGINEERING

**Project**
Denali Hotels Waste Water Treatment Upgrades
**Client**
Denali Properties
**Location**
Denali National Park and Preserve, Alaska

## Project Scope:

Great Northern Engineering was contracted by Denali Properties to design three options for upgrades or replacement to the existing Denali Properties Waste Water Treatment Plant (WWTP). The design includes the Denali Bluffs, the Grande Denali, and the Riverview Hotel, as well as capacity and tie-ins for the proposed fourth hotel to be completed in 2020. The existing facility was approximately 18 years old, with a capacity of 30,000 Gallons per Day (GPD), and is discharge to the Nenana River via a 6-inch pipeline.

## Project Detail:

- Geotech survey and selection of a new WWTP site or upgrade to the existing site.
- Removal or modifications to the existing WWTP and abandonment of the effluent field for the Riverview Hotel, the Denali Bluffs, and the Grande Denali.
- New or upgraded 60,000 GPD WWTP for the three existing hotels and the proposed hotel to be completed in 2020. The new system would include tie-in points for possible additional future expansion.
- The plant will be housed in a pre-engineered metal building that includes space for new laundry facilities, maintenance, and storage. The building will sit on a new piled foundation with an additional reinforced steel structure.
- Option 1: Convert the existing WWTP to a 60,000 GPD Lifewater bio-reactor plant with an expansion for an additional 50 future guest rooms. This option includes inspection and refurbishment of the existing steel tankage, an additional 1,000-gallon effluent tank, and a clean effluent discharge to the Nenana River with a near zero pollutant release. The required building would be 60-by-80-foot.
- Option 2: A new 60,000 GPD Lifewater bio-reactor plant with an expansion for an additional 50 future guest rooms. This option includes ultra-high molecular weight tanks, an additional 1,000-gallon effluent tank, and a clean effluent discharge to the Nenana River with a near zero pollutant release. The required building would be 54-by-68-foot.
- Option 3: A new 60,000 GPD Bioxica conventional WWTP with an expansion for an additional 50 future guest rooms. This option includes an additional 1,000-gallon effluent tank and an effluent discharge to the Nenana River. The required building would be 54-by-68-foot.

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