

ECHO CLIFFS HEALTH CENTER (BODAWAY GAP)



DES Project Manager	CAPT Frank Chua, P.E.
Location	The Gap, AZ
Area Office	Navajo
Tribe(s) Served	Navajo
Design Start	1/20/2023
Const. Start	2/14/2024
Const. Completion	2/2026 (Estimated)
Size	124,134 SF
Procurement Method	Public Law 93-638 Title V Construction Project Agreement (TVCPA)
Delivery Method	Design Build
Architect of Record	Dekker, Perich, Sabatini Architects
Prime Contractor	Arviso-Okland
Energy Efficiency	Ensure the design of the building envelope and HVAC systems will achieve simulated energy consumption levels with at least a 30% improvement from ASHRAE 90.1-2013.
LEED Certification	Design to achieve LEED v4 Gold

**Sustainable Design Features.....
(Planned)**

Energy Efficiency

Ensure energy efficiency is 30% better than the current American Society of Heating, Refrigerating and Air Conditioning Engineers (ASHRAE) 90.1 standard, Design ensured energy efficiency is 30% better than the current ASHARE90.1.

Ensure installation of ENERGY STAR and FEMP-designated products in all procurements involving energy-consuming products and services.

Renewal Energy

Solar hot water demand supplying 30% of hot water demand, renewable electrical energy supplying 10% of annual building electrical demand, whole building metering.

Install building-level meters for electricity and advanced meters to the maximum extent practicable.

Indoor Water Use and Metering

Energy efficiency, water conservation measures must be applied to the extent that they are life cycle cost effective in accordance with 10 CFR Parts 433 and 435. In addition to the use of water conservation technologies are to be applied to the extent that the technologies are life cycle cost effective for new construction and modernization projects.

Eliminate the use of single-pass (also called "once-through") cooling equipment using potable water and optimize cooling tower operations to minimize makeup water.

Install building level water meters (standard or advanced) and monitor to ensure optimized management of water use during occupancy.

Outdoor Water Use

Evaluate and implement, as applicable, water efficient landscaping best practices that incorporate native, non-invasive, drought tolerant, and low maintenance plant species. Utilize and follow, as appropriate, landscaping best practices provided by GSA's SFTool – Water resources, DOE-FEMP's Water Efficiency in Federal Buildings and Campuses resources, EPA's WaterSense - Outdoors resources, or an agency-approved tool.

Ventilation and Thermal Comfort

Ventilation and thermal comfort in accordance with 41 CFR 102-74.195 and 102-74.185 and utilize the most current version of ASHRE "Ventilation for Acceptable Indoor Air Quality" Standard 62.1 or 62.2 and ASHRAE 55 "Thermal Environmental Conditions for Human Occupancy" as specified by the Federal Management Regulation.

Installation of air pressure barrier in various configurations throughout the building, e.g. sealed penetration on a single side, conduit pathways, gasketed outlets, terminated stops, and automatic door bottoms.

Daylighting and Lighting Controls

Design and construct the building to meet and maintain all required illumination levels, in accordance with Federal Management Regulation, and maximize the use of automatic dimming controls or accessible manual controls in regularly occupied spaces.

Services Programmed for New Facility....

Specialty Care, Ambulatory Care (Primary Care, Audiology, Eye Care, Physical Therapy, Dental, Obstetrics and Gynecology, Pediatrics, Internal Medicine, Podiatry), **Laboratory, Pharmacy, Diagnostic Imaging, Preventive Programs** (Public Health Nursing, Public Health Nutrition, Health Education, Wellness Center), **Behavioral Health** (Alcohol and Substance Abuse, Social Services)**Environmental Health, Facility Support Services, Administrative Support, Additional Services** (Cafeteria, Special Diabetes Program, Community Health Programs), **Navajo Nation/Tribal Programs**(Traditional Healing, Health Education, HIV Prevention Program, Communicable Disease Program, Community Health Representatives, Women, Infant, and Children Nutritional Program, Behavioral Health Program, Emergency Medical Services)

Design Concept.....

Building Siting

The building location was determined through a series of considerations working from the largest scale down to the smallest. First, it occupies the widest portion of the property, appropriate to the scale of the health center, leaving the southern section for the staff Quarters. The empty portion on the north end of the property is reserved for future expansion such as a fitness center or other standalone building, or potentially an array of ground-mounted photovoltaic panels, currently being considered.

Second, the distance from the highway on the east/west axis is set based on a series of wind simulations to optimize protection afforded from the adjacent sandstone outcroppings from the predominant winds, and a sensitivity to the space left between the building and the hills.

Third, the relationship between the building and the crescent shaped outdoor “courtyard” created by the sandstone hills is such that the building itself completes the sense of enclosure and forms an outdoor healing garden in between itself and the landscape.

The primary public approach to the site is from the north, separated from service and staff traffic to the south. Arriving patients will be drawn to the building from the highway and arrive at the entry after passing between the building and the nearby sandstone hills, creating a sense of compression, and then expansion as a visitor crosses the threshold of the site.

Building Organization

An east-facing entrance is not only in accordance with indigenous traditions but is an ideal way to connect the building front door to the spectacular mid-distance views to the east. The publicly accessed building functions are located along an east-facing circulation spine which forms a concourse that brings views and daylight into the building, welcomes in the morning sun, and offers clear and intuitive wayfinding to patients. More “opaque” functions such as the air handler room and the service wing are oriented towards the west to be inherently shielded from the harsh afternoon sun.

Building Image

The design concept is of the building as a “jewel” in the landscape, setting up a visual contrast with the

deep colors and textures of the site, and accentuating the beauty of the site through this contrast.

Colors and forms of the building take their inspiration from indigenous turquoise and stone inlay jewelry.