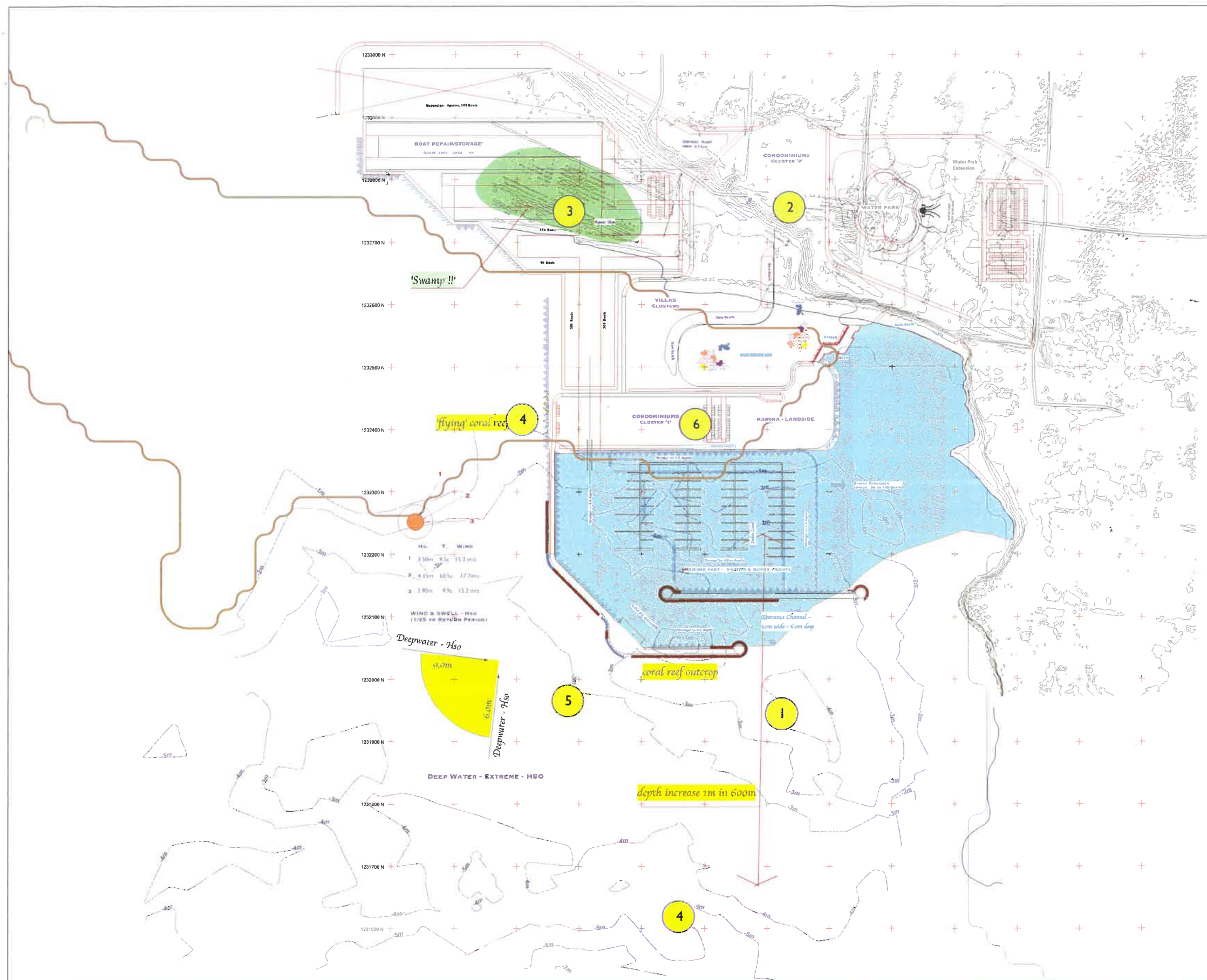


**Location Map: Construction of a Marina and Related Marina Facilities
Friendship Estate, Tobago**



C107/1

Existing water depths to the west of the headland - for a distance of 800 - 900m is <3.5 metres below MSL Of which the southern most 500 metres - as shown - the depth remains a constant 3.5m. Hence shifting the marina further south and away from the shore line does not omit or significantly reduce the quantum of dredging in the live coraline sea bed - See drg C 108

C107/2

The site is bisected by a diagonally running 'cliff' face rising from +1.00 to +8.00/9.00 level. The majority of the property of 'Friendship Estate is thus some 8 metres above MSL.

C107/3

A large part of the lower western triangular shaped segment is swampy and hence would need to be raised by upto 2.0m

C107/4

As noted at C105, flying reef alive with plate corals and various forms of aquatic life runs for a distance of 2.0 - 3.0 km at a close distance from the shoreline. It is an internationally advertised site for as snorkeling and diving destination

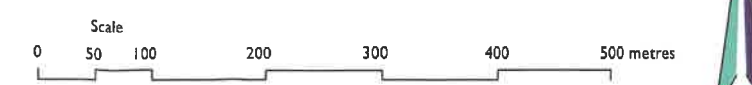
As noted before at C101, a very early approval in principal is required from EMA and further physical coring/surveys to determine the hardness of coral beds and thus the methodology for dredging it.

C107/5

Although the site is naturally well protected from the normal wave regime generated by the easterly trade winds, it is exposed to extreme wave heights equal to the depth of water from hurricane generated waves from the west to south. Hence breakwaters are essential since these yachts will have to remain moored within the Marina during such events.

C107/6

The reclamation and related valuable land creation is in water depths less than 1.0m hence for a given volume of dredged material higher acreage of 'real estate' is created. A significant contributor to the financial viability considerations. All coraline dredged material is suitable as fill



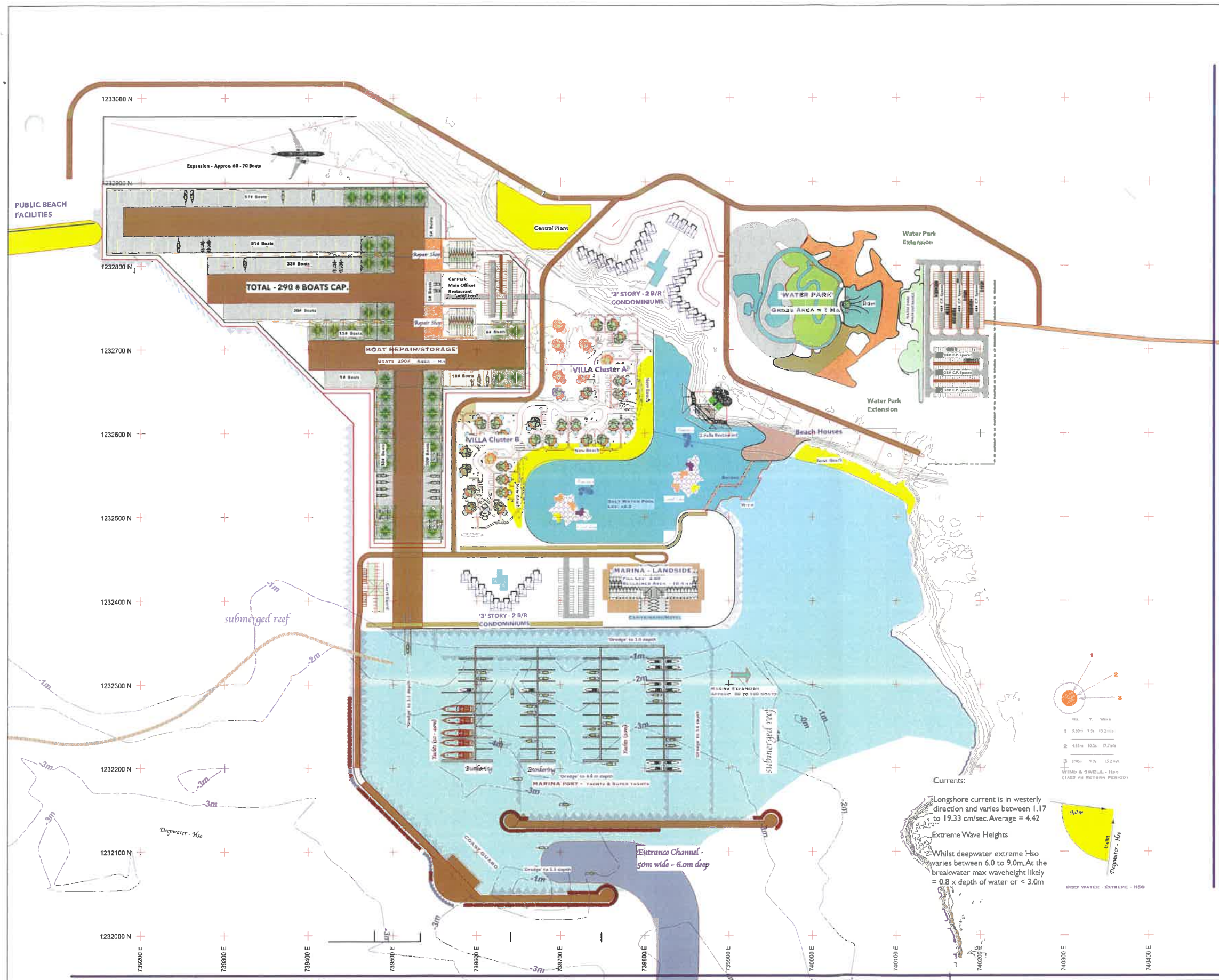
Preliminary Conceptual Plans, Etc

Important Note:
These preliminary conceptual plans are subject to review and comments of the specialist - Arch. and Marina - sub consultants of ABA Ltd.



CANOE BAY/FRIENDSHIP ESTATE MARINA FACILITY - BATHYMETRIC TOPOGRAPHIC AND OCEANOGRAPHIC

ABA/TM - C107



C111/1
DREDGING - MOSTLY IN CORAL ROCK
 Max depth of 5.7m, Dredge Quantity= 320,000 Cu.M.
 Max depth of 4.0m, Dredge Quantity = 180,000 Cu.M.

Note with a depth of 5.7m yachts of 50m lengths can be moored within the Marina. Whereas for a 4.0m depth maximum length of yacht is only 20 - 25m

C111/2
RECLAIMED AREA - GROSS = 10.4 hectares with the dredge material procured and used as fill = 320,000 cu.m3

C111/3
 As indicated in the Masterplan the number of boat berths/slips in the Marina are

- 20m Yachts, Power Boats = 144 #
- 40m - 50m Super Yachts = 6 #
- 30m Yachts = 6 #
- 50m Coast Guard Boats = 1 #
- Fishing -small boats = none

Marina space exists to the east for additional 90+ slips.

C111/4
Boat Storage and Repairs Yard/Area of 10.9 hectares.
 As indicated in the Masterplan the number of boat storage bays = 290 spots. (20m boat) Power boats will be housed under a fabric roof in 20m x 20m Bays, whilst masted Yachts will also be in groups of 3 in a 20m x 20m bay but will not be roofed over

At the lower level to the west space exist for an additional 60 - 80 boats..

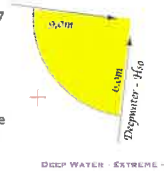
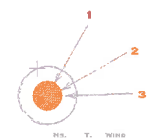
C111/5
 The Masterplan shown envisages a Water Park of some 8.5 Hectres and a salt water pond at +2.2 level of approx 3.2 ha. as a 'Coral Garden'Reserve

C111/6
 Critical Service buildings shown include

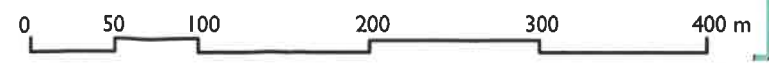
- A Capitainaire with a small hotel (50 - 60 rooms)
- Coast Guard support Building
- Boat Repair, Workshops Offices, etc

- A '2 Falls' Gourmet Restaurant plus attached snack foods, bar etc. This complex is sited between 2 waterfalls at a strategic location between the Marina and the Water Park.

C111/7
 Valuable real estate created with reclamation of 10.4 hectares plus existing lands fronting the 'cliff' on either side of the 2 falls restaurant provides excellent opportunities for 2 and 3 story Villas and Condominium and very valuable 'Beach House' properties running along the 'cliff'



Currents:
 Longshore current is in westerly direction and varies between 1.17 to 19.33 cm/sec. Average = 4.42
 Extreme Wave Heights
 Whilst deepwater extreme Hs0 varies between 6.0 to 9.0m. At the breakwater max waveheight likely = 0.8 x depth of water or < 3.0m



Preliminary Conceptual Plans, Etc

Important Note:
 These preliminary conceptual plans are subject to review and comments of the specialist - Arch. and Marina - sub consultants of ABA Ltd.

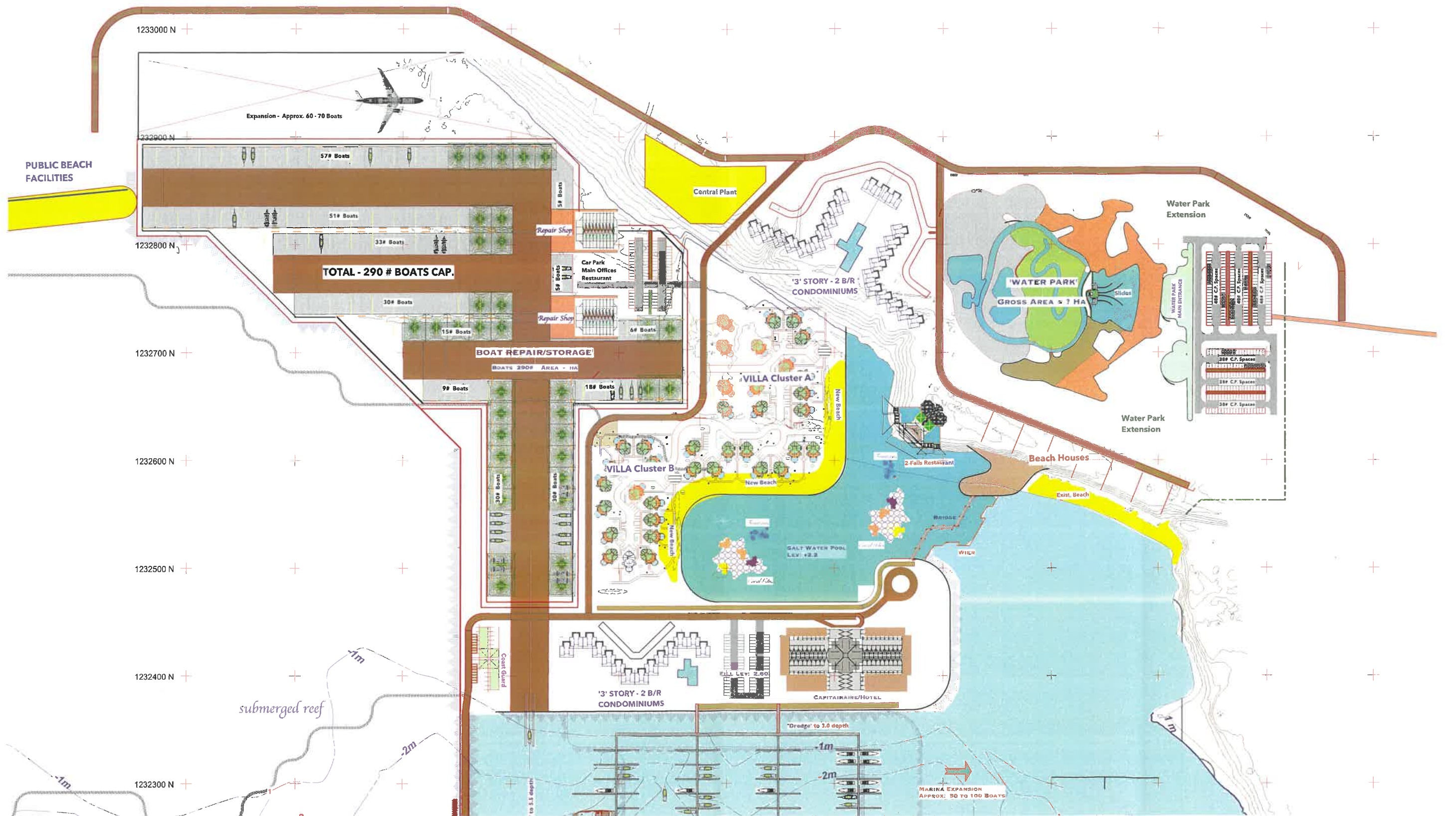
CLIENT: **ARUN BUGH & ASSOCIATES LTD**
 CONSULTING CIVIL & STRUCTURAL ENGINEERS
 In association with
 Consult. Env. Assoc. ENCO CONSULTANT

TOBAGO MARINA FACILITY

 CONCEPTUAL DESIGN

CANOE BAY
MASTER PLAN - ALT '1'

ABA/TM -
C111
 31st AUG. 2020



0 50 100 200 m

Preliminary Conceptual Plans, Etc

Important Note:
 These preliminary conceptual plans are subject to review and comments of the specialist - Arch. and Marina - sub consultants of ABA Ltd.

CLIENT

CONSULTANT
 **ARUN BUCH & ASSOCIATES LTD**
 CONSULTING CIVIL & STRUCTURAL ENGINEERS
 In association with
 Enw. Assoc. ENCO

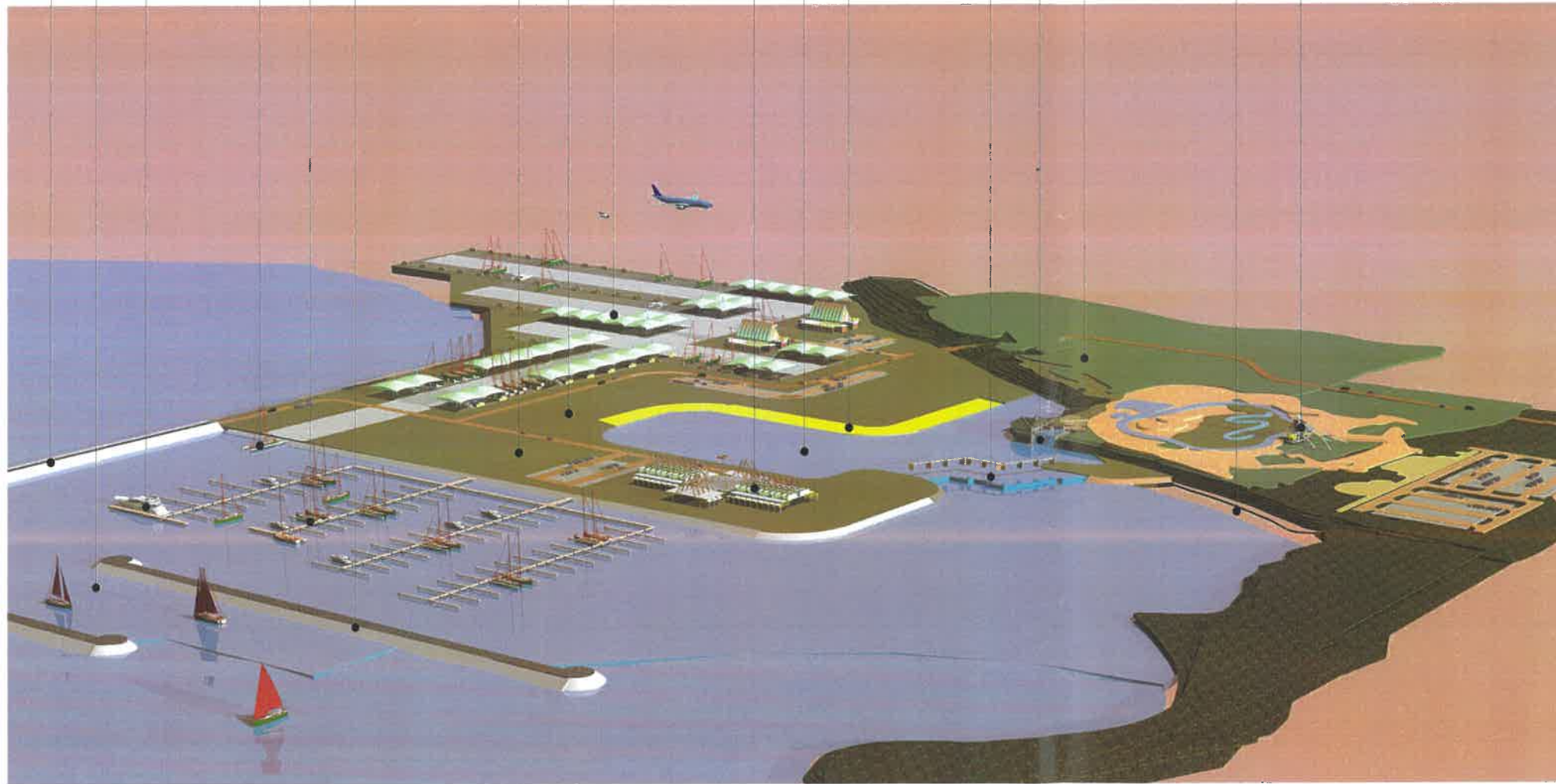
TOBAGO MARINA FACILITY

 CONCEPTUAL DESIGN

CANOE BAY - MASTERPLAN (PARTIAL)

ABA/TM - C112
 31st AUG. 2020

Breakwater - 1
 100/150T Straddle Carrier Jetty
 Entrance channel 60m wide
 40-50m mega yacht
 MARINA
 Breakwater - 2
 Condominium Clusters '1'
 Villas Cluster
 Boat Repair Storage Yard
 Capiainaire, Hotel
 Salt Water Lagoon +2.0, Coaral Garden
 'Private' Beach
 Bridge & Weir
 '2' Falls Restaurant
 'Condominium Clusters '2'
 'Public' Beach
 'Water Park'



Preliminary Conceptual Plans, Etc

Important Note:
 These preliminary conceptual plans are subject to review and comments of the specialist - Arch. and Marina - sub consultants of ABA Ltd.

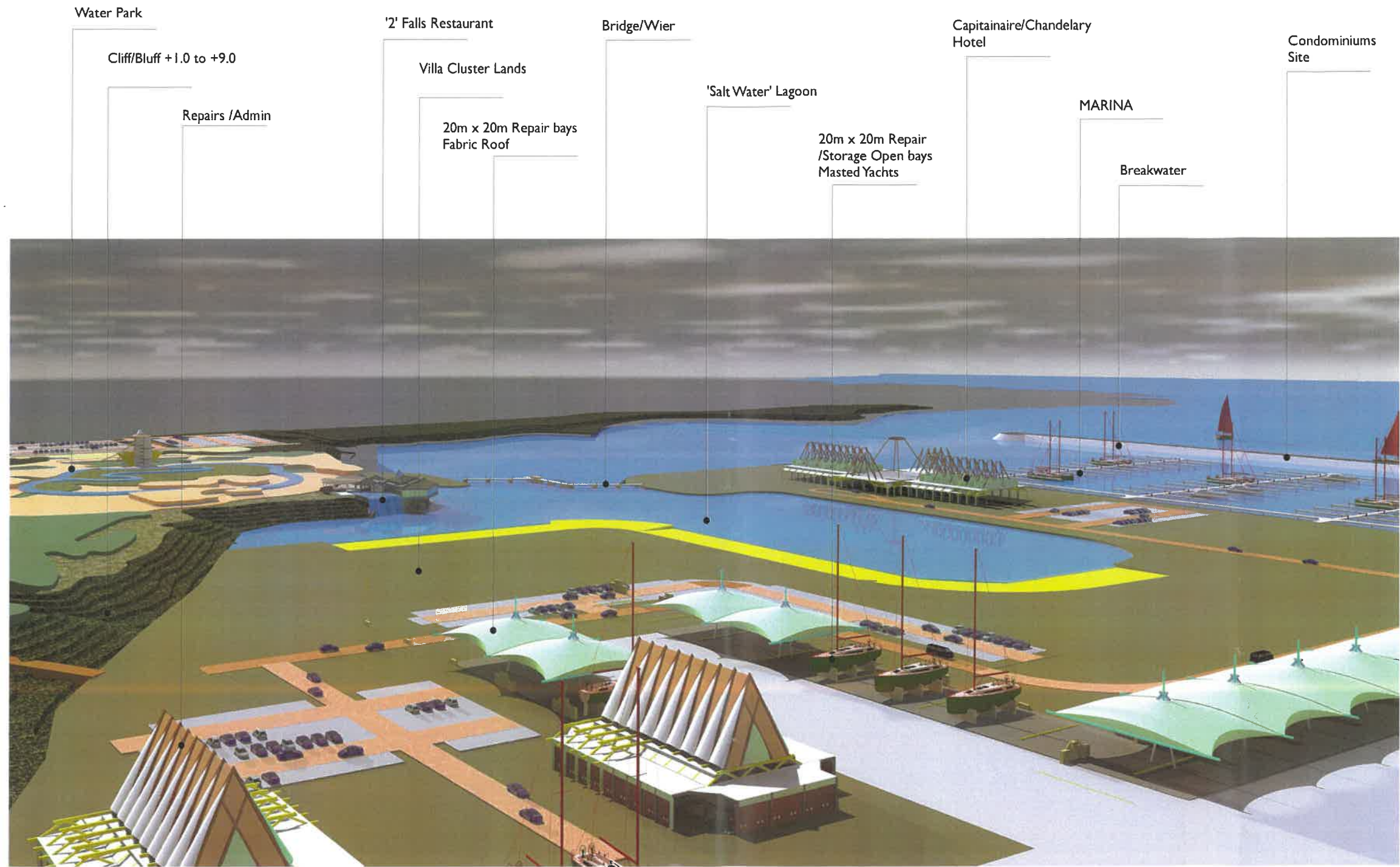


ARUN BUCH & ASSOCIATES LTD
 CONSULTING CIVIL & STRUCTURAL ENGINEERS
 In association with
 Env. Assoc. ENCO



**CANOE BAY - MASTERPLAN
 PERSPECTIVE - ALT '1'**

ABA/TM -
C113
 31st AUG. 2020



Preliminary Conceptual Plans, Etc

Important Note:
 These preliminary conceptual plans are subject to review and comments of the specialist - Arch. and Marina - sub consultants of ABA Ltd.



ARUN BUCH & ASSOCIATES LTD
 CONSULTING CIVIL & STRUCTURAL ENGINEERS
 In association with
 Env. Assoc. ENCO

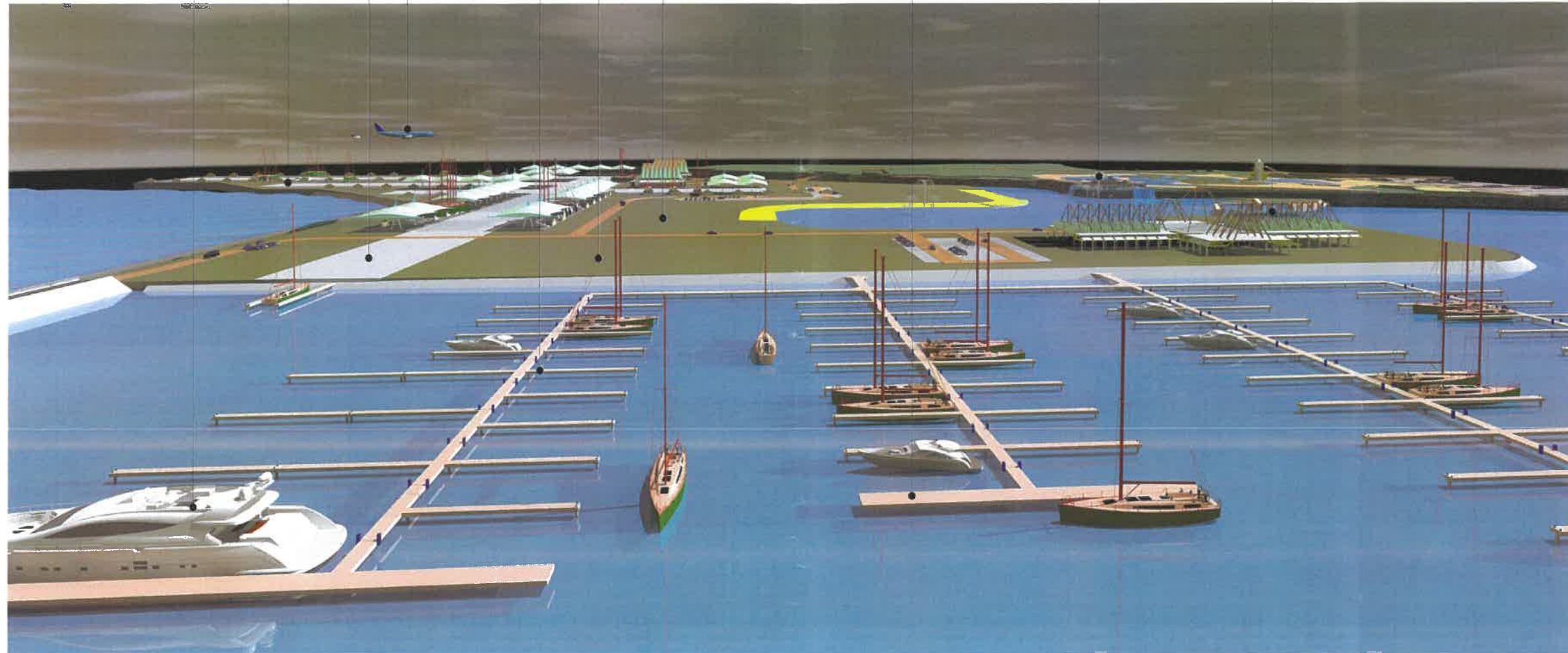


MARINA , BOAT REPAIR, W. PARK
 - 'Aircraft O/H' - PERSPECTIVE

ABA/TWC
114

31st AUG. 2020

40/50m Mega Yacht
 Straddle Carrier Jetty
 Straddle Carrier Carriageway 30-35m
 Aircraft Height? from Airport
 Typ. MARINA Finger Pier
 CONDOS Site
 VILLAS Site
 Typ. Bunkering at Finger Pier 'T' Head
 '2' Falls Restaurant
 Capitainaire/Chandelary Hotel



Preliminary Conceptual Plans, Etc

Important Note:
 These preliminary conceptual plans are subject to review and comments of the specialist - Arch. and Marina - sub consultants of ABA Ltd.



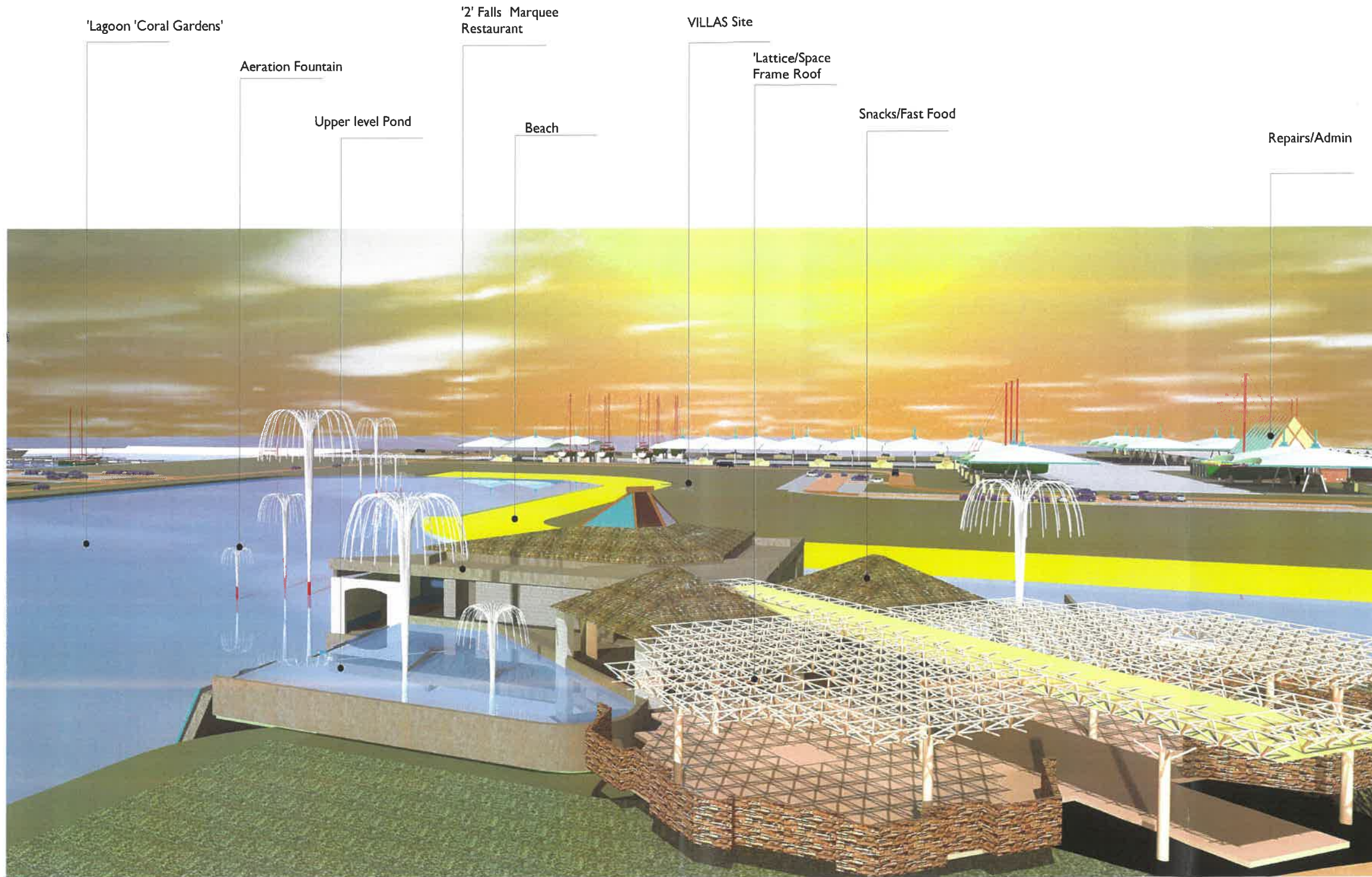
ARUN BUCH & ASSOCIATES LTD
 CONSULTING CIVIL & STRUCTURAL ENGINEERS
 In association with
 Consult. Env. Assoc. ENCO



**MARINA , BOAT REPAIR, W. PARK
 North PERS. (Marina View)**

**ABA/TM/C
 115**

31st AUG. 2020



Preliminary Conceptual Plans, Etc

Important Note:
 These preliminary conceptual plans are subject to review and comments of the specialist - Arch. and Marina - sub consultants of ABA Ltd.



ARUN BUCH & ASSOCIATES LTD
 CONSULTING CIVIL & STRUCTURAL ENGINEERS
 In association with
 Env. Assoc. ENCO



**MARINA , BOAT REPAIR, W. PARK
 2-FALLS RESTAURANT VIEW**

**ABA/TMC
 116**

31st AUG. 2020