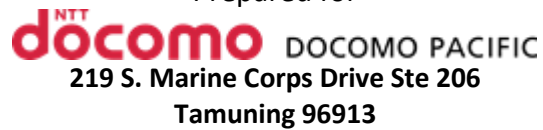


APPENDIX B

401 WATER QUALITY CERTIFICATION APPLICATION:

ATISA GUAM-CNMI SUBMARINE CABLE SYSTEM

Prepared for



and



Prepared by



Duenas Camacho & Associates
238 E. Marine Corps Drive, Suite 201
Hagatna, Guam 96910

September 2016



Website: www.dcaguam.com
Email: dca@dcaguam.com

September 30, 2016

Mr. Walter Leon Guerrero
Administrator
Guam Environmental Protection Agency
P.O. Box 22439
GMF - Barrigada, Guam 96921

Subject: Guam 401 Water Quality Certification for ATISA Guam-CNMI Submarine Cable System, Tepungan, Piti, Guam.

Dear Mr. Leon Guerrero:

Docomo Pacific Inc. is proposing to land the ATISA Guam-CNMI submarine cable system on Guam and has an agreement with GTA to utilize one of the six conduits that GTA is proposing to install offshore and in Lot 262, Tepungan, Piti to receive submarine fiber-optic cables, including the Southeast Asia-U.S. (SEA-US) telecommunication system linking Asia with Guam, Hawaii and California. For this activity, Docomo Pacific, Inc. is seeking a Department of the Army permit for work in waters of the United States, and is providing its 401 Water Quality Certification to Guam EPA, in accordance with the Guam Water Quality Standards and Clean Water Act. Docomo's ATISA cable is needed to link the CNMI (Saipan, Rota and Guam) with Guam to provide much overdue redundancy to the telecommunications network in the CNMI following the cable fault on the IT&E system on Saipan in July 2015 that caused an Internet outage.

The project will land a single fiber-optic marine cable through one of the conduits in the GTA raceway, and pull the cable to shore where it will be spliced to land cables at a beach manhole located above the high tide line. The activities involve landing a submarine fiber-optic cable, and therefore, need to be within marine waters. The excavator to pull the cable to shore will be equipped with on-board spill response equipment for work near marine environments. These include absorbent pads and booms to be deployed in case of accidental oil leaks. No heavy equipment will be operated in marine waters. Similarly, the cable ship will have on-board spill response equipment to deploy in accordance with the vessel's spill response plan. The Environmental Protection Plan (EPP) developed for the project describes the EPP measures that would be implemented to control discharges and manage spills from heavy equipment operating at the site. Construction would be performed in accordance with specified best management practices (BMPs) to control erosion and minimize sedimentation.

We assure Guam EPA that there is reasonable assurance that the conduit installation and cable landing activities will be conducted in such a manner which will not violate basic water quality criteria and the applicable water quality standards. A 401 WQC application package is enclosed for your review. Please contact me at 477-7991 if you need additional information.

Sincerely,

Claudine Camacho

Claudine Camacho

Enclosure: 401 WQC Application Package

RECEIVED

SEP 30 2016

Nieves

**Guam Environmental
Protection Agency**

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LIST OF EXHIBITS

EXHIBIT A. Environmental Protection Plan for the ATISA Guam-CNMI Submarine Cable System

LIST OF APPENDICES

Appendix A. Department of the Army Permit Application

Appendix B. Federal Consistency Statement Application

**GUAM ENVIRONMENTAL PROTECTION AGENCY
SECTION 401 WATER QUALITY CERTIFICATION
APPLICATION (401C)**

Revised 07/98

FOR OFFICIAL USE ONLY

Prepared By: _____ Application No. _____
Title: _____ Date Received: _____
Date Prepared: _____

**DISCHARGES FROM DREDGED MATERIAL OR
FILL IN WETLANDS AND OTHER INLAND SURFACE WATERS**

Instructions:

- 1) Activities covered by this application request form include wetland dredging, filling, construction of bridges, walkways, culverts and other structures in wetlands, streams, or rivers, mitigation/creation projects, restoration activities, utility trenching and pole placements, and other similar activities in wetlands.
- 2) When addressing the following items, be sure to answer all questions. If the item is not applicable or the response is none, indicate as much as provide a brief explanation why. If there are incomplete items the application will be returned.
- 3) When references are made to supporting documents, studies, previous permit actions or other information, they must be identified by document name and date. All pertinent references used to support this application request must be provided.
- 4) The applicant should use this form; however, a similar format may be used and must include each question (item) found in this form.
- 5) If additional space is required, use extra sheets or the back of this form. This form is available on diskette.

Applicant Information

1. a. Applicant Name & Address:

Liezl R. Balan
Docomo Pacific, Inc.
219 S. Marine Corps Drive Ste 206
Tamuning, Guam 96913

b. Agent/Representative Name & Address:

Dueñas, Camacho, & Associates, Inc. (DCA)
238 Marine Corps Drive, Suite 201
Hagåtña, Guam 96910

2. Project Name: ATISA Guam-CNMI Submarine Cable System

Location: The ATISA system would link the four main Mariana Islands in the western Pacific Ocean by submarine cable from Guam to Saipan, with branching units (BU) to Rota and Tinian.

Guam Landing

Guam is an unincorporated U.S. territory and the largest and southernmost island in the Mariana Islands archipelago. The Guam landing and beach manhole are located in the eastern portion of Pedro G. Santos Memorial Park (Lot 262), an approximately 6-acre parcel located in the Municipality of Piti, just east of Apra Harbor on the western coast of Guam. The marine portion of the project site is located in the Tepungan Channel offshore from the Park. From the beach manhole, the cable will follow easements and rights-of-way south along Route 1 (Marine Corps Drive) to the Tata Cable Station in Piti.

The project site is along the western coastline of Guam, and within the Asan-Piti watershed, a 2.9 square mile area that encompasses the Masso River and Piti and Asan Bays (Kottermair, 2012). See site location and vicinity map (Figure 1).

3. Associated Federal Permits or File Nos.

A Department of the Army Permit (Appendix A) and Guam Coastal Management Program Federal Consistency Statement (Appendix B) are other associated permit requirements filed concurrently with this 401 Water Quality Certification.

- 4. Provide a copy of the Guam Wetland Development Permit for this project or a statement from the Department of Land Management as to the reasons why a permit was otherwise not required.**

The proposed action involves landing a cable in a newly laid conduit within the GTA raceway (that would be installed prior to the ATISA cable landing), and therefore, will not require a new wetland or Seashore Clearance application approval from the Guam Land Use/Seashore Protection Commission.

- 5. If this project is mitigation (restoration, enhancement, or creation), explain how existing wetland functions/uses will be improved or maintained. What benefits will result from this project with regard to existing wetland functions (especially water quality)?**

N/A. The project is not a mitigation activity. The project would temporarily disturb waters of the U.S. in order to land a cable in Piti, Guam. This project does not require any trenching in the ocean as GTA's raceway would already be in place and the new conduit will be ready when the cable ship arrives. Minimal work will be required in offshore waters to pull the new cable through the existing conduit to the shoreline. On land, the landing would use the GTA beach manhole that will be constructed in the Park as part of GTA's cable raceway system. Docomo is considering installing an additional manhole adjacent to the GTA beach manhole in the park, then connecting the cable from this manhole along a separate raceway to the Tata Cable Station in Piti.

The only excavated material would potentially originate from the beach work site on land above the mean high water (MHW) mark if Docomo Pacific decides to install a new beach manhole. Once the cable has been spliced into Docomo's terrestrial cable system, the fill material surrounding the beach manhole area would be replaced and the finish grade would be restored; hence, there would be no change in elevation after construction.

- 6) Are there any special environmental protection requirements identified at this time?**

Yes. The offshore project area supports habitat for a variety of algae, corals, macroinvertebrates, crustaceans, mollusks, and fish species. Based on information from the National Marine Fisheries Service (NMFS), the project area

is within the essential fish habitat (EFH) designation for Guam. The cable landing route was surveyed by Kerr and Burdick (2016) in November 2015 along a 10 m corridor from the Tepungan Channel mouth towards shore using belt transects and photo transects to assess bottom substrate, algae, sessile organisms, mobile invertebrates, fishes, and reef-building corals. Since this survey, there has been realignment of the route to consolidate the cables into a smaller footprint. The survey area either overlaps portions or is within 35 m of the consolidated route, and would have the same general findings and community descriptions.

The marine survey recorded 68 species of hard corals, including Scleractinian, *Millepora* and *Heliopora* species, with diversity spanning 13 families. Since the total species count includes taxa that were identified to genus but not confidently to species level, unidentified conspecifics were conservatively lumped into a single category; therefore, the total number of species may be higher (Kerr and Burdick, 2016).

The additional survey of the shallow, intertidal reef flat recorded seven species of hard scleractinian corals, all of which are common species that are found in similar environments around Guam and the tropical western Pacific (Kerr and Burdick 2016). Of these, *Pocillopora damicornis* (cauliflower coral) and *Leptastrea purpurea* (crust coral) dominated the survey area, nearly always as widely scattered, very small and young colonies, often of fingernail-size proportions. As observed by Kerr and Burdick (2016), the shallow depth and high rate of sedimentation appears to have resulted in very low coral cover.

As of August 2014, NOAA has listed 22 coral species as threatened under the Endangered Species Act (ESA) of 1973, of which three species occur in Guam waters: *Acropora globiceps*, *Acropora retusa*, and *Seriatopora aculeata*. *A. globiceps* is known to occur within Piti Bay (Personal communication, Valerie Brown, NMFS); Kerr and Burdick (2016)). One colony of *A. globiceps* was found to the east of the proposed cable landing site and will not be disturbed. Best management practices, such as the NMFS Protected Resources Division's BMPS, will be implemented and are recommended for general in- and near-water work, including boat and diver operations, to reduce potential adverse effects on protected marine species.

The endangered hawksbill (*Eretmochelys imbricata*) and green sea (*Chelonia mydas*) turtles are listed under the ESA, and small populations are known to

forage around Guam. The latter species has recently been declared endangered from its former threatened status (U.S. Fish and Wildlife Service Federal Register, Vol. 81 No. 66). Seagrass beds, such as those in Piti Bay, are located close to shore and provide foraging habitat for green sea turtles. Biological monitoring will be performed prior to commencing daily construction activities to avoid any potential impacts to these sensitive species, including migratory birds. If any protected species are observed in the vicinity of the work site, Department of Agriculture would be contacted and work would not commence until the species voluntarily leaves the area.

Because the cable landing will be carried out during the wet season, there may be the possibility of typhoons affecting the island, but currently it appears that Guam's El Niño condition is changing into a La Niña condition, which is anticipated to generate fewer than usual typhoons. The cable ship would only be mobilized if during fair weather conditions. If work has already started and inclement weather arrives, the contractor would secure the site onshore by returning the fill to the beach manhole area and removing the silt fence (if Docomo chooses to install a new beach manhole). In-water work would take approximately ten days, excluding any operational delays. Onshore work (above MHW mark) could be completed within approximately two weeks.

Project Description

- 7. Describe the structure(s) and/or activity, and proposed dredging, discharge or fill required in wetlands, streams, or rivers. Include an accurate description of the physical, biological, chemical and any other characteristics of the dredging, discharge, or fill and the location(s) where such activities will occur in Guam Waters or wetlands.**

a. description of the structure(s) or activity (provide a facility/project site plan):
N/A.

b. description of the construction actions, methodology, and operation of the project:

Work in Marine Waters of the U.S.

Guam Cable Landing and Shoreside Work. The Guam cable landing and shoreside work will be overseen by NEC Corporation and conducted as follows:

The ATISA Guam landing would use one of six ductile iron conduits that will be installed in the Tepungan reef flat and on shore in Pedro Santos Park by GTA, a Guam-based telecommunications provider. The landing would also use the GTA beach manhole that will be constructed in the Park as part of GTA's cable raceway system. Docomo is considering installing an additional manhole adjacent to the GTA beach manhole in the park, then connecting the cable from this manhole along a separate raceway to the Tata Cable Station in Piti. The installation of the conduits and beach manhole for the GTA cable raceway is a separately permitted activity.

A single ATISA fiber-optic submarine cable will be landed through Tepungan Channel and into one of the conduits, then pulled to shore where it will be spliced to land cables at the GTA beach manhole located above the high tide line and outside the Guam Seashore Reserve. The work flow would proceed as follows:

- 1) The stern of the cable ship would position itself at the mouth of the Tepungan Channel powered by its own thrusters to avoid anchoring on live corals. A single 1.5-inch (38 mm) diameter fiber-optic cable would be paid out from the stern of the cable ship into the channel.
- 2) Floats will be attached to the cable and it will be floated into the channel, where divers will position it over the seabed. Divers will cut the floats and gently lay the cable in place after confirming the placement avoids corals. If the cable needs to be repositioned, a stopper will be used to create slack on the cable and allow divers to manipulate the cable into place.
- 3) The cable will be floated inland towards the seaward end of one of the previously installed 4-inch (101-mm) diameter ductile iron conduits. At the opening of the conduit, the cable will be attached to a winch and pulled through the conduit from shore and into the beach manhole, where the cable will be spliced to Docomo's terrestrial cable system.
- 4) The project would use a DA type of double-armored submarine cable with a 1.5-inch (38-mm) diameter. Cast-iron articulated (split) pipe (6.1 in. or 155 mm diameter) armor protectors (also called N-pipe), in 21.7-inch (550-mm) sections, would be placed on the cable from the end of the ductile iron pipe to a seaward

distance of 656 feet (200 meters). The effective installed length of each pipe section is 19.7 inches (500.4 mm), and the weight in air is 11 lbs.

- 5) Offshore, the cable (covered by articulated pipe) will be selectively pinned with clamps at locations where no live corals are present in the channel and at the channel mouth to prevent lateral movement of the cable. The wing clamps will be stainless steel plates in the dimension of 15.7" long x 3.9" wide (40 cm long x 10 cm wide) with pre-drilled holes for two 0.8" (2 cm) diameter bolts (one on each side). After the plates are positioned over the cables, a 1.2" (3 cm) diameter hole for each bolt will be drilled down to 11.8" (30 cm) with a pneumatic drill, and the bolts will be inserted and secured in place with a non-toxic marine epoxy. The sediment generated from this activity is anticipated to be very small, approximately 0.05 gallon per hole, or a total of 1.12 gallon (0.0055 cu yds) for all 20 holes.
- 6) A post-landing survey will be conducted to inspect the cable route, and ensure all ropes, floats and other materials are removed from the marine environment.

The work would proceed in sections starting at the offshore area and terminating at the beach manhole. All in-water work will be carried out during calm weather conditions and outside of coral spawning periods, which last from July to August for hard coral. No in-water stockpiling would be performed.

c. description of physical, biological, chemical, quantity and other characteristics of dredge material, discharge or fill:

Minor sediment would be generated from the drilling of a pair of holes for each clamp. The material would be very small quantities of rock particles that would quickly dissipate. A similarly small amount of non-toxic marine epoxy would be used to help keep the clamp in place. Only ten clamps would be installed.

d. location(s) at which such activities will occur in Guam Waters (Note: Provide in site plan):

The clamping would occur in the Tepungan Channel at locations where the substrate is suitable and no live coral is present.

8. **Describe any alternative(s) considered for the project and the reasons for not selecting those alternatives. Would any of the alternatives pose fewer or less intense environmental impact(s) or consequences?**

Docomo considered three alternative landing sites on Guam for the ATISA project. The Tata Communications cable raceway installed by TyCom in 2001 in the villages of Tepungan, Piti and Taleyfac, Agat contains spare seaward duct conduits. Docomo approached Tata and TyCom but was unable to reach an agreement for the use of the spare conduits at either site. Pacific SatCom owns a private parcel proposed as a cable landing site in Taelayag, Agat. Docomo did not pursue this alternative because the site would require securing permits for installation of seaward conduits and shore infrastructure, which would delay the ATISA landing schedule. AT&T Global Communications Services, Inc.-Guam manages two cable landing sites in northern Guam (Tumon Bay and Tanguisson); however, these sites were unavailable for the ATISA project.

Water Quality Maintenance and Treatment

9. **Provide a description of the function(s) and operation of all equipment, measures, or activities employed to treat material being removed or placed in wetlands. Specify the degree or level of treatment or control expected to be attained.**

- a. **describe the function(s) of equipment, protection measures or facility employed to control or treat dredge or fill material:**

N/A, there will be no dredging below the mean high water (MHW) mark; on land all heavy equipment would be positioned in the Park outside of any wetland or water body.

A Petroleum Spill Contingency Plan is included with the Department of Army Corps permit application. All vehicles and construction machinery operating near wetlands or marine environments are required to carry absorbent pads for use in case of accidental oil leaks. The contingency plan also contains best management practices (BMPs) for the Contractor to implement.

- b. **specify the degree or level of control, protection, or treatment expected:**

Since only minor amounts of discharge are involved for the installation of the clamps, and these small amounts would not significantly impact water quality, no additional control measures are necessary.

- 10. Provide the date(s) on which the activity and/or discharge will begin and end (estimate if necessary), and the dates on which discharge or fill will take place (attach a project or construction schedule if available).**

a. date(s) on which the activity will begin and end:

The landing is scheduled for early February 2017.

b. date(s) on which discharges will take place:

The landing is scheduled for early February 2017. Placement of articulated pipe and clamps will be completed within about ten days.

Water Quality Monitoring

- 11. Provide a description and location(s) (plan) of the measures being used or proposed to monitor water quality and characteristics of the discharge and the operation of equipment or facilities employed in the treatment, protection and/or control of wastes, erosion sedimentation, or effluent.**

a. describe the methods to be used to monitor water quality:

Per meeting with Guam Environmental Protection Agency, a Water Quality Monitoring Plan will not be submitted with this permit application, as any foreseeable impacts to the water quality in connection with the cable landing have been anticipated and addressed.

An increase in water turbidity is not anticipated in connection with the project activity, since the cable would be inserted into one of six ductile iron conduits that will be installed in the Tepungan reef flat by GTA, and minor discharges from the clamp installation would not significantly impact water quality. Because of this, visual monitoring should be sufficient.

Additionally, best management practices, such as having the cable ship hold itself in place at the mouth of the channel by its own thrusters instead of anchoring in areas of live corals and having divers carefully float the cable into place would be implemented throughout the course of in-water work to minimize impacts to the environment.

Visual monitoring would be the method of detection during in-water activities to monitor whether there are any water quality issues such as accidental oil leaks in equipment, for instance. Work would immediately cease upon visual detection of any issue, e.g., oil sheen, and would commence only upon successful correction of the problem. Heavy equipment on the beach will have spill response materials on board the vehicle.

The Contractor is responsible for maintaining the BMPs and for ensuring continuity in communication between work personnel if crew shifts change during the work day. Incoming crews will be advised of water quality issues that have come up in the previous crew's shift.

b. describe measures employed to monitor characteristics of the discharge:

N/A.

c. describe the operation of equipment to be used:

N/A.

12. Identify the individual(s) responsible for monitoring plan development, implementation and monitoring:

To date there has been no designation of a biological monitor for this project.

Water Classification, Assurances and Beneficial Uses

13. Describe the classification of the affected Guam waters and associated recreational uses, if any, at the discharge location(s) and state whether the basic water quality criteria and the applicable water quality standards will be met.

a. describe the classification and recreational uses of Guam's water at site of discharge:

N/A, there will be no discharge at the project site. The 2001 Revised Guam Water Quality Standards designates the coastal waters in Tepungan Channel and the nearby reef flat as M-2 (good) marine waters. Marine waters in this category are intended to be of sufficient quality to allow for the propagation and survival

of marine organisms, particularly shellfish and other similarly harvested aquatic organisms, corals and other reef-related resources, and whole body contact recreation. Although the waters are designated as M-2 (good), the actual quality may be considered compromised by the large amount of silt in the inner section of the reef flat and impaired water designation from the high Enterococcus levels found in nearshore waters. Much of the silt deposited on the reef flat and entering Tepungan Channel originates from the Masso River, with some contributed by the unnamed freshwater stream an

b. state whether the basic water quality criteria and applicable water quality standards will or are expected to be met (if criteria and standards will be met complete item 'c' below):

Basic water quality criteria and applicable water quality standards as stipulated in the 2001 Guam Water Quality Standards are expected to be met throughout the proposed cable landing activities. No increase in turbidity above the basic water quality criterion of 1.0 NTU (nephelometric turbidity unit) over ambient conditions is expected to take place in connection with the project. The Contractor is expected to properly implement and maintain standard BMPs and protection measures.

c. provide a signed assurance statement by the applicant that, "There is reasonable assurance that the activity will be conducted in such a manner which will not violate applicable water quality standards.":

The proposed project and the associated construction methodology represent the most feasible method of accomplishing the objectives while minimizing the potential environmental impacts. A signed statement that there is reasonable assurance that the proposed activity will be conducted in such a manner which will not violate applicable water quality standards would be contained in the cover letter of this application.

Supporting Documentation

- 14. Check and submit all applicable supporting plans and documents as identified below as attachments (*the Agency may require additional documentation prior to Section 401 issuance or as a condition of issuance which may include any of the following*):**

- a) ☐ Construction Drawing/Plans
- b) ☐ Wetland Delineation Map
- c) ☐ Specifications
- d) ☒ Coral Survey
- e) ☒ Environmental Protection Plan
- f) ☐ Water Quality Monitoring Plan
- g) ☐ Environmental Impact Assessment/Statement
- h) ☐ Mitigation/restoration plans

Comments on the status of above documents: See the appropriate exhibits.

- 15. Explain any irregularities, recent disturbances (natural or anthropogenic), unique features and/or expected cumulative effects that may influence water quality conditions adjacent to or within the project site:**

Piti Bay within the Piti Bomb Holes Marine Preserve was declared a marine protected area or no-take area for marine organisms in 1997 by the Government of Guam and is currently managed by the Division of Aquatic and Wildlife Resources (DAWR) of the Guam Department of Agriculture (NOAA 2009). The designation offers some protection to resources that enhances water quality in the Bay.

References Cited

- Guam Environmental Protection Agency (GEPA). 2001. Guam Water Quality Standards, 2001 Revision. 60 pp. + Appendix A-H.
- Kerr, A.M. and Burdick, D.R. 2016. Marine Biological Survey for the Guam Telephone Authority Proposed Cable Landings, Piti, Guam. Prepared for Duenas, Camacho & Associates, Inc. June 2016.
- Kottermair, Maria. 2012. Piti-Asan Watershed Management Plan. Water and Environmental Research Institute of the Western Pacific, Univ. of Guam. Tech. Rept. No. 138. 110 pp.
- National Oceanic and Atmospheric Administration. 2009. Coral Reef Habitat Assessment for the U.S. Marine Protected Areas: U.S. Territory of Guam: 7 pp.
- U.S. Fish and Wildlife Service (USFWS). 2016. Federal Register Part II. Department of the Interior. 50 CFR Part 17. Endangered and Threatened Wildlife and Plants; Final Rule to List 11 Distinct Population Segments of the Green Sea Turtle (*Chelonia mydas*) as Endangered or Threatened and Revision of Current Listings Under the Endangered Species Act; Final Rule: 20058-20090.

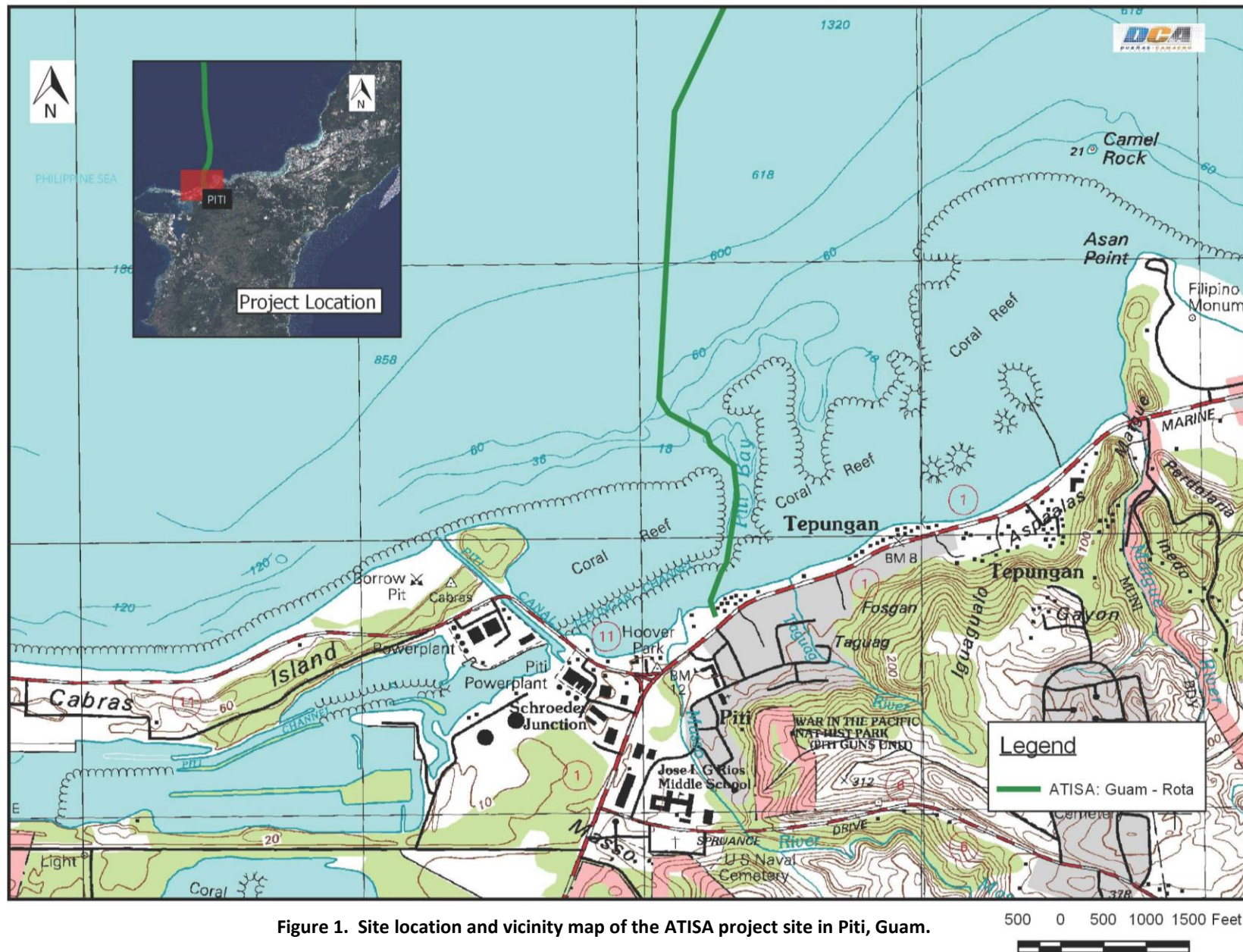


Figure 1. Site location and vicinity map of the ATISA project site in Piti, Guam.