

BASELine

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BASE MICRONESIA: WHERE OUR DAY BEGINS

2014 marks the fifth anniversary of our Guam office! Although we opened in 2009, our work in Guam actually began a decade earlier with mostly military facilities. In the 15 years since, our Guam work has expanded to provide structural design and special inspection services for both public and private sector projects across the island. Here are our most notable recent projects.

The map shows various locations across Guam, with red lines connecting them to project photos and captions:

- Joint Region Marianas HQ (2010)**: Photo of a large, modern office building.
- Ironwood Heights (2012)**: Photo of a large, multi-story residential or institutional building.
- P-3105 AEF FOL Munition Storage Igloos (2007)**: Photo of a large, cylindrical storage structure.
- Consolidated War Reserve Material Storage Facility (2006)**: Photo of a long, low-profile industrial building.
- P-465 Submarine Learning Center & P-528 Torpedo Exercise Support Building (2013)**: Photo of a large, white, rectangular building.
- Guam High School (2008)**: Photo of a school building with a large courtyard.
- Apra Harbor Substation (2014)**: Photo of a small, modern utility building.
- CDR William C. McCool Elementary Middle School (2008)**: Photo of a school building with a prominent entrance.
- BEQ P-469 (2011)**: Aerial photo of a large, multi-story building complex.
- Charles King Fitness Center (2011)**: Photo of a fitness center with a swimming pool.
- Naval Communications Station (Finegayan)**: Located on the eastern coast of Guam.
- Andersen Air Force Base**: Located on the eastern coast of Guam.
- Yigo**: Located on the eastern coast of Guam.
- Dededo**: Located on the eastern coast of Guam.
- Mangilao**: Located on the eastern coast of Guam.
- Barrigada**: Located on the eastern coast of Guam.
- Mongitong-Toto-Majta**: Located on the eastern coast of Guam.
- Agaña Heights**: Located on the eastern coast of Guam.
- Asan**: Located on the eastern coast of Guam.
- Yona**: Located on the eastern coast of Guam.
- Santa Rita**: Located on the eastern coast of Guam.
- Agat**: Located on the eastern coast of Guam.
- Talofoto**: Located on the eastern coast of Guam.
- Inarajan**: Located on the eastern coast of Guam.
- Merizo**: Located on the eastern coast of Guam.
- Umatac**: Located on the eastern coast of Guam.
- Inarajan bay**: Located on the eastern coast of Guam.
- Talofoto bay**: Located on the eastern coast of Guam.
- Togcha bay**: Located on the eastern coast of Guam.
- Ylig bay**: Located on the eastern coast of Guam.
- Pago bay**: Located on the eastern coast of Guam.
- Ordot**: Located on the eastern coast of Guam.
- Sinajana**: Located on the eastern coast of Guam.
- Hagaña**: Located on the eastern coast of Guam.
- Hagaña Bay**: Located on the eastern coast of Guam.
- Tumon Bay**: Located on the eastern coast of Guam.
- Piti Bay**: Located on the eastern coast of Guam.
- Piti**: Located on the eastern coast of Guam.
- Apra Harbor**: Located on the eastern coast of Guam.
- Naval Activities**: Located on the eastern coast of Guam.
- Cabras Island**: Located on the eastern coast of Guam.
- Coco's lagoon**: Located on the eastern coast of Guam.
- Achang Bay**: Located on the eastern coast of Guam.
- Bille Bay**: Located on the eastern coast of Guam.
- Umatac Bay**: Located on the eastern coast of Guam.
- Cetti Bay**: Located on the eastern coast of Guam.
- Guam Regional Medical City (late 2014)**: Photo of a large, modern medical facility.
- Okkodo High School Expansion (summer 2014)**: Photo of a school building with a large courtyard.
- Guam Army National Guard Readiness Center (2012)**: Photo of a large, modern military facility.
- Army Reserve Center (2002)**: Photo of a large, modern military facility.

IS GUAM REALLY CAPABLE OF CAPSIZING?

Maybe Congressman Hank Johnson (D-GA) was onto something when he said that relocating 8,000 Marines from Okinawa to Guam would cause it to “become so overly populated that it will tip over and capsize.” If that ever happens it may not be the military’s fault but rather the island’s high seismicity. There has been a significant increase in spectral accelerations (already extremely high) resulting from new probabilistic seismic hazard assessments conducted for Guam and the Northern Marianas Islands. Recently the National Earthquake Hazard Reduction Program (NEHRP) issued the following new seismic accelerations for Guam.

	Old	New	% Increase
S_s^1	1.50 g	2.79 g	86%
S_1^2	0.60 g	0.68 g	13%

1. Mapped spectral response acceleration at short periods.
2. Mapped spectral response acceleration at a period of 1-second.

Comparison of Guam Accelerations to Hawaii’s

	Guam	Big Island, HI ¹	Oahu, HI ²
S_s	2.79 g	1.50 g	0.57 g
S_1	0.68 g	0.60 g	0.16 g

1. Pohakuloa Training Area
2. Pearl Harbor

The result of this change in seismic accelerations is significant for construction on Guam. For typical low-rise buildings prevalent in Guam, the percent increase in seismic design forces on a building is directly proportional to the increase in seismic accelerations and is on the order of 86%.

As a leading structural and AT/FP consulting firm in the Pacific we are honored to be involved in military work in Guam. We are also proud to be involved with Guam Regional Medical City and the expansion of Okkodo High School, two projects that will have a big impact on the people of Guam by filling unmet needs in the community. Please contact our office if you have any questions or if we can assist you in Guam.

