BROADBAND RESILIENCY

Government Data Center and Dark Fiber

PRESENTATION

Resources

- Digital Policy Office
- OTECH
- Ongoing Planning Initiatives
- IIJA Digital Deployment funding
- Digital Equity Act of 2021

Broadband Resiliency Proposal

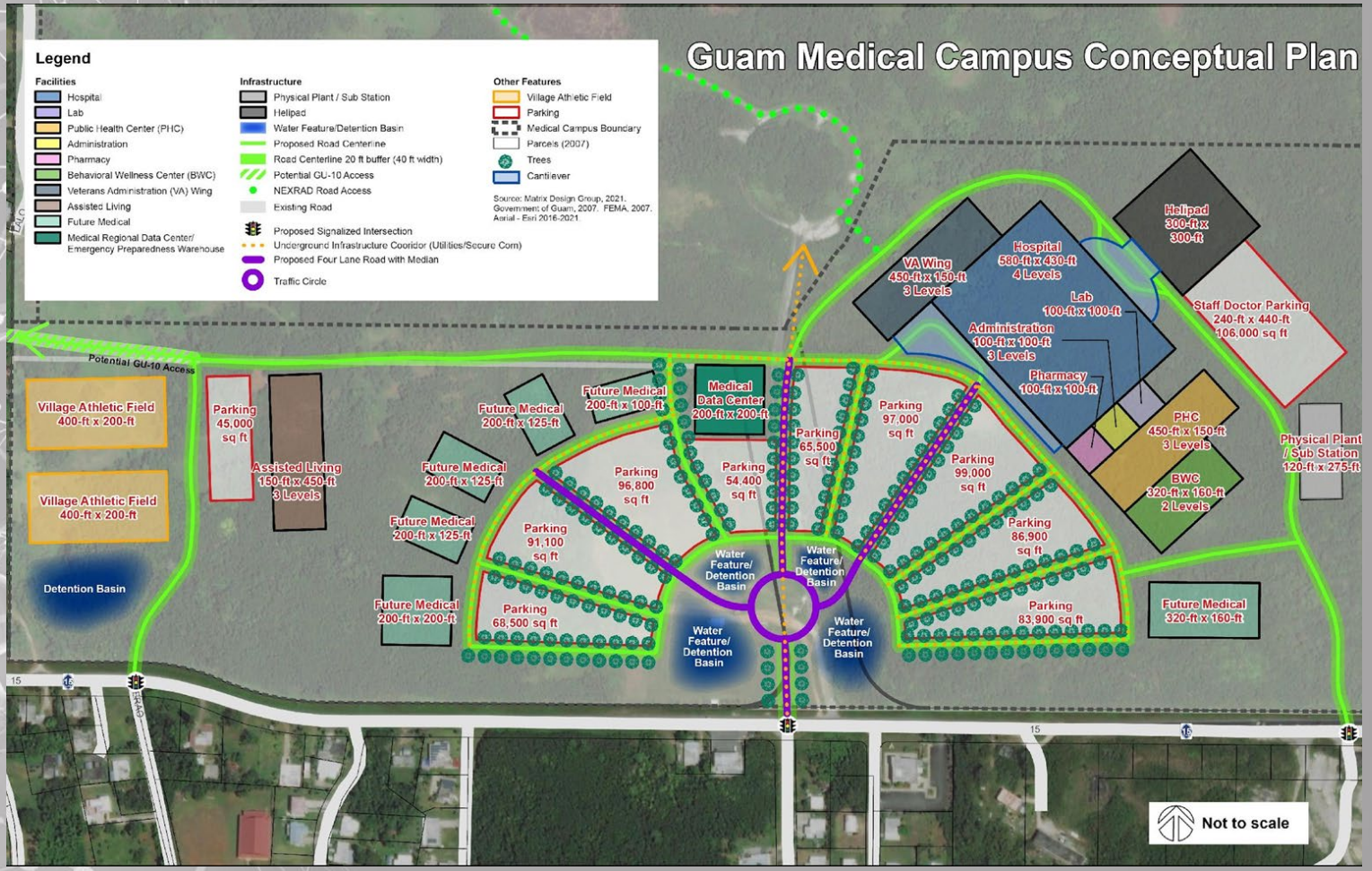
- Relocation of the Government of Guam Data Center to the Guam Medical Campus
- Construction of dark fiber from the underseas cable landing to the Guam Medical Campus as an anchor institution

Broadband Resiliency Proposal

- Provide resilience for critical government data
- Support health care operations, particularly with respect to telemedicine
- Serve as a nexus to support new IT enterprises as part of economic recovery
- Provide the opportunity to lease excess dark fiber capacity to ISPs in order to provide revenue for digital access programs such as free Wi-Fi hotspots

Broadband Resiliency Proposal

- Relocation of the Data Center
  - Current data center built in the 1960s
  - Located in the Agana Flood Plain
  - Critical government data
    - Tax Records
    - Electronic Medical Records
    - Public Safety Records


Guam Medical Campus Conceptual Plan
Legend
Facilities
Hospital
Lab
Public Health Center (PHC)
Administration
Pharmacy
Behavioral Wellness Center (BWC)
Veterans Administration (VA) Wing
Assisted Living
Future Medical
Medical Regional Data Center/ Emergency Preparedness Warehouse
Infrastructure
Physical Plant / Sub Station
Helipad
Water Feature/Detention Basin
Proposed Road Centerline
Road Centerline 20 ft buffer (40 ft width)
Potential GU-10 Access
NEXRAD Road Access
Existing Road
Proposed Signalized Intersection
Underground Infrastructure Coorridor (Utilities/Secure Com)
Proposed Four Lane Road with Median
Traffic Circle
Other Features
Village Athletic Field
Parking
Medical Campus Boundary
Parcels (2007)
Trees
Cantilever
Source: Matrix Design Group, 2021. Government of Guam, 2007. FEMA, 2007. Aerial - Esri 2016-2021
Potential GU-10 Access
Village Athletic Field 400-ft x 200-ft
Village Athletic Field 400-ft x 200-ft
Detention Basin
Parking 45,000 sq ft
Assisted Living 150-ft x 450-ft 3 Levels
Future Medical 200-ft x 125-ft
Future Medical 200-ft x 125-ft
Future Medical 200-ft x 125-ft
Future Medical 200-ft x 200-ft
Future Medical 200-ft x 100-ft
Medical Data Center 200-ft x 200-ft
Parking 96,800 sq ft
Parking 91,100 sq ft
Parking 68,500 sq ft
Parking 54,400 sq ft
Parking 65,500 sq ft
Parking 97,000 sq ft
Parking 99,000 sq ft
Parking 86,900 sq ft
Parking 83,900 sq ft
Water Feature/ Detention Basin
Water Feature/ Detention Basin
Water Feature/ Detention Basin
Water Feature/ Detention Basin
VA Wing 450-ft x 150-ft 3 Levels
Hospital 580-ft x 430-ft 4 Levels
Helipad 300-ft x 300-ft
Lab 100-ft x 100-ft
Administration 100-ft x 100-ft 3 Levels
Pharmacy 100-ft x 100-ft
Staff Doctor Parking 240-ft x 440-ft 106,000 sq ft
PHC 450-ft x 150-ft 3 Levels
BWC 320-ft x 160-ft 2 Levels
Physical Plant / Sub Station 120-ft x 275-ft
Future Medical 320-ft x 160-ft
15
15
Not to scale

Future Medical
200-ft x 125-ft
Future Medical
200-ft x 100-ft
Medical
Data Center
200-ft x 200-ft
Parking
97,000
sq ft
Parking
65,500
sq ft
Parking
96,800
sq ft
Parking
54,400
sq ft
Parking
91,100
Water
Water

Data Center Modernization

GOVERNMENT OF GUAM

Building Information
• Concrete tilt-up construction
• Approximately 24,600 sf
• Exterior walls approximately 23 feet high
• Roof – light weight concrete with membrane
• 18" Interior ceiling height without drop ceiling
• 10' Interior ceiling height with drop ceiling
• 12" Access flooring for power and cabling
• Exterior storm windows and doors
• Protected mechanical enclosures
• Data Center on concrete slab
211
OFFICE OF TECHNOLOGY
GOVERNMENT OF GUAM
Building Information

Conceptual Interior Floor Plan

Staff Space

- Reception / Lobby
- 2 COVID Entry Stations
- 68 Cubicles
- 6 Offices
- 2 Conference Rooms
- Training / Conference Room
- Break Room / Patio
- Restrooms
- Storage Room
- UV air sterilization system

Data Center 1

- 20 Racks
- N+1 Cooling
- Monitoring / Security
- Fire Suppression

Data Center 2 & 3 & 4

- 10 Racks
- N+1 Cooling
- Monitoring / Security
- Fire Suppression

UPS Module

- 2N 200kW UPS System
- N+1 Cooling
- Monitoring / Security
- Fire Suppression

Broadband Resiliency Proposal

Relocation of the Data Center

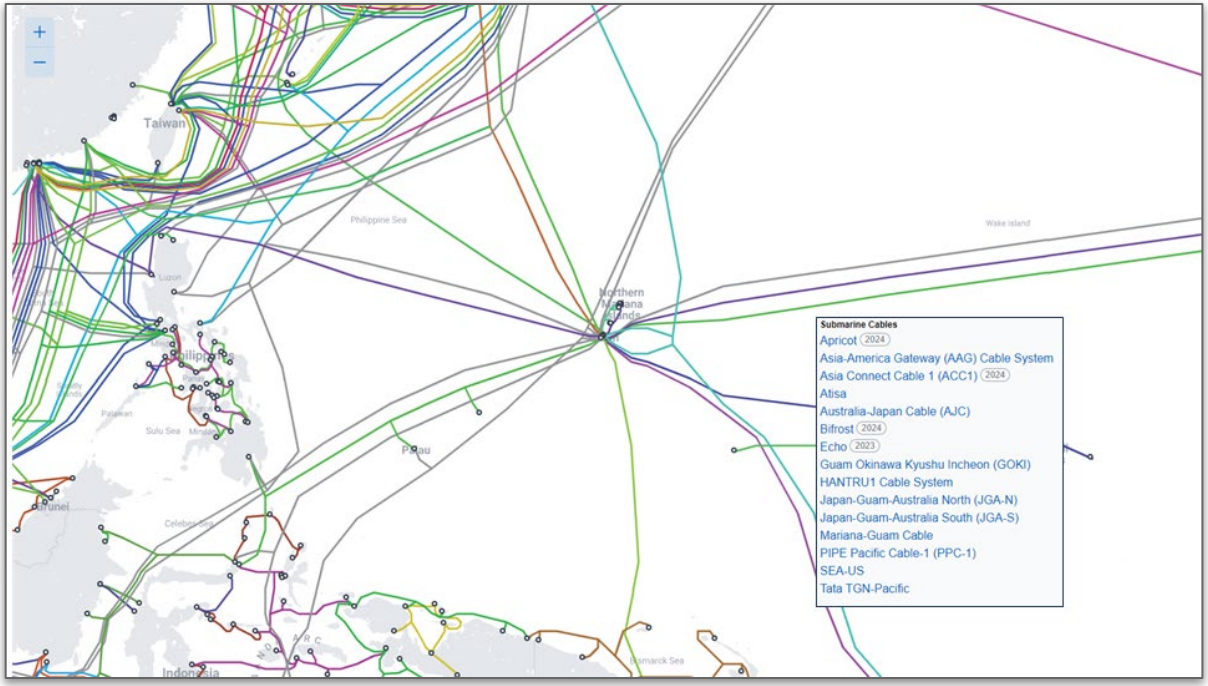
- Leeds architecture for improved energy efficiency
- Resilient hub for dark fiber distribution
- Hardened location for GovGuam's cloud edge infrastructure
- Estimated cost $60 million

Broadband Resiliency Proposal

- Construction of dark fiber linking underseas cables with the Guam Medical Campus
- Estimated cost $2 million

Broadband Resiliency Proposal

Submarine Cable Map: Guam Connections



Source: Telegraphy -
https://www.submarinecablemap.com/

Broadband Resiliency Proposal

IT Economic Development

- Silicon village
  - Tech-focused small business incubator
  - IT learning centers
  - Data centers and other tech companies
  - Tech-oriented nonprofits

Broadband Resiliency Proposal

Digital Access Programs

- Digital literacy
- Skills training
- Student access through Schools, Libraries, After School programs, and Child Care facilities
- Wi-Fi hotspots
- Access to devices
- Capacity building

Broadband Resiliency Proposal

Guam Public Library

- Learning Centers
- Satellite Branches
- Virtual Learning Resource Center

BROADBAND RESILIENCY

Government Data Center and Dark Fiber

PRESENTATION