

EPISODE 71



H3 GEOSPATIAL INDEXING SYSTEM

THE MAPSCAPING PODCAST

Bloculus - Business Case

Communications Protocol / Version 0.0.1

Author(s): DATRO Consortium

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**CHAPTER
ONE**

RELEASE NOTES AND NOTICES

This section provides information about what is new or changed, including urgent issues, documentation updates, maintenance, and new releases. - 'Updates' are the term used to describe significant changes to our public source code and/or records.

1.1 This Release (Version 0.0.0)

- **2021-Jul-09** - *Document is still in draft - title changed to 'business case'*
- **2021-Jun-24** - *Changed document title to match directory path (which was changed from 'recon' to 'sitesurvey')*

1.2 Older Versions

In the table below the last entry displays a link to an archived copy of the last report. To keep the filename from overflowing in the table below the name displayed may differ from the file name. The date the file was archived will differ from the date of the document label, which is its creation date. If you're viewing this document on a subdomain of [.datro.world](#) you may need to right-click and select 'open link in new tab'. In the interim of a bug fix, you can avoid right-clicking all together, by viewing our document library at its original location [datro.xyz/static/library](#)

1.3 Known and Corrected Issues

Below is a table of pending issues which have been reported to our team. When these issues are remedied, or any significant changes made, a new release will be published.

Table 1: Known Issues

Date	Version	Subject	Description
2021-04-15	0.0.1	Sotherby Analysis	<i>According to radio site surveys e.g. Ubiquity Link software - The elevation at the site is in fact 160m not 150m</i>
2021-04-14	0.0.1	General Plan	<i>In the Section field it says "El Jamito" which may be incorrect since this is not mentioned elsewhere</i>
2021-04-14	0.0.1	Certificate of Title	<i>Name is previous owner not current owner - see sellers notes for resolution</i>
2021-04-14	0.0.1	Certificate of Title	<i>Certificates use security paper which displays null in the background when copied - the original certificates are notarised and valid</i>
2021-04-14	0.0.1	Annexures	<i>At this stage all that exists for discovery are the Annexures - sourced by the seller along with his surmises - due diligence is not complete</i>
2021-04-13	0.0.1	Building Permits	<i>No building permits exist yet</i>

EXECUTIVE SUMMARY

The DATRO Consortium is a for-profit company which seeks to offer a free internet service. The service is being beta tested along a 70km caribbean coastline entitled the Scottish Bay. This new fixed communications infrastructure comprises of geodesic communications equipment rooms (entitled “Neo Dome’s”), which are solar powered and mesh together using licence-free Radio Frequencies (RF). The purpose of this document is to introduce the Bloculus protocol component of this network and the business model and subsequent business opportunities which surround it.

2.1 Challenge

In order for this innovative new communications infrastructure to exist many challenges have had to be overcome. Below are the two this document focuses on:

1. Each newly constructed Neo Dome must be able to autonomously locate and pair with neighbouring Neo Dome's using licence-free RF
2. After establishing secure radio links, the DWeb/Web3.0 nodes hosted inside the Dome, must autonomously pair to their corresponding nodes inside neighbouring domes

Fulfilling these technological needs isn't the only challenge here. The consortium is a for-profit business and subsequently must generate a fiscal return on its investment with this protocol. Therefore the protocol has to be designed and developed to be exclusively owned/controlled by the DATRO Consortium, so that use and enjoyment of it can be billed, in order to generate revenue.

2.2 Solution & Outcomes

This new protocol has been named Bloculus, which is a combination of the two primary words which best describe it:

- ‘Bloc’ is a reference to Blockchain (particularly the Polkadot blockchain which is used in this protocols day-to-day operations)
- ‘Loculus’ is an architectural and biological reference, used to describe a “little place” and/or compartmentalisation

The Bloculus protocol works by combining Uber's hexagonal (“H3”) grid reference system with the Top Level Domain platform: Handshake. The result is a dedicated Top Level Domain for each hexagonal grids unique reference. In order to share in the excitement and opportunities surrounding this new protocol, it's worth having a basic understanding of Ubers H3 system and the Handshake platform:

There's a multitude of grid reference systems in operation e.g. Universal Transverse Mercator (UTM), Military Grid Reference System (MGRS) etc One of the most unique is Ubers H3 solution, which instead of referencing a point or square on a map it uses hexagonals, commonly known as “honeycombs”. A key feature of H3 used by DATRO is

called “resolution”, which permits the size of these honeycombs to be selected from a shortlist. For DATRO’s new network, 500 meter long honeycombs are sufficient for a balance between security obscurity and location accuracy. The closest suitable resolution is therefore resolution 8, which sets the honeycombs lengths to 461 Meters. Each of which has a dedicated and unique reference e.g. 8843a13687fffff

But use of these references isn’t something which can be exclusively owned and controlled. Enter Handshake. To understand Handshake its best to first understand Top Level Domains (TLD’s). TLD’s are unique in nature e.g. dot com (.com) for example is only able to be possessed by a single entity at any one time. If two entities both provided the TLD .com at the same time, how would a network know which party’s .com to direct traffic to when someone enters a .com url into their browser ? .com used to be owned by the United States Department of Defense, but today it’s operated by Verisign. Until Handshake came along, you could only obtain a TLD through an expensive and lengthy processes (\$130k - \$180k and 6+ months) with ICANN (which also offered no guarantees). The Handshake platform has democratised and cheapened this process through what is known as a candle auction. Now registration only takes a few dollars and a couple of days.

In the case of the bloculus protocol its possible to have a dedicated TLD for each H3 reference e.g. .8843a13687fffff. The nodes running in the domes are categorised and these categories are listed as the domain name e.g. messaging.8843a13687fffff And finally the name of the service running in the dome is listed as the subdomain e.g. matrix.messaging.8843a13687fffff

The domes can now establish links autonomously, since the addressing system contains the physical location. Next the services/ nodes running inside each dome can pair quickly by specifying the corresponding domain and subdomain.

2.3 Market Potential

DATRO’s approach is to sell 50% co-ownership (co-lessor rights) for a one time fixed sum of \$500 USD per 460 meter honeycomb. For this price the Scottish Bay alone will generate in the region of circa \$1.4M USD of digital real estate inventory for the consortium to sell. The area is defined by the 70km width of the coastline and the depth is inland as far as the west/southern boundaries of the two provinces which make up the Scottish Bay. The services and nodes inside each dome effectively become lessee’s, using cryptocurrency smart contracts to lease use and enjoyment of the Bloculus protocol. The proceeds of which will pool together and divide proportionately between the protocols lessors/ beneficiaries. Henceforth the Scottish Bay will become the first of many estates, of this new protocol. Furthermore, the web3.0 services and nodes on this new fixed communications network, are expected to be the first of many types of digital lessee’s which will pay to use the Bloculus protocol.

2.4 Recommendation

It’s recommended the consortium expand on this business case and produce a dedicated whitepaper on the technology. It would be wise to purchase the Scottish Bay’s entire H3 references as TLD’s, ahead of competing party. Then select future regions of the world to ringfence H3/TLD’s for use with this protocol. The retail rate of co-ownership of the preceding estate, should help towards this growing capital requirement, failing this investors maybe interested in financing this initiative.

Moving forward the consortium will overlay the desired H3 grid onto a map of the Scottish Bay. A salesforce will sell the inventory to interested parties. The lessor/lessee agreement will be as a cryptocurrency smart contract.

A typical business case would see this estate divided into 2,800 honeycombs. In this example a capital investor purchases co-ownership of a quarter of this estate (700 H3 hexagons) for circa \$350,000 USD (\$500 per honeycomb). The first lessee is the aforementioned mesh network, which takes say 3 years to construct and begins earning in the region of \$6M USD per annum for use/enjoyment of the protocol. The benefactor which co-owns a quarter of the estate would receive \$750,000 USD per annum in royalties. At this juncture the currency invested would be USD but the currency generated by the network and paid to beneficiaries would be the cryptocurrency DOT (on the Polkadot blockchain).

2.5 Justification

This protocol is justified from both a technical and business standpoint. The alternatives aren't half as effective and have limitations which this protocol overcomes. Furthermore this is a new generation of communications network and so a new protocol has had to be developed specifically because the existing technologies didn't suffice. The Bloculus protocol is designed for a reality of automation, decentralization, anonymity, cryptographic security, currency and tokenized voting/ liquid democracy.

2.6 Annexures

A supplement or appendix to a written document. An annexure is an addition to something, often to a document. When used generally to simply mean something added, annexure is interchangeable with annex. More commonly used in Britain and India, where it often specifically refers to an addition to an official document.

**CHAPTER
THREE**

FINANCE

This document provides a summary of the “Jam Highland” land sale opportunity. Designed to help stakeholders e.g. seller, buyers etc openly explore all associated risks and opportunities.

3.1 Financial Appraisal

- Location: [Google Maps Location](#) (19.287486,-69.543597)
- Elevation: 150.00m/492.13ft
- Price(USD): \$680kUSD+ Total or \$40-\$60USD per m² (July 2019)

Annex/Source:..... [*Sotherby Market Analysis \(Preview\)*](#)

- [*Certificate of Title: 4,068.61m² \(Copy\)*](#)
- [*Certificate of Title: 2,488.70m² \(Copy\)*](#)
- [*Certificate of Title: 2,088.47m² \(Copy\)*](#)
- [*Certificate of Title: 2,038.77m² \(Copy\)*](#)
- [*Certificate of Title: 1,749.00m² \(Copy\)*](#)
- [*Certificate of Title: 1,154.00m² \(Copy\)*](#)

Annex/Source:..... above entries hyperlink to the document sources

- Directions: 2km before (south of) Las Terrenas, at the intersection of the road that leads to Hoyo Cacao, we (turn right and) travel (uphill, Eastwards) 400m. And on the left we find the project (a large hill)

Annex/Source:..... [*Origional Map \(Remastered\)*](#)

3.2 Sensitivity Analysis

Meeting Minutes (2021-04-14) The Seller (Mr. Adrian Cronin, Founder & CEO of [Aurora Apart Hotels](#)), took the liberty of answering a [DATRO Consortium](#) questionnaire, ahead of this documents publication:

1. The Seller is the owner of this plot of land - Following purchase of the site, almost 2 years ago.
2. There are no liens on the Certificate of Title(s) - A certificate confirming this can be obtained upon request - The Seller is subsequently able, willing and in a position to sell.
3. The name on the Certificate of Title(s) has been kept in the previous owners name: Mr. Karl Franz Stark:
 - The name on the Certificate of Title(s) was left unchanged at Mr. Cronin's request

- Mr. Cronin and his legal council ([Guzman lawfirm](#)) are still able, willing and in a position to transfer the Certificates of Title(s) from Mr. Stark to a new buyer, in the event of a sale.
 - The previous owner is reachable if there is a requirement for his participation.
4. Each Certificate of Title has a corresponding plot drawing/map which constitutes an Easement e.g. road access, common land etc
- **2021-04-15** - The aforementioned easements are not stipulated in the text on the Certificate of Title, however Mr. Cronin remains confident his approach constitutes an easement in the eyes of the relevant authorities after consulting with them on this day
5. Connecting road (adjacent to plot), while undeveloped e.g. a gravel track, is actually a thoroughfare road:
- South/West exit from plots entrance leads to: Carretera Las Terrenas - Sanchez, Las Terrenas
 - North/East exit from plots entrance leads to: UNKNOWN AT THIS STAGE (presumably Las Terrenas town?)
 - Plans do exist to tarmac/asphalt the thoroughfare road. Neighbouring roads were worked recently. This road is rumoured to be next in line at the mayors office
6. In the event of a sale whereby the buyer(s) commit a payment - It will typically be held in Mr. Cronins' lawyers New York Bank account in escrow, until such time as the purchase completes in full e.g. the buyer(s) name(s) replaces Mr. Stark on the Certificate of Title(s).

CHAPTER
FOUR

PROJECT DEFINITION

4.1 Background information

4.2 Business Objective

4.3 Benefits and Limitations

4.4 Option Identification & Selection

4.5 Scope, Impact, and interdependencies

4.6 Outline Plan

4.7 Market Assessment

4.8 Risk Assessment

4.9 Project Approach

4.10 Purchasing Strategy

CHAPTER
FIVE

PROJECT ORGANIZATION

5.1 Project Governance

5.2 Progress Reporting

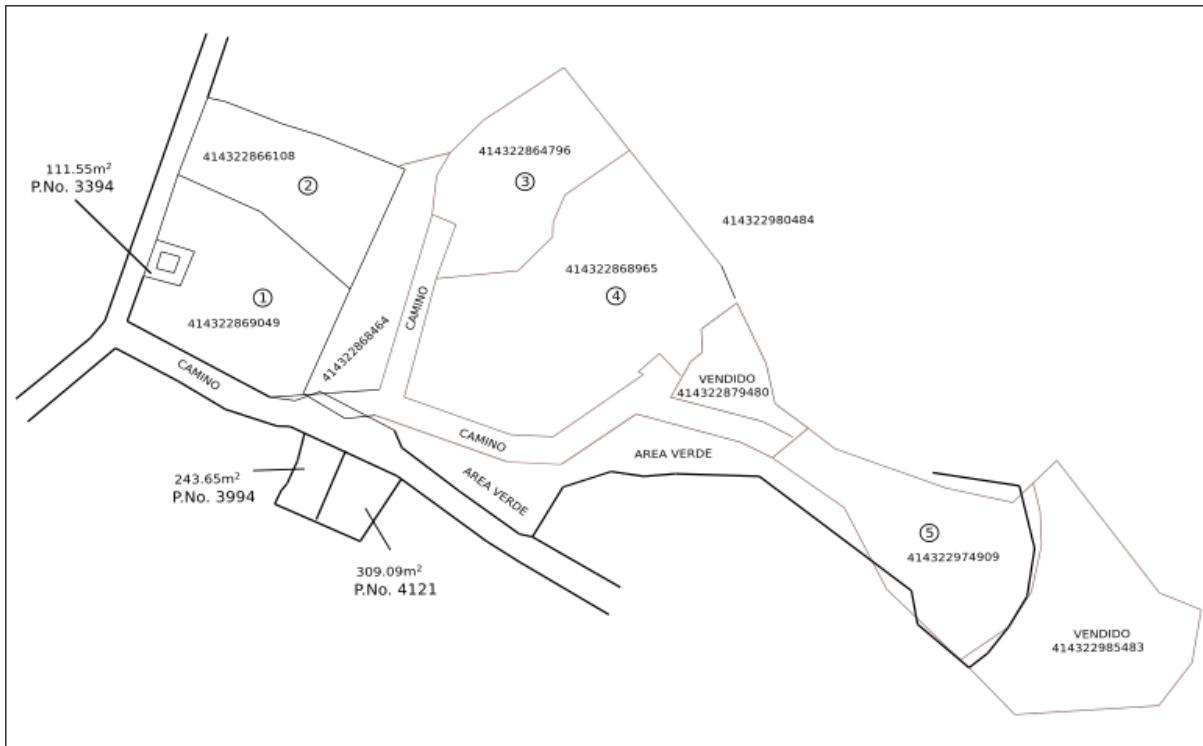
CHAPTER SIX

ANNEXURES

This section contains the Annexures, referenced in the text above. The [Download Links](#) for these Annexures can be found at the very end of this document:

6.1 Original Map (Remastered)

Download in [PDF Format](#) and/or [SVG Format](#)



6.2 Sotherby Market Analysis (Preview)

• www.williamholdenreality.com

• [View Full Report](#)

Valuation:

Price Range (USD)

\$680,000 to \$1 Million

(\$40 /m2 to \$60 /m2)

In my opinion, this property can be marketed in one of three ways:

- **Individual Lots**
- **Entire Parcel**
- **Villa Construction on an Individual Lot**

Individual Lots - Because of the site improvements and available utilities, each individual lot could be offered for sale at \$60 per square meter. Thus, the total of individual lot sales is estimated to be \$1 Million usd.

Entire Parcel - The value of the entire parcel is estimated to have a value of \$680,000.

Constructed Villas - Pricing of the land would be included in the price of the constructed villa, and in most cases, the cost of the can be adjusted to make prices of the villa competitive.

6.3 Certificate of Title: 2,488.70m² (Copy)

CERTIFICADO DE TÍTULO

LIBRO 0185 FOLIO 238

VERIFICAR LA PRESENCIA DE LA MARCA DE AGUA EN FORMA DE LOGO SOSTENIENDO EL DOCUMENTO A CONTRALUZ

REGISTRO DE TÍTULOS

JURISDICCIÓN INMOBILIARIA
PODER JUDICIAL REPÚBLICA DOMINICANA

ORDINA
Registro de Títulos de Samaná

DESIGNACIÓN CATASTRAL
414322974909

PROPIETARIO
KARL FRANZ STARK

En virtud de la Ley y en nombre de la República se declara TITULAR DEL DERECHO DE PROPIEDAD a KARL FRANZ STARK, de nacionalidad Alemana, mayor de edad, Cédula de Identidad No.134-0003554-2, soltero, sobre el inmueble identificado como 414322974909, que tiene una superficie de 2,488.70 metros cuadrados, matrícula No.1700008665, ubicado en LAS TERRENAS, SAMANA. El derecho fue adquirido a GINA FRANCISCA COPLIN GERONIMO DE LECLERC, de nacionalidad Dominicana, mayor de edad, Cédula de Identidad No.065-0034081-2, casada con JOSEPH ROGER JEAN LECLERC, de nacionalidad Canadiense, mayor de edad, Número Identificación Nacional/Pasaporte DL4054607/QM119597. El derecho tiene su origen en VENTA, según consta en el documento de fecha 04/oct/2016, Acto bajo firma privada legalizado por LIC. RAFAEL DOTEL VANDERPOOL, notario público de los del número de LAS TERRENAS, con matrícula No.3991. Inscrito a las 10:29:01 a.m. el 24/jul/2017. El presente cancela el anterior Certificado de Titulo identificado en el pase de origen. Emitido el 26 de julio del 2017.

Lina M. Alvarez Holguín
Registrador de Títulos
Registro de Títulos de Samaná

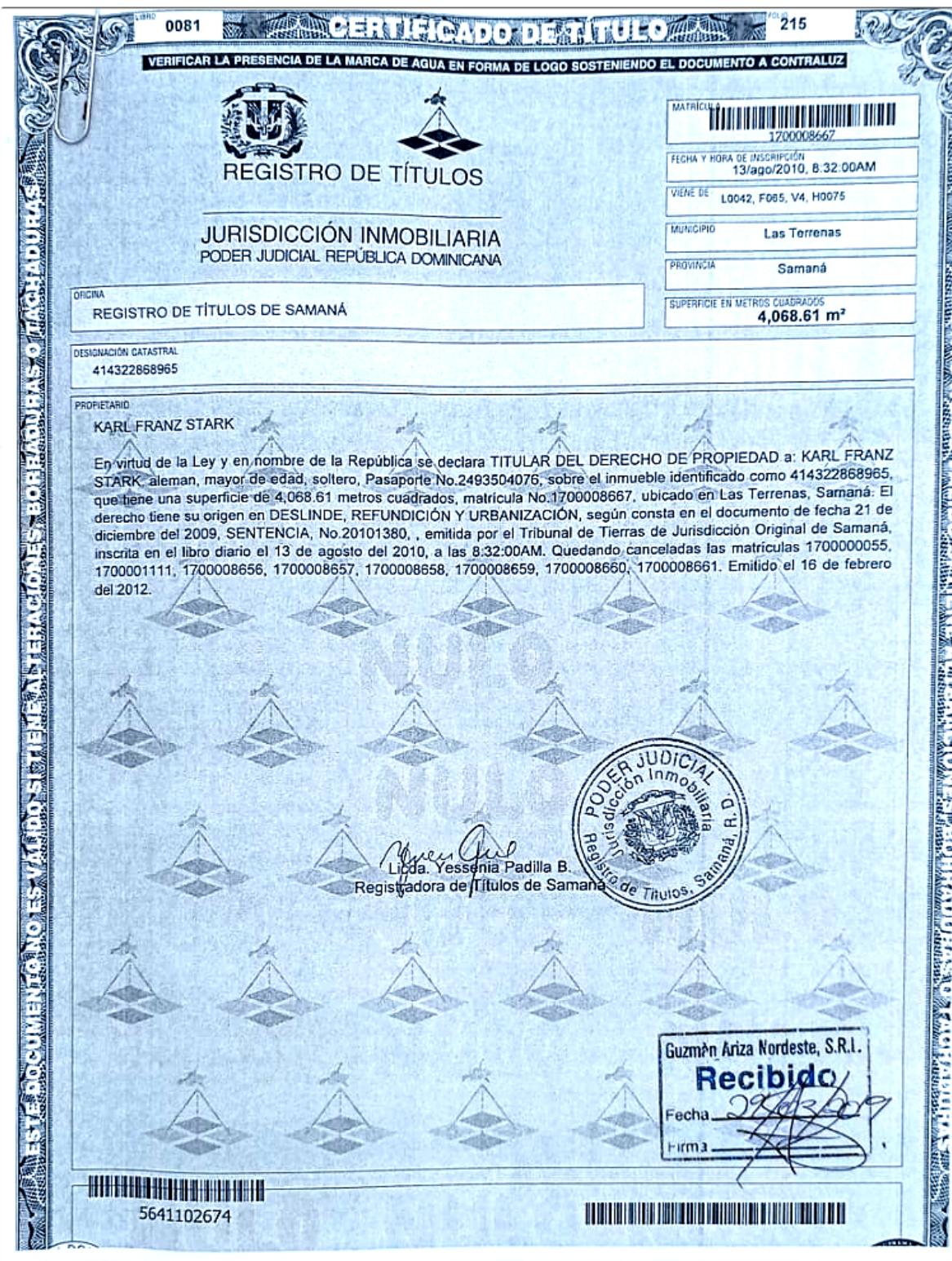
Guzmán Ariza Nordeste, S.R.I.
Recibido
Fecha 29/03/19
Firm 3

Barcode: 5641702652018523822

Barcode: 215641702652018523822

Para validar la información impresa en este documento, favor consultar el sitio www.jj.gov.do

6.4 Certificate of Title: 4,068.61m² (Copy)



6.5 Certificate of Title: 2,088.47m² (Copy)



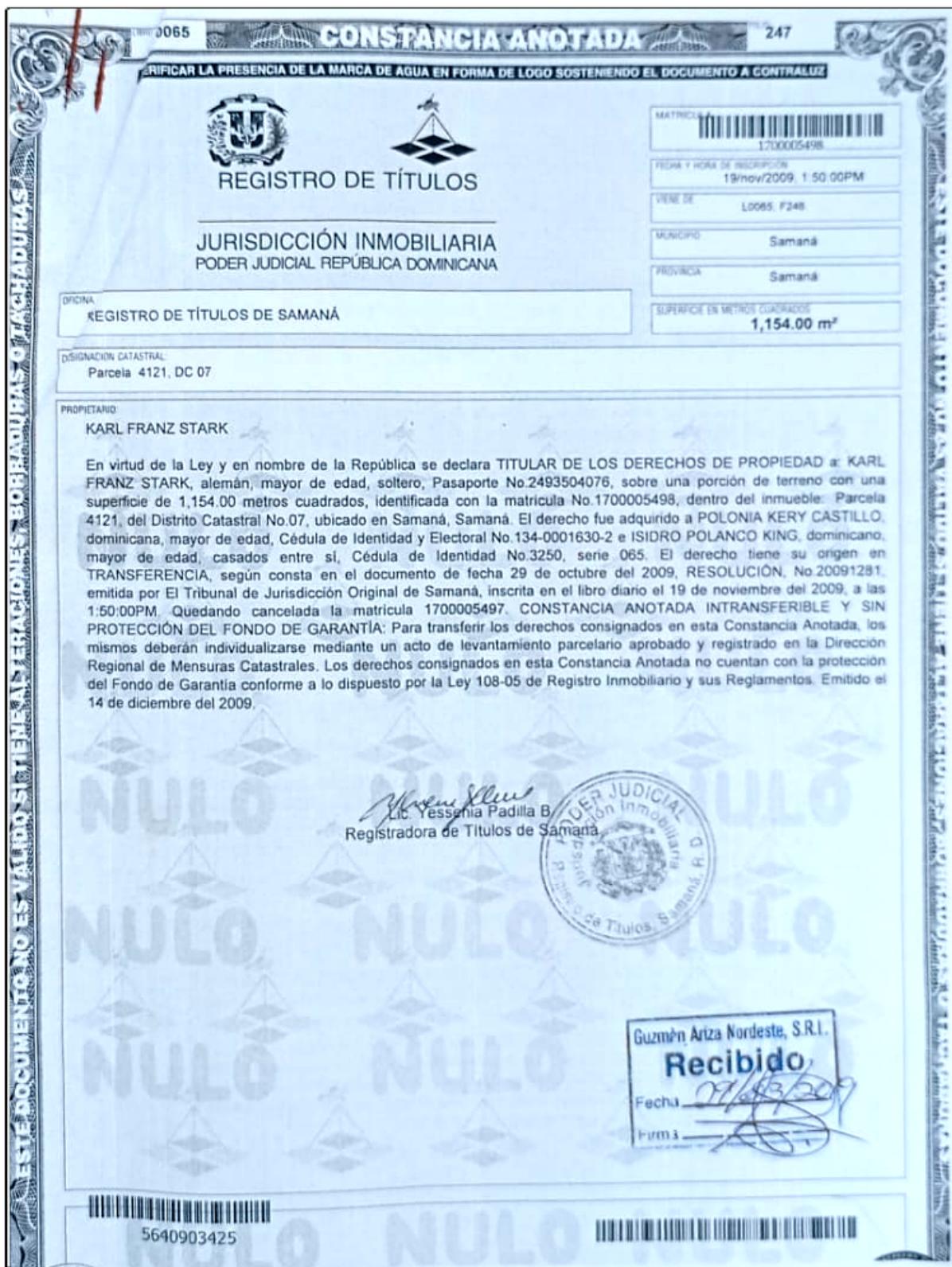
6.6 Certificate of Title: 2,038.77m² (Copy)



6.7 Certificate of Title: 1,749.00m² (Copy)



6.8 Certificate of Title: 1,154.00m² (Copy)



6.9 Download Links

See below a table of the download links for the Annexed items in this document:

Table 1: Download Link of Annexures

Date	Description	PDF	SVG	PNG
2021-04-16	Origional Map - Remastered	link(19kb)	link(36kb)	
2019-07-31	Sotherby's Market Analysis	link(5.3mb)		
2017-07-24	Certificate of Title: 2488.70m2			link(860kb)
2010-08-13	Certificate of Title: 2088.47m2			link(1.4mb)
2010-08-13	Certificate of Title: 2038.77m2			link(173kb)
2010-08-13	Certificate of Title: 1749.00m2			link(173kb)
2009-11-19	Certificate of Title: 1154.00m2			link(173kb)
2010-08-13	Certificate of Title: 4068.61m2			link(1.4mb)

**CHAPTER
SEVEN**

DOCUMENT AUTHOR(S):

7.1 DATRO Consortium