

PROJECT DESCRIPTION

1 Project Description

1.1 Introduction

The installation of Fiber optics is the preferred method of carrying voice, video, and data communications. Its superior information-carrying capacity enables the use of applications that require large amounts of bandwidth.

Fiber-optic cable allows for optimization of transmission equipment because it lacks the delay found in satellite connections. Further, unlike satellite communications, fiber-optic cables are insensitive to electromagnetic and/or atmospheric interference and offer a secure link because of their relative immunity to eavesdropping.

1.2 Background

FibraLink Jamaica Limited (FibraLink) is a recently incorporated Jamaican company established with the expressed purpose of building, owning and operating a sub-marine fiber-optic network to provide broadband communication linkages for Jamaica to the rest of the world via the Bahamas and the United States of America.

Following on the significant loss of broadband service to the island during Hurricane Ivan in September of 2004, the need for additional and redundant fiber optic linkages to the island was realized.

Pursuant to Section 13 and Section 78 of the Telecommunications Act, 2000, a license for the construction and operation of a Submarine Fiber Optic Cable Network was granted to FibraLink on December 20, 2004 by the Minister of Commerce, Science and Technology, the Honorable Phillip Paulwell (a copy of the signature pages are enclosed as Appendix II). This license stipulates that:

"The Ready for Service Date shall be no later than the 31st day of October 2005." This means that all environmental, building and other associated permits and licenses must be granted in a timeframe that allows for the mobilization of equipment and completion of all works prior to that date.

In granting a license to FibraLink Jamaica, the Office of Utility Regulations (OUR) required that all single points of failure be eliminated from the network. The OUR's suggested alternative was to have a minimum of two landings in Jamaica - one at Bull Bay, as originally proposed, and at least one located on the northern coast. FibraLink maintains the proposed Bull Bay landing site and has identified two (2) potential north coast landing sites, one just east of Ocho Rios in Tower Isle, St. Mary and the other just west of Montego Bay in the vicinity of the Great River. Existing Jamaica Public Service Company (JPSCo) high tension lines and/or below ground trenching will be utilized to make terrestrial connections from the various landing sites. Figure 1-1 below shows the proposed routing and terrestrial connections of the proposed network.

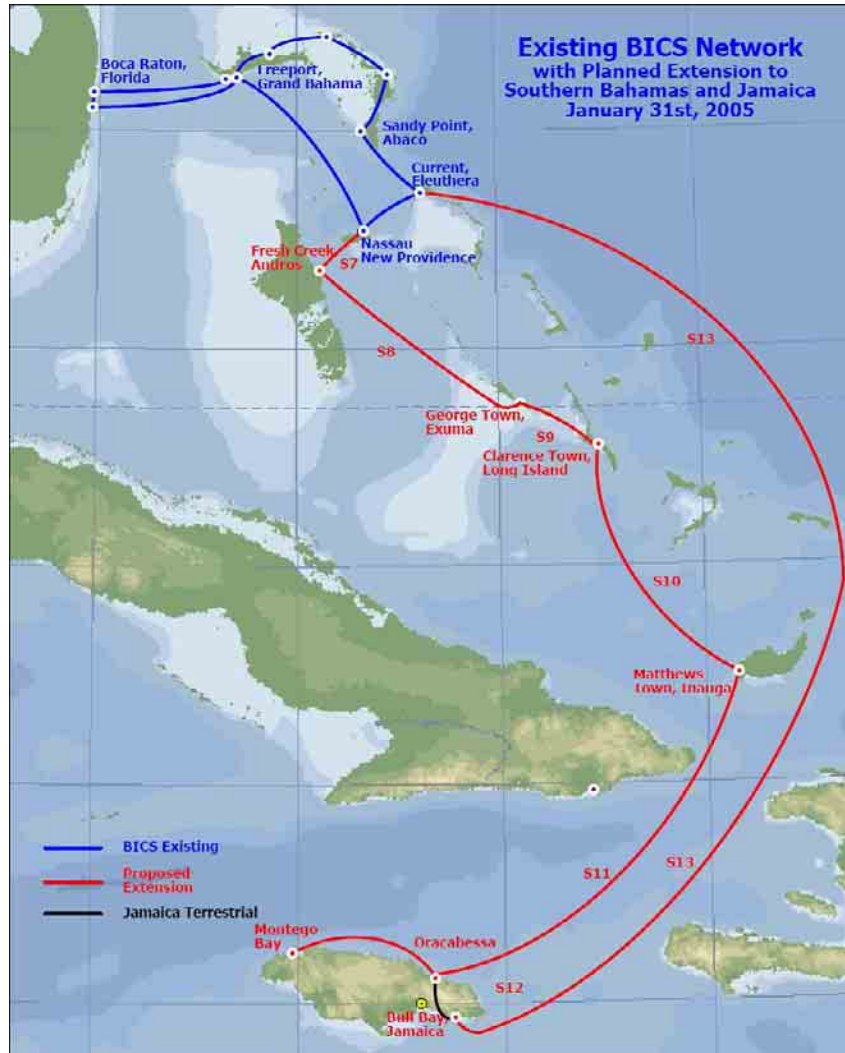


FIGURE 1-1: PROPOSED ROUTING AND TERRESTRIAL CONNECTIONS

1.2.1 Regional Cable History

Many submarine cables are installed throughout the Caribbean Region including the Bahamas and Jamaica. The following is a list of known active and inactive cables that may be crossed during this project. There is also the potential for a number of either scientific or military sub-marine cables throughout the area. It is not envisioned that these cables will interfere in any way with the proposed FibraLink cable between Bahamas and Jamaica.

TABLE 1-1: POTENTIAL CABLE CROSSINGS

System Name	Details
TCS-1	In Service: 1990 San Juan, Puerto Rico -- Barnquilla, Columbia -- Santo Domingo, Dominican Republic -- Kingston, Jamaica - 2,593km at 140 Mb/s KHz Maintenance Authorities: AT & T, MCI, Sprint
ECFS	In-Service: Sept 1995 Maintenance Authorities: TSTT
ARCOS-1 (AMERICAS REGION CARIBBEAN RING SYSTEM)	Phase 1: In-Service: September 2001 Hollywood, USA; Nassau, Bahamas; Cat Island, Bahamas; Crooked Island, Bahamas; Puerto Plata, Dominican Republic; Punta Cana, Dominican Republic; San Juan, Puerto Rico.
Florida-Jamaica	Out-of-service: retired 1992, 1963: 29 years of Service Florida City, Florida, U.S.A. -- Kingston, Jamaica - 1,545km at 384 + 384 KHz Maintenance Authorities: AT & T, Jamaican International Telecommunications Ltd.
Canal Zone-Jamaica	Out-of-service: Retired 1998, 1963: 34 years of service Kingston, Jamaica - Fort Sherman, Panama - 1,150km at 384 + 384 KHz Maintenance Authorities: AT&T, ITT Central American Cables & Radio

1.3 The Proposal

FibraLink proposes to construct and operate a 2,800 km fiber-optic sub-marine cable network linking Jamaica via various Bahamian Islands to the United States of America and ultimately the world.

1.3.1 The Cable

With now over 20 submarine communication cables in the Bahamas and Caribbean waters, there has been no reported negative impact on the environment. The routing of each of the new cables has been based on avoiding any sensitive area such as coral reef and fish nurseries and proven techniques used during the recent construction of the original segments between the United States of America and the Bahamas will be used for the Jamaican portion of the installation. The small size of the cable (see cable specification figures below), the narrow path of the cable and the shortness of the construction phase are the major factors limiting the potential for impacts.

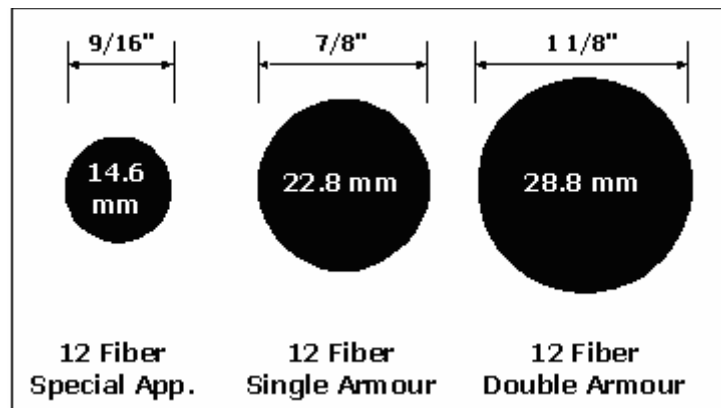
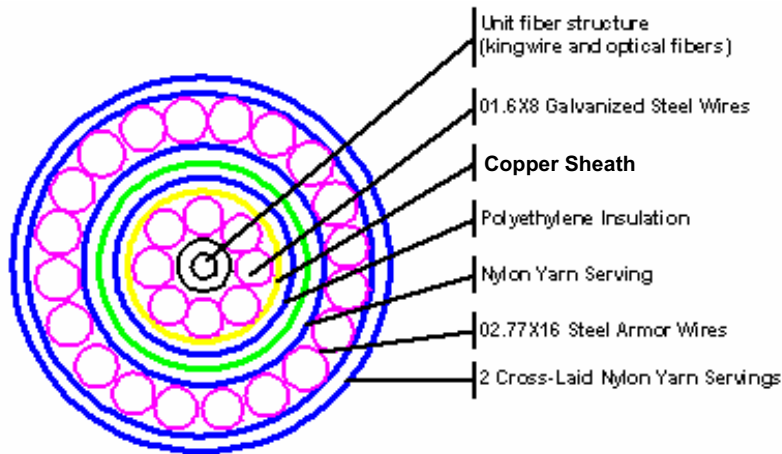


Figure 1-2: Cable Cross-Section

All non-repeatered armoured fiber optic submarine cables are basically constructed in a similar manner. Figure 1-3 below shows the typical components of such cables.

It is planned that most of the new cable links of BICS extension will be repeaterless. Repeatered fiber optic submarine cables on

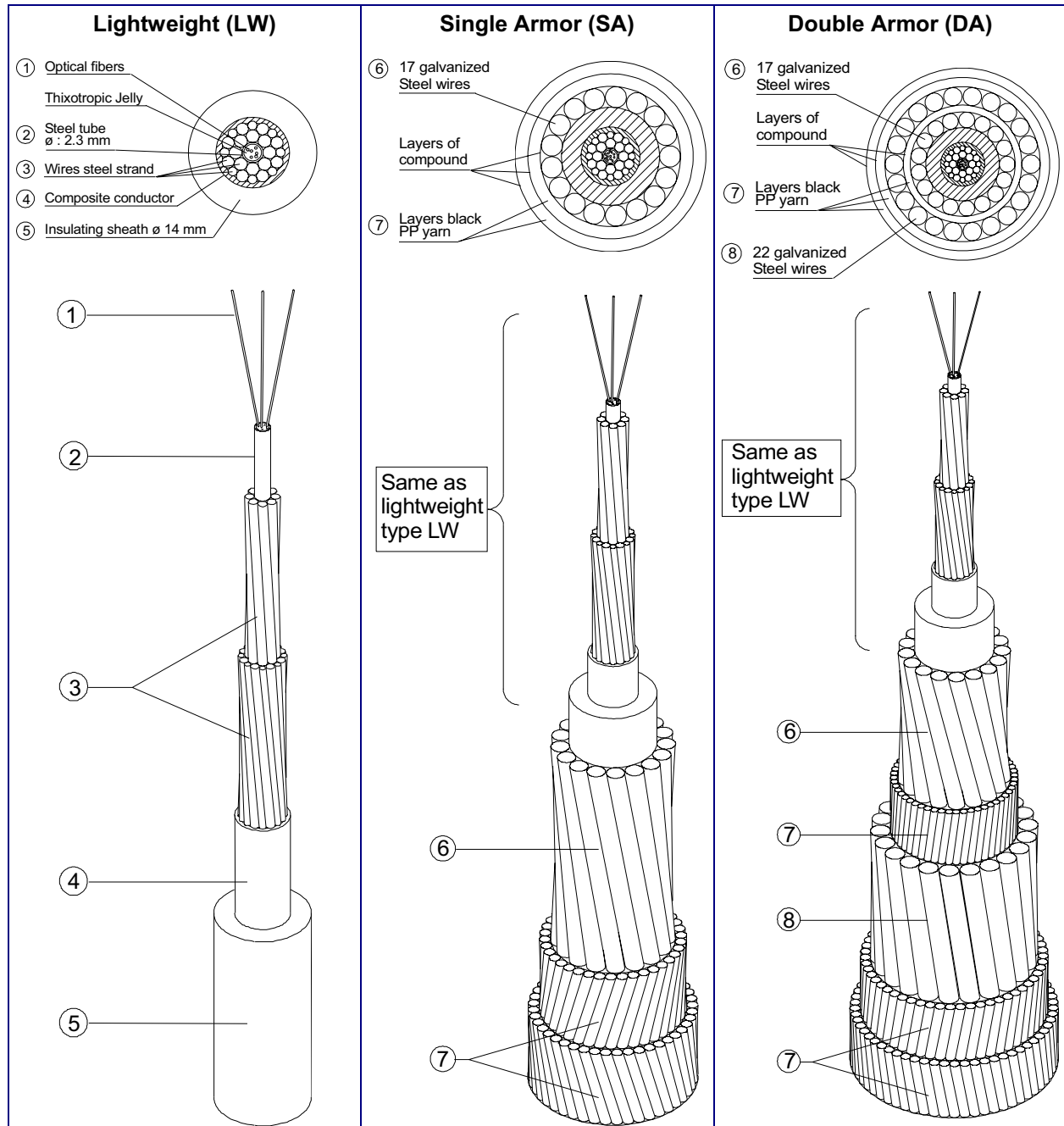
the other hand carry a constant dc current of 1 Amps to feed power to the underwater repeaters. There is no external electric field associated with the power on the inner conductor. The ratio of the conductivity of the polyethylene insulation to that of seawater means that the electric field remains only within the cable insulation. However, the dc current in the inner conductor does set up a stationary magnetic field in the form of concentric rings emanating from the cable. For a cable carrying 1 amps this means that the magnetic flux density due to the cable at a distance 1 metre away is 0.2 micro Tesla. This is two orders of magnitude lower than the vertical component of the earth's magnetic field on the West Coast of the United States, which is about 43 micro Tesla.



SL101 Single-Armored (SA) Cable Cross Section

OD = 22.8 mm (0.90")

**FIGURE 1-3: TYPICAL CROSS-SECTION OF A SINGLE ARMoured SUB-MARINE FIBER OPTIC CABLE
(NOT TO SCALE)**



Characteristics	Unit	LW	SA	DA
Outer diameter	mm	14	26	35
Weight in air	kg/m	0.44	1.6	3.5
Weight in water	kg/m	0.28	1.0	2.4

To ensure longevity of the cable and to minimize the potential for breaks, it is important that the cable is laid in areas of soft sand bottom, away from coral and other hard marine structures and anchorages. Where necessary, the cable will be protected through the use of a boltless articulated pipe. The incorporation of the articulated pipe will also provide a self burial method, thus avoiding excessive disruption to the ocean floor.

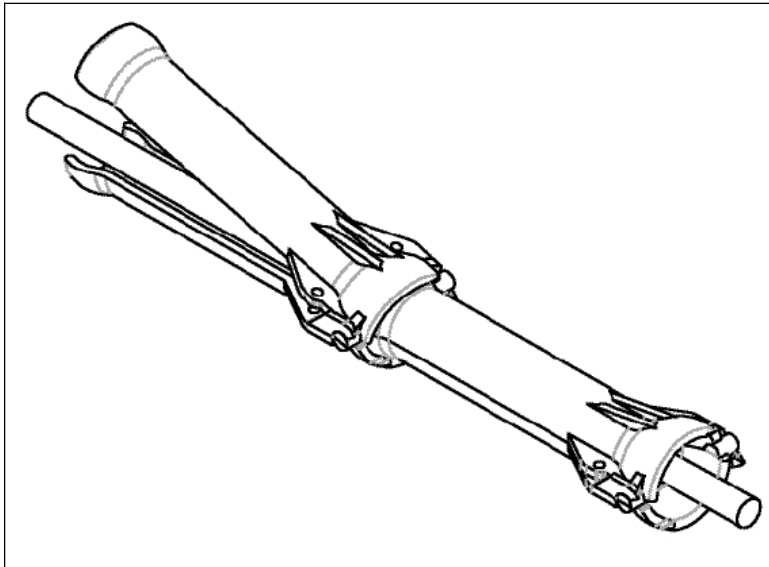


FIGURE 1-4: ARTICULATED PIPING TO PROTECT THE SUBMARINE CABLE

1.3.2 Landing Sites

FibraLink proposes three (3) landings on the Jamaican shores, based on dialogue with the Ministry, supporting the location of separate cables on the north and south coasts of the island. The proposed landing sites are:

- Bull Bay, St. Thomas (Existing AT&T Landing Site)
- Tower Isle, St. Mary
- Great River, Montego Bay, St. James

Landing site refers to the location that the cable comes ashore and may not be the location of the equipment building. In all

cases, the equipment building will be located in a secured location close to the distribution network. Equipment buildings are ideally located in proximity to the landing site, with easy access to electricity and at an elevation in excess of 3 meters above sea level. The typical equipment building layouts and structural designs are detailed in Figure 1-8 below.

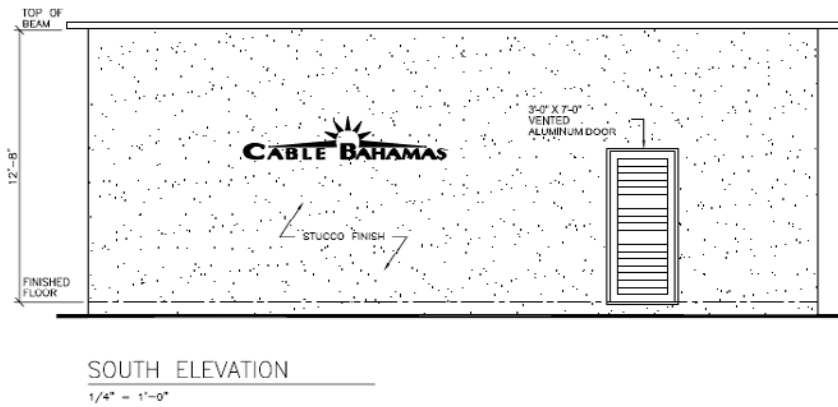
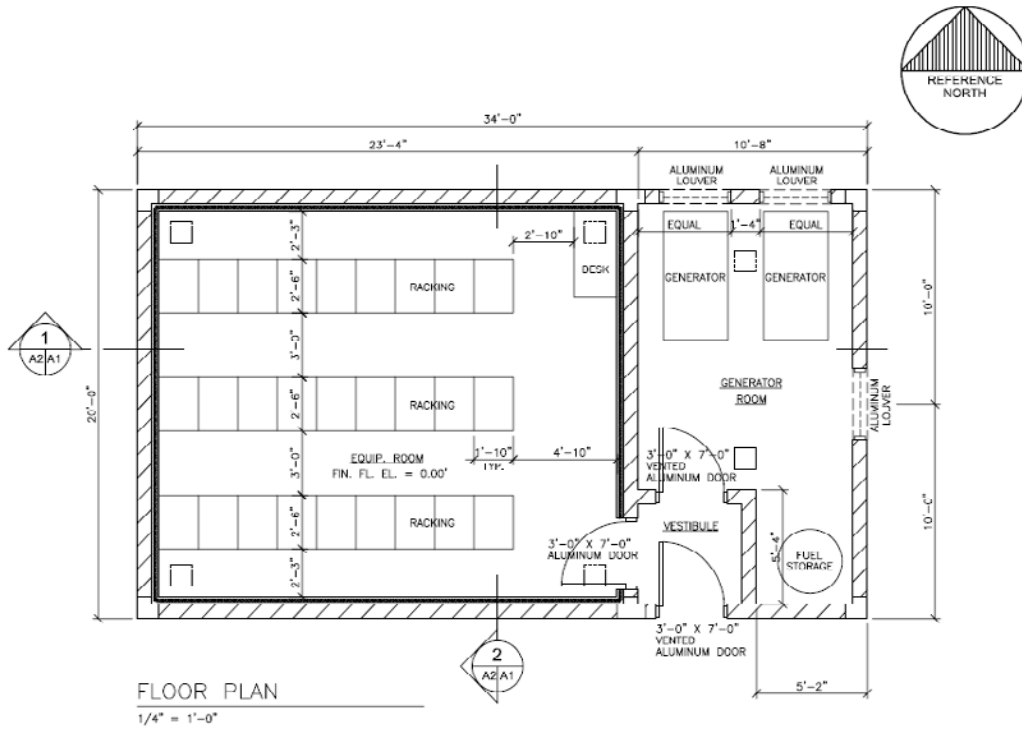
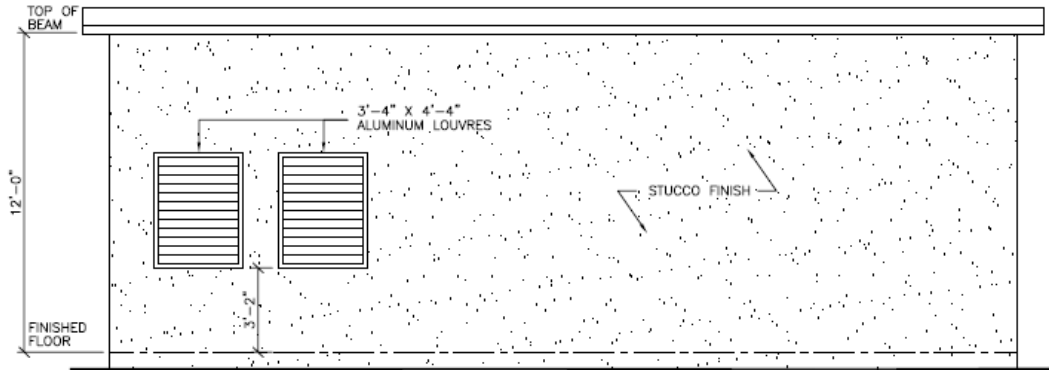
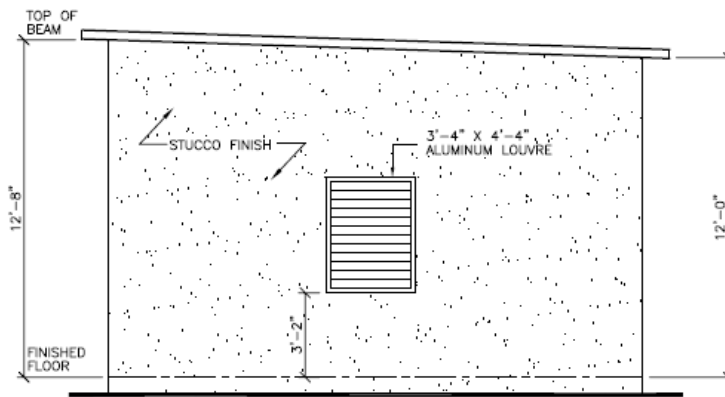


FIGURE 1-5: TYPICAL EQUIPMENT BUILDING LAYOUT - PLAN AND FRONT END ELEVATIONS



NORTH ELEVATION

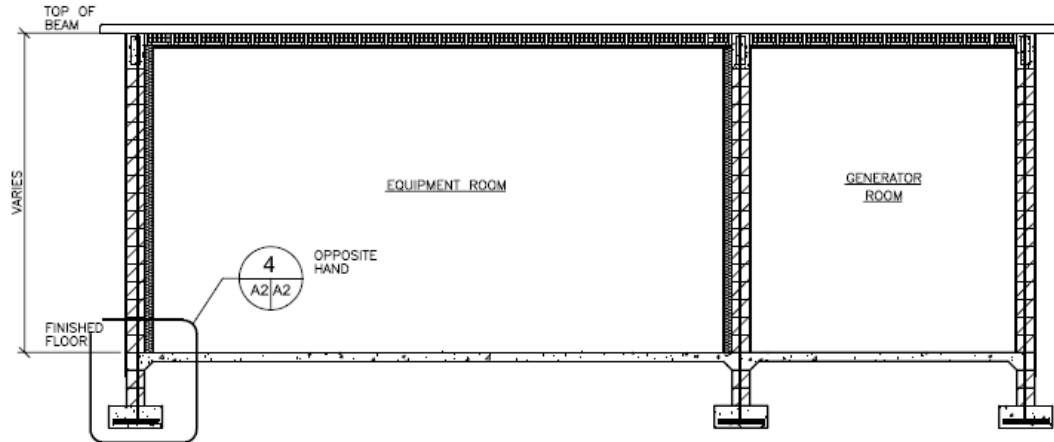
1/4" = 1'-0"



EAST ELEVATION

1/4" = 1'-0"

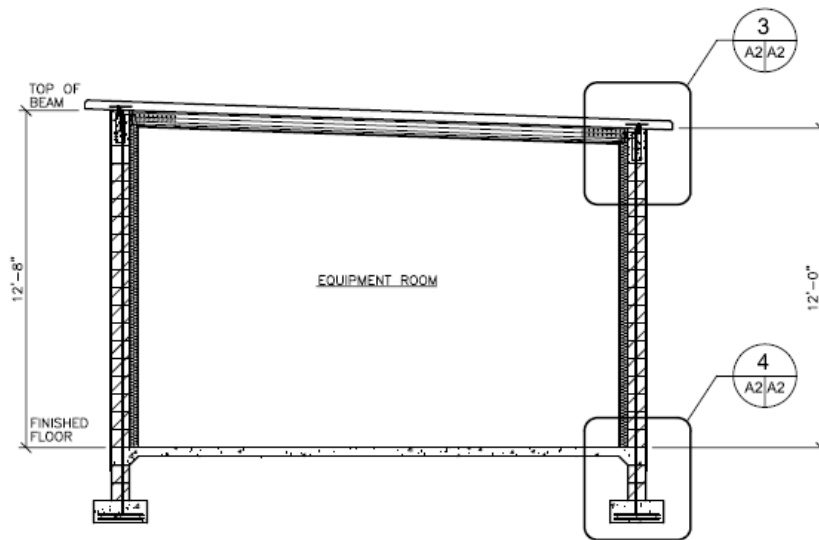
FIGURE 1-6: TYPICAL EQUIPMENT BUILDING LAYOUT - SIDE END ELEVATIONS



BUILDING SECTION

1/4" = 1'-0"

1
A2/A1



BUILDING SECTION

1/4" = 1'-0"

2
A2/A1

FIGURE 1-7: TYPICAL EQUIPMENT BUILDING STRUCTURAL DESIGN – KEY STRUCTURAL DESIGN AREAS HIGHLIGHTED

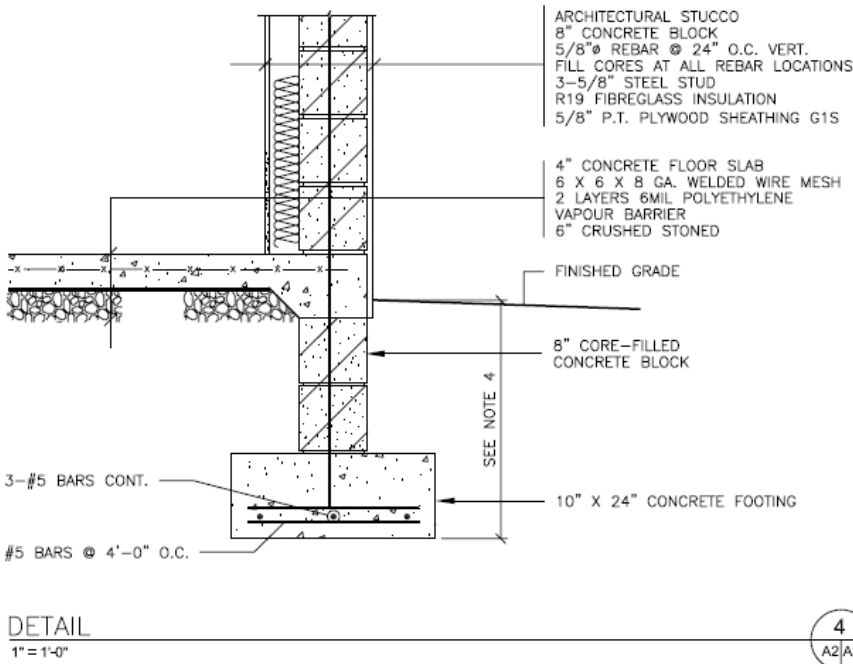
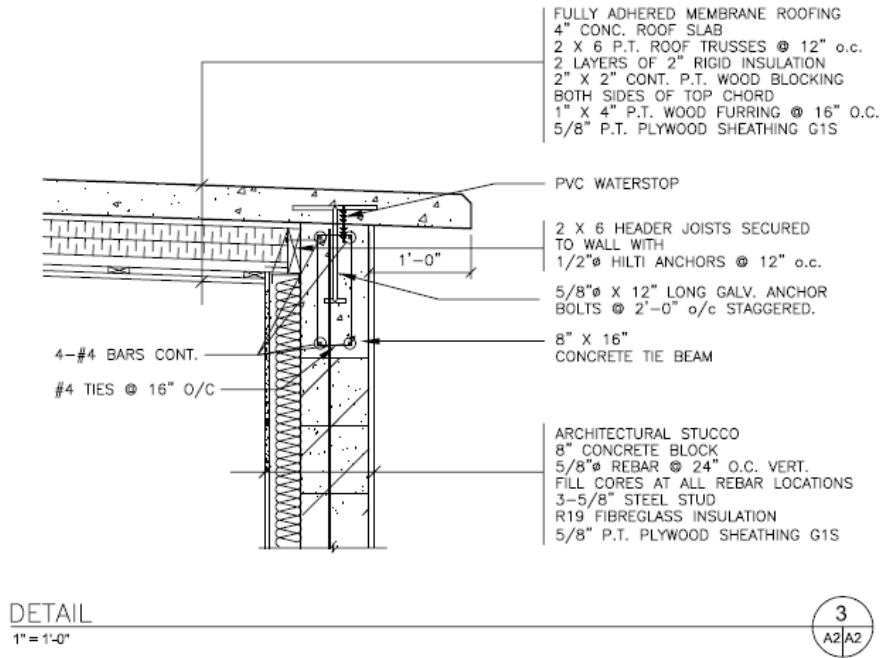


FIGURE 1-8; TYPICAL EQUIPMENT BUILDING STRUCTURAL DESIGN - DETAILED OVERVIEW OF KEY STRUCTURAL DESIGN AREAS

1.3.2.1 Bull Bay Site

Coordinates: Station - 17° 56.893'N - 76° 42.118'W

Landing Site - 17° 56.893N - 76° 42.118'W

1.3.2.1.1 Physical Description

The location of the cable station is on Highway A4 in Bull Bay, which is approximately 5 kilometers east of the Harbour View round about. The landing site in Bull Bay is the location of the existing AT&T cable station. Existing ducts would be used to bring the cable from the shore to the building. Duct length is estimated to be 600m. The ducts go from the sea, under a narrow strip of sand and small boulders beach and then under a narrow piece of land bordered on both sides by a small concrete wall. The cable route then goes across the coastal road and up towards the cable station that is approximately 35m above sea level. All underground cable routes will utilize existing ducts, thereby avoiding all disruption to the environment.

The building is a typical cable station; no windows, flat roof, with parking and loading dock access. Since this building is in existence and is operational, no external modifications will have to be made to the landing site or the building and environs as a result of this project. The map and pictures below show the proposed route into Bull Bay, existing building, landing site and environs at Bull Bay.

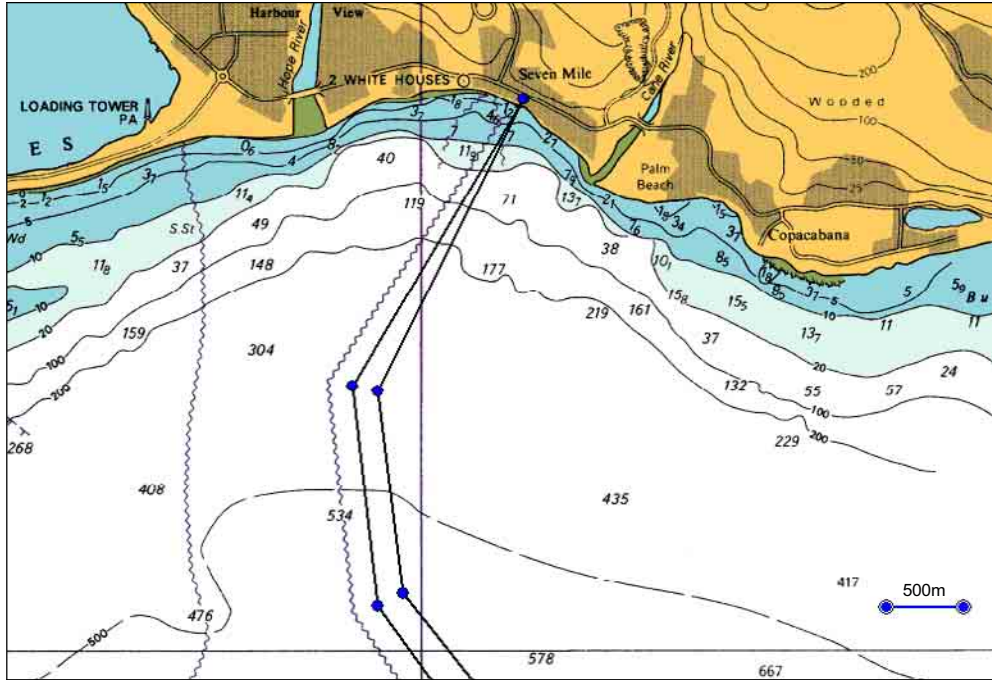


FIGURE 1-9: BULL BAY SITE LOCATION



FIGURE 1-10: - PROPOSED BULL BAY CABLE STATION



FIGURE 1-11: PROPOSED BULL BAY CABLE LANDING



FIGURE 1-12: PROPOSED BULL BAY CABLE LANDING

1.3.2.2 Tower Isles, St. Mary

Coordinates: Station - 18° 25.177'N - 077° 02.467'W

Landing Site - 18° 25.283'N - 077° 02.524'W

1.3.2.2.1 Physical Description

The landing site in Tower Isles/Frankfort, St. Mary is located on a narrow strip of beach just west of the Couples Resort Hotel.

The site is approximately 5 km east of Ocho Rios, St. Ann and approximately 10 km west of Oracabessa, St. Mary. The site is basically an undeveloped portion of land nestled between Highway A3 and the Caribbean Sea. It has a basically triangular orientation from a maximum width approximately 15m pinching down to approximately one (1) meter.

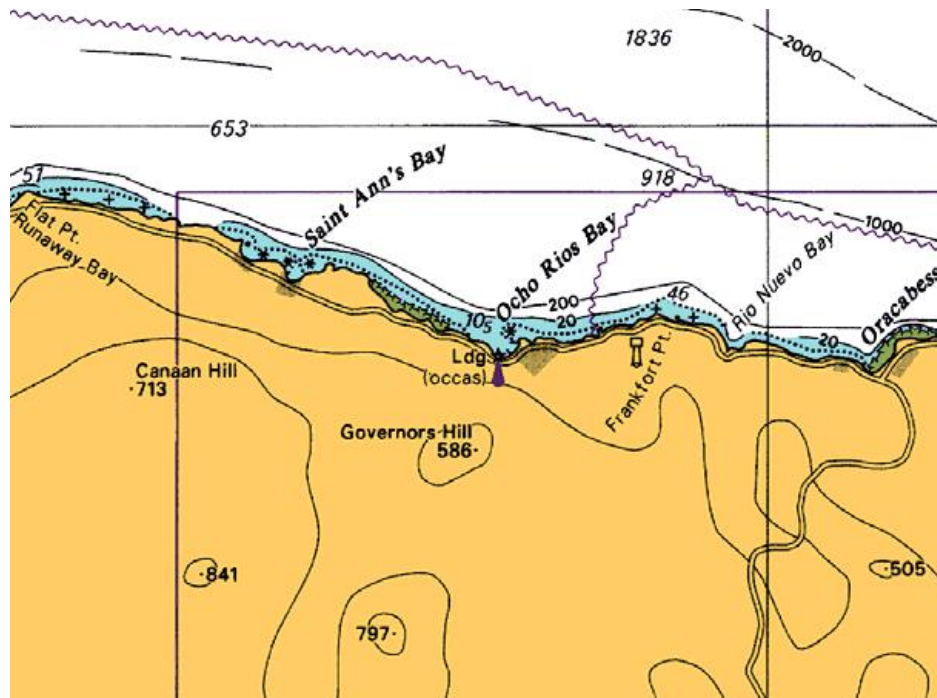


FIGURE 1-13: ST. MARY SITE LOCATION



Landing Site
Building

The proposed location of the building is within the fenced boundary of the existing Couples Resort property. This location is approximately 400m from the landing site at an elevation of 6-8m above sea level. There are no obvious obstructions between the landing site and the building site and the location has existing 24 hour security.



The location of the building will not interfere with any operations at the resort. It is anticipated that the cable will be laid in a narrow trench from the landing site to the building.