

# NORTON SOUND REGIONAL HOSPITAL CIVIL DESIGN



## Type of Contract:

Private Industry,  
Lump Sum

## Role:

Subconsultant

## Location:

Nome, AK

## Contract Number:

N/A

## Award Date:

October 2004

## Completion Date:

August 2009 (Design)

## Customer:

Norton Sound Health  
Corporation

## Customer Contact:

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*The new, technologically state-of-the-art Nome Hospital facility will serve an estimated 10,000 users from Nome and 15 surrounding communities. (Renderings by Studio216, Seattle.)*

Bristol is responsible for civil design of this 150,000-square-foot hospital, to be located in Nome, Alaska.

As a new, technologically state-of-the-art facility, the Nome Hospital has the opportunity to become a community landmark as well as the flagship health facility for Norton Sound Health Corporation, which serves an estimated 10,000 users. The new building will replace an outdated hospital more than 60 years old.

In addition to Nome residents, primary users of the facility will be Alaska Natives living in the 15 villages around Norton Sound; the hospital site is central to this dispersed network of villages. The new Nome Hospital will offer inpatient and outpatient services, as well as support services to meet the needs of family members and health care providers.

This project was phased to include development of an early pad package. This initial site preparation was a factor in encouraging funding agencies' support; in September 2009, the project received \$91 million toward construction under the American Recovery and Reinvestment Act of 2009.

Bristol worked on the project in association with architecture firms Kumin Association, Inc., (KAI) of Anchorage, and Mahlum Architects, of Seattle. Bristol additionally has provided KAI construction administration support during the early pad construction phase, and we are scheduled to perform construction administration support for the duration of the project.

## UTILITY DESIGN & PERMITTING

About 2,400 feet of on-site looped waterline will serve the building and site hydrants, with 300 feet of on-site gravity sewer line connecting the new facility to the off-site sewer main extension.

Bristol coordinated with Nome Joint Utility Service to extend 1,500 feet of off-site water main and almost 1,000 feet of off-site gravity sewer line to the Hospital property. Coordination with Alaska Department of Transportation and Public Facilities (ADOT&PF) was required to seamlessly connect to the ongoing State Road upgrade adjacent to the hospital property on Nome Bypass Road.

Bristol obtained “approval to construct” permits for water and sewer systems, as well as a letter of non-objection for storm water discharge, from Alaska’s Department of Environmental Conservation (DEC).

## COLD-REGION ENGINEERING ADAPTATIONS

The proposed hospital site poses many challenges and concerns common to northern coastal Alaska. Cold-region engineering adaptations on this project include:

- A drainage solution that reduces potential for ponding and permafrost degradation.
- Development of a grade-separated pile foundation for most of the building to prevent degradation of thaw-unstable permafrost soil.
- A long, gently sloped, 15-foot-high gravel access ramp—similar to those used at airport departure gates—providing emergency and service-vehicle access to the pile-elevated first floor.
- A refrigerated pad and piling beneath the ground-level entrance, to prevent movement of the entry and elevator lobby.
- Incorporation of flexible utility connections and pivoting or sliding access ramps to accommodate differential movement between the building and thaw-unstable soil.
- Parking area and road layouts designed for efficient snow removal and storage, with minimal impediments and an adjacent snow storage area.



*In part thanks to early site preparation, including development of the design package for this building pad, the project received construction funding support, including \$91 million in federal economic stimulus funds.*

