Coastal Zone Management Act

Consistency Determination

For

The Proposed P-649 Joint Communications Upgrade, JOINT REGION MARIANAS, NAVAL BASE GUAM

February 2021

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The P-649 Joint Communications Upgrade Joint Region Marianas, Naval Base Guam

Project Description

Naval Facilities Engineering Systems Command Marianas proposes to approve and construct facilities and utilities infrastructure for the P-649 Joint Communications Upgrade for Joint Region Marianas (JRM) and Naval Base Guam (NBG; Enclosure 2).

Purpose

The purpose of the proposed project P-649 is to construct a new communications facility to replace the existing NBG Telecommunications Site (TS) B112, install new electrical and communications pathways and services to enhance the resilience of the new facility, and construct two new operational storage warehouses. Existing communications infrastructure feeding B112 must be intercepted and re-routed to the new P-649 communications facility.

Project Overview

The project proposes to replace existing Building 112 (B112) on NBG TS. An underground duct and handhole system would reroute the existing communications infrastructure from B112 to a new P-649 communications facility. The project would demolish Building 122 (B122) and Building 197 (B197). New warehouses would be constructed at NBG Main Base and NBG TS. Redundant electrical services would be provided to the new communications facility from the existing generator plant main switchgear in Building 309 (B309) and via a diverse feed from the future US Marine Corps main cantonment area.

The project proposes to demolish two (2) buildings, B122 and B197, on NBG TS along with the associated connecting covered walkways and exposed utility pipes. The buildings and foundations would be removed. An existing 12-inch (in) water main running from Noyes Street to B495 will be replaced with a new 12-in water main, interconnections and fire hydrants will be reconnected to the replacement water main. Overhead electrical communications and underground telecommunication lines will also require relocation.

For the new north warehouse construction at NBG TS, demolition is not anticipated. Demolition is limited to clearing and grubbing and pavement removal on both the project site and the staging area. Clearing and grubbing consists of removing vegetation and low trees. Some trees on the staging area shall be protected in place to preserve some vegetation and assist with soil stabilization and vegetation restoration after construction. Grading is set at a finish floor elevation of 426.50 ft (130 m) for drainage away from all sides of the building. Existing grades at the warehouse footprint range from about 423 to about 424.4 ft. (128.9 to 129.4 m). A construction staging area is designated adjacent and to the east of the project site.

At NBG Main Base, demolition is not anticipated for the new south warehouse construction. Demolition is limited to clearing and grubbing and removal of miscellaneous utilities and pavement. Clearing and grubbing consists of removing vegetation and trees within the project limits. Electrical poles with overhead wires, streetlights, and transformers will also be removed and relocated to

facilitate new construction. Grading is set at a finish floor elevation of 13.00 ft (4.1 m) for drainage away from all sides of the building. Existing grades at the warehouse footprint range from about 11 to about 12.5 ft (3.35 to 3.81 m). A construction staging area is designated in the parking lot located west of the project site.

The proposed communication corridor requires excavation. The communication lines will run approximately 23 miles (37 kilometers), and trenching includes 24 inches (in) (0.6 meters (m)) of cover and conduit along with 6 in bedding for a total depth of approximately 30 in. Handhole excavation at various points along the corridor will measure approximately 4 by 4 feet (ft) deep (1.2 by 1.2 m).

The project would also provide two independent medium voltage (13.8kV) electrical services to the new P-649 communications facility. One approximate 500 ft (152.4 m) feeder will be routed through a concrete encased duct bank from the existing generator plant main switchgear in NBG TS B309 fed by the Harmon substation while the other via an approximate one mile underground concrete-encased duct bank connection to the future US Marine Corps main cantonment area substation.

Proposed Project Components

Facilities and infrastructure components included in the proposed action are shown in Figures 1 through 6 and described below.

Proposed Facilities/Utilities

- Multi-story operations center to replace B112 (Communications Building and Generator Building) on NBG TS.
- Equipment Storage warehouse at NBG TS, Finegayan (North Warehouse).
- OSP 288-strand fiber optic cable from B3012 at NBG to the future J-755 project site at Andersen Air Force Base (AAFB) southern area, (OSP Fiber), approximately 23 miles along the eastern cost of Guam, along Highway Routes 17, 4, 10, and 15. Cabling will be trenched 2' into the earth within rights-of-ways along the previously mentioned roadways.
- Two (2) separate electrical distribution feeders (one from B309 and one from the new Finegayan substation) to the new multi-story operations center, approximately 1.5 miles in length (Electrical Distribution). These are along existing cleared areas on NBG TS.
- Re-circuiting of all existing communications cabling currently entering B112 to the new operations center (Re-Circuiting Cabling).

Communication Building and Generator Building

The Communications Building and Generator Building are to be located on NBG TS (Figure 1). The main project site is currently occupied by B122, an abandoned cafeteria/sustenance building and B197, an abandoned barracks. The topography of the project site including B122 and B197 generally slopes downhill from east to west with about 15 feet elevation difference across the project site. Unpaved areas are grassed.

The project will demolish two (2) buildings on NBG TS: B122 and B197. The buildings and foundations will be demolished and removed. An existing 12-inch water main running from Noyes Street to B495 will be replaced with a new 12-inch water main, interconnections and fire hydrants will be reconnected to the replacement water main. Other demolished wet utility services will be capped at the main. Fire hydrants, valve, vaults, laterals, and manholes will be removed. Overhead electrical communications and underground telecommunication lines will also require relocation.

An approximate 1.5 acre construction staging area is designated adjacent and to the north-east of the project site. The staging area is located on previously developed, level, and currently unoccupied land that is overgrown with weeds and shrubs.

Site supporting facilities include parking lots, service roads, loading zone, walkways, security fencing, pedestrian turnstiles, pedestrian gates, vehicle gates, fuel tank with containment, fire water tank, mechanical yard, and site electrical equipment.

Site components will include:

- Generator Building housing backup generators
- Electrical tranformers and switchgears located on concrete pads in the electrical yard
- Site electrical vaults and handholds
- Maintenance holes, handholes, and vaults
- Communications infrastructure routes from B112 to the new communications building.

- HVAC equipment located on concrete pads in mechanical yard
- Aboveground diesel fuel storage tanks with containment
- Concrete fueling apron with containment curbs

Stormwater Management BMPs

• Grass Filter Strips: used for convey storm water in grass lined swales to filter sediment, nitrogen, and phosphorous. Infiltration is allowed though the subgrade media

• Infiltration basins: used to collect water quality volume of 8,668 cf and LID volume of 4,366 cf (provided storage of 10,910 cf) and allow infiltration. The bottom of the basins are lined with an 18-inch thick layer of engineered soil (with the same specifications as the J-001B project) designed to filter impurities during infiltration. The J-001B engineered soil was previously approved for use by GEPA.

• Inlet filter baskets: used in the west parking lot, inserted into grated drain inlets to capture 80% of Total Suspended Solids (TSS) and utilizing media pouches to capture hydrocarbons.

• Rip-Rap Lining: used to restore trenches in steeply sloping areas to prevent erosion of the trench restoration material

• Rip-Rap and Grouted Rubble Paving: used at drainage outlets and drainage basin spillways for surface stabilization and to slow exit velocities preventing erosion around the spillway.

• Containment for fuel tanks and fueling apron: full containment including secondary containment of above ground fuel tanks, and berm around fueling apron to contain spills.

The fuel storage area is equipped with containment measures to prevent spill from percolating into the ground. The fuel delivery and storage area is contained by a concrete secondary containment structure with a pipe outlet controlled by a manual valve. The valve will normally be closed unless an operator visually inspects for rainwater collection and opens to the valve to drain through an oil water separator. Any major spills, such as a tank rupture, are not drained through the oil water separator to be removed from the containment structure and disposed of properly.

The Communications Building and Generator Building project site complies with UFC Low Impact Development and with Guam and CNMI Stormwater Management Manual for post-construction stormwater treatment.

North Warehouse

The North Warehouse is located on NBG TS (Figure 1). The North Warehouse is a storage facility to support the new communications node. The project site for the North Warehouse is currently an open lot and overgrown with vegetation consisting of low trees and shrubs. The site is bordered to the west by B495 (communications) Building and parking lot, to the north by Rowcliff Road, to the east by Noyes Road, and to the south by Redman Road (Figure 4). The site slopes gently from north to south. There are no wet or dry utilities servicing the project site.

Due to the poor flow test results on NBG TS, a 135,000-gallon fire water storage tank will be included at North Warehouse along with a fire pump room. 6-inch tank supply line will connect the tanks to the new domestic potable water system. A 12-in. ductile iron suction line and parallel 8-inch test water line extends from the 135,000-gallon (min.) tank to the fire pump room at the North Warehouse.

The North Warehouse will connect one new sewer lateral servicing the warehouse to an existing

sewer manhole along Redman Road, south west of the North Warehouse.

The storm drain collection system is evaluated for the Guam 25-year design storm in accordance with the CNMI Stormwater Management Manual which is the current local design guidance. A 10-year storm will also be evaluated as indicated in UFC 3-210-01 Civil Engineering. The storm drain system is designed to intercept, collect, and dispose the increase in flow from the existing condition to the permanent condition and, as applicable, meet the 12 standard criteria listed in the CNMI Stormwater Management Manual.

Flows from the project site are directed away from the warehouse building and towards various infiltration basins located on the project site. Underground pipes connect some of the basins to help balance capacity and infiltrations. As the project is located within a well head protection zone, the bottom of then basins are lined with an 18-inch thick layer of engineered soil, with the same specifications as J-001B project, designed to filter impurities during infiltration. The basins furthest to the west and to the south have spillways allowing higher flow rate to pass downstream.

An approximate 0.5 acre construction staging area is designated adjacent and to the east of the project site. The staging area is located on previously developed, level, and currently unoccupied land that is overgrown with weeds and shrubs. Staging area designated for the Communications Building may also be utilized for the North Warehouse.

Stormwater Management BMPs

• Grass Filter Strips: used for convey storm water in grass lined swales to filter sediment, nitrogen, and phosphorous. Infiltration is allowed though the subgrade media

• Infiltration basins: used to collect water quality volume of 1,993 cf and LID volume of 84 cf (provided storage is 8,250 cf) and allow infiltration. The bottom of the basins are lined with an 18-inch thick layer of engineered soil (with the same specifications as the J-001B project) designed to filter impurities during infiltration. The J-001B engineered soil was previously approved for use by GEPA.

• Rip-Rap Lining: used to restore trenches in steeply sloping areas to prevent erosion of the trench restoration material

• Rip-Rap and Grouted Rubble Paving: used at drainage outlets and drainage basin spillways for surface stabilization and to slow exit velocities preventing erosion around the spillway.

The North Warehouse project site complies with UFC Low Impact Development and with CNMI Stormwater Management Manual for post-construction stormwater treatment. The project site is considered an office building/warehouse, there are no industrial activities at the project site. The project site is located within a well head protection zone. The North Warehouse does not include Hot spot land uses.

Temporary erosion and sediment control measures will be required during construction of the North Warehouse. Measures on the erosion control plans include, but are not limited to, dust screen, silt fence/filter sock, surface swales, check dams, sediment traps, gravel ingress/egress, concrete wash, vehicle wash, mulching of graded areas, and hydroseeding.

<u>South Warehouse</u>

The South Warehouse is located on Naval Base Guam Main Base (Figure 3). Land to the south of the project site is undeveloped and overgrown with thick vegetation surrounding a wetland. The area to the north and west is occupied by a recently re-paved parking lot for NGB communications building B3012. The intersection of Highway 1 and Shoreline Drive is located to the east (Figure 5).

A transmission water main runs along Marine Corps Drive and Shoreline Drive to the east of the project site. At the junction between Marine Corps Drive and Shoreline Drive, the transmission main changes size from an 18-inch along Shoreline to a 16-inch along Marine Corps Drive. A valve cluster and branch line separate the change in pipe size. The South Warehouse water system connects to the transmission main at two locations, one to the 16- inch pipe along Marine Corps Drive, and the other to the 18-inch pipe along Shoreline Drive.

The South Warehouse will connect one new sewer lateral servicing the warehouse to an existing gravity sewer main with a new sewer manhole along Marine Corps Drive, Route 1, located east of the South Warehouse. The sewer lateral will be 6-inch PVC C900 pipe with cleanouts

The storm drain collection system is evaluated for the Guam 25-year design storm in accordance with the CNMI Stormwater Management Manual which is the current local design guidance. A 10-year storm will also be evaluated as indicated in UFC 3-210-01 Civil Engineering. The storm drain system is designed to intercept, collect, and dispose the increase in flow from the existing condition to the permanent condition and, as applicable, meet the 12 standard criteria listed in the CNMI Stormwater Management Manual.

The project site is located on land previously developed as a parking lot and on undeveloped land. The project marginally reduces the flow rate with no increase in runoff for the 25-year design storm. As such there is no required additional volume to collect and dispose from the South Warehouse project site for the design storms. Two shallow bioretention area basins will be included on the project site, providing 2,498 cf of storage. The basins are precautionary, providing additional treatment of current flows, as the project does not increase flow.

Stormwater Management BMPs

• Bioretention: provided as additional measure to treat existing flows as the project does not increase flow or require additional treatment or storage and used to collect water quality volume and allow infiltration. The bioretention basins filter sediment, trash, debris, and nutrients providing additional protections for the downstream wetland. The bottom of the basins are lined with an 18-inch thick layer of engineered soil (with the same specifications as the J-001B project) designed to filter impurities during infiltration. The J-001B engineered soil was previously approved for use by GEPA.

The South Warehouse project site complies with UFC Low Impact Development and with CNMI Stormwater Management Manual for post-construction stormwater treatment. The project site is considered an office building/warehouse, there are no industrial activities at the project site. The project site is located within a well head protection zone. The South Warehouse does not include Hot spot land uses.

Temporary erosion and sediment control measures will be required during construction of the South Warehouse. Measures on the erosion control plans include, but are not limited to, dust screen, silt fence/filter sock, surface swales, check dams, sediment traps, gravel ingress/egress, concrete wash, vehicle wash, mulching of graded areas, and hydroseeding.

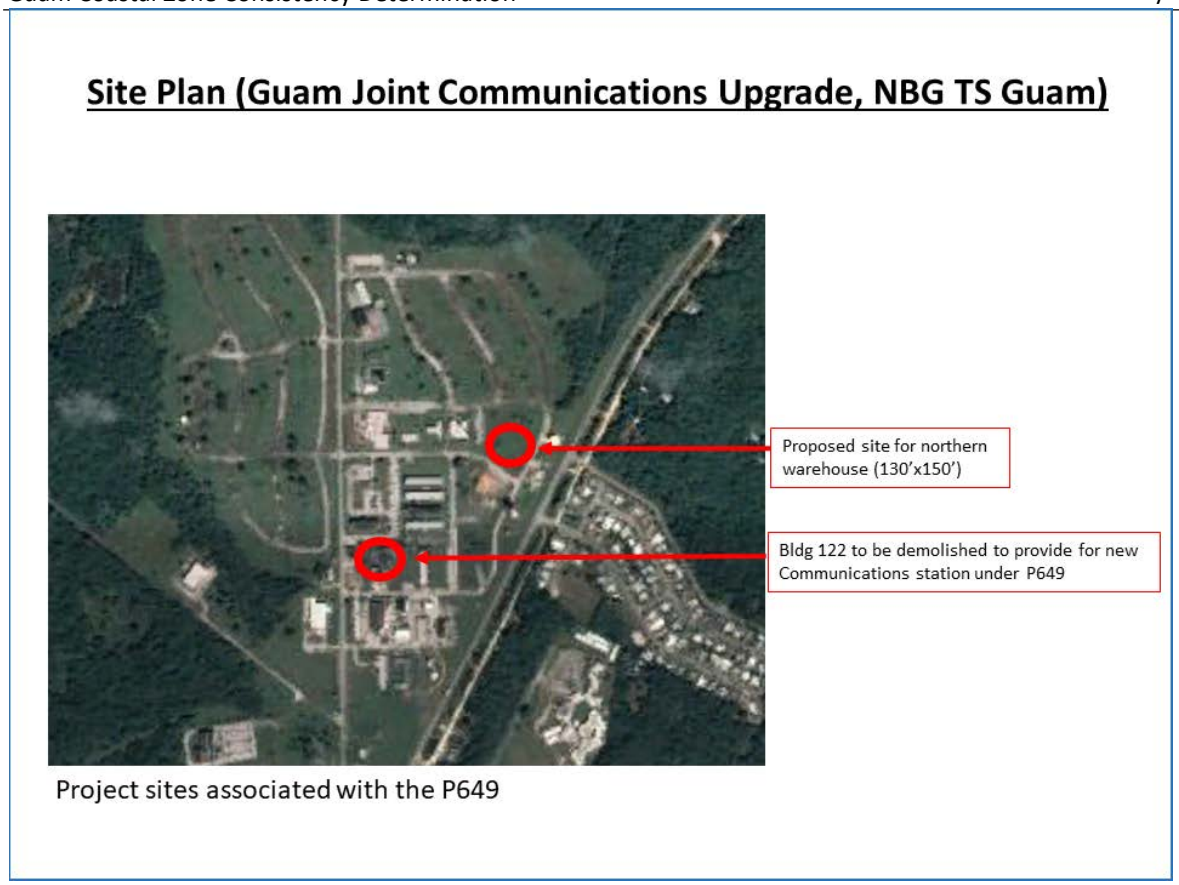

Figure 1: Naval Base Guam Telecommunications Site Upgrades

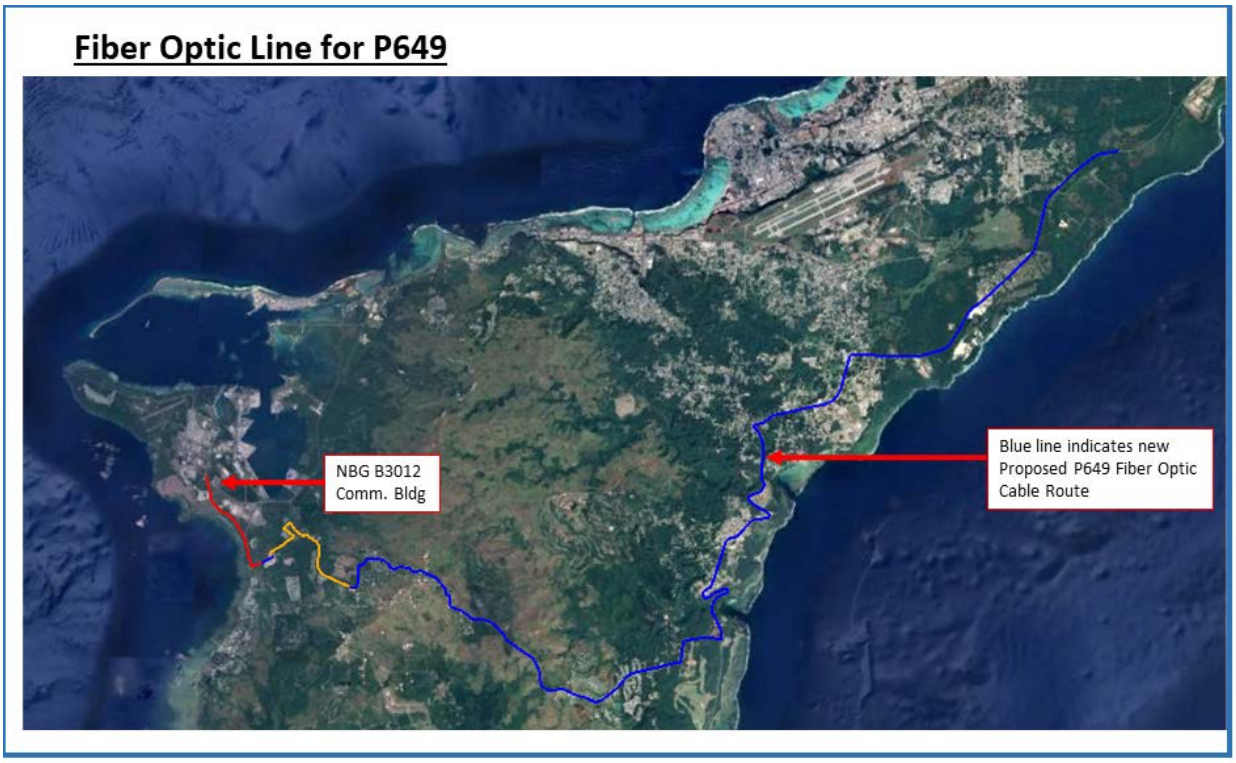

Figure 2: Route of proposed OSP Fiber Optic Cable

Figure 3: Location on Naval Base Guam Main Base of the proposed South Warehouse of P-649

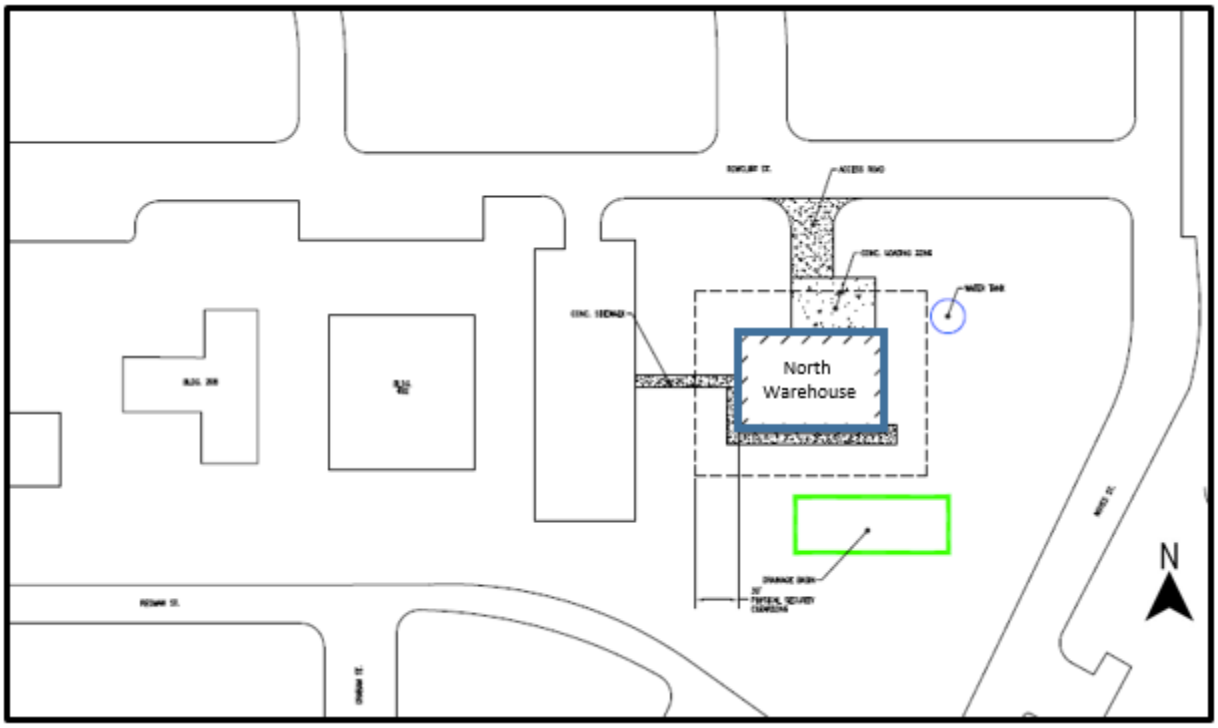

Figure 4: Proposed North Warehouse for the P-649

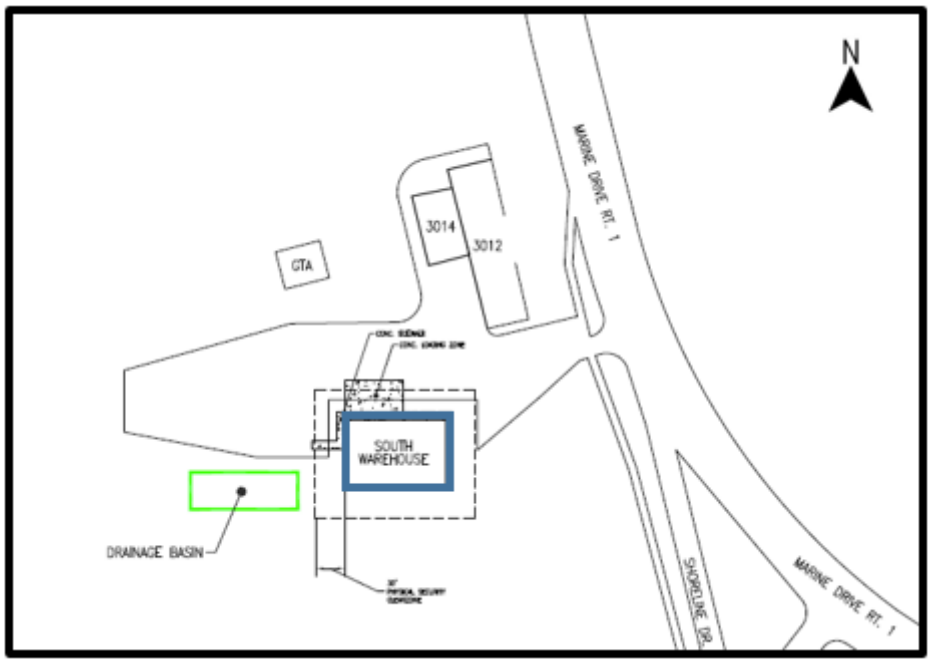

Figure 5: Proposed South Warehouse for the P-649

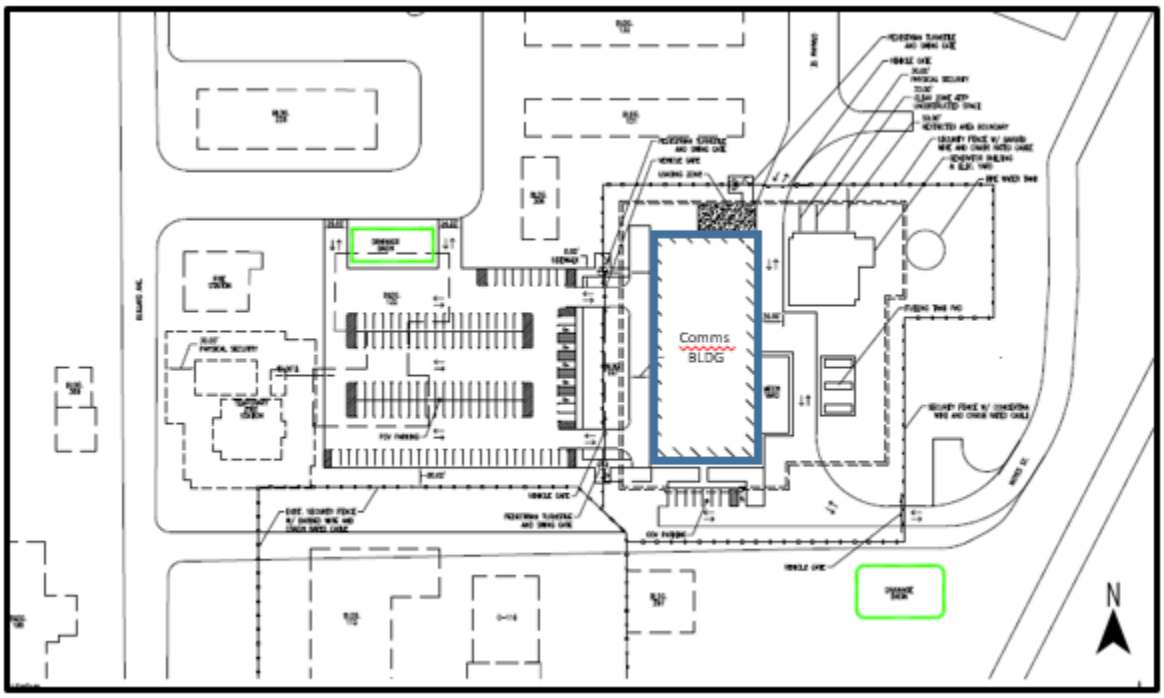

Figure 6: Proposed Communications Building for the P-649