This Diver Safety Plan provides the information required to assist in dive planning and operations to enhance diver safety and wellbeing.

Diver Safety Plan – As Constructed

Author		Andrew Kikeros	**Email**	akikeros@subcon.com		
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1 Introduction

The Gold Coast Dive Attraction includes a purpose-built reef, four moorings and four navigational markers. The purpose-built reef comprises of a series nine buoyant sculptural Reef Flutes gravity anchored to the sea floor by Reef Foundations. The buoyant or floating reef design is a first of its kind.

The reef is designed to attract and sustain a rich diversity of fish and other marine life while offering an exciting and unique diving experience for Resort, Open Water and Advanced Open Water divers.

The design of the Dive Attraction has been developed in consultation with a local dive industry reference group.

This Diver Safety Plan provides an overview of the Gold Coast Dive Attraction. The objective of the Diver Safety Plan is to assist in dive planning and operations and enhance diver safety and wellbeing.

It should be noted that the Diver Safety Plan is limited to providing background information around the design of the dive attraction at the time of writing. As with all recreational diving, there are a large range of hazards to which divers may be exposed to such as environmental, equipment, marine life and human factors which are not addressed in this Diver Safety Plan.

Ultimately recreational divers are responsible for their own safety. Commercial dive operators should undertake their own due diligence to assess the site's conditions, safety and suitability for their dive group.

The Diver Safety Plan will be revised by the City / suitably qualified persons following a post-installation testing period. Post-installation testing is proposed to be undertaken over a period of 6-8 months and include diving under a range of conditions, including up to the maximum "diveable day" conditions (refer section 3.1.3).

Learnings from the testing period will be used to inform revision of the Diver Safety Plan and development of permitting conditions for entry to / use of the dive attraction. The dive attraction will not open to the general public until the testing period and all required certifications are complete, including revision and appropriate sign-off of the Diver Safety Plan.

2 Site location and accessibility

The Gold Coast Dive Attraction is located approximately 3.5 kilometres south-east of the Gold Coast Seaway and 2.5 kilometres offshore from Main Beach, at a depth of approximately 31 metres at the highest astronomical tide (HAT).

The Dive Precinct comprises of a 500m x 500m management area. Four navigational markers positioned at the four corners of the precinct delineate the boundary and serve as a notice to marine traffic.

The Dive Attraction is positioned approximately in the centre of the Dive Precinct.

Overwater access to the Dive Attraction is available through the existing entrance of the Gold Coast Seaway. Overwater access can also be made from the Tweed River entrance approximately 25 kilometres south of the site and the Port of Brisbane approximately 70 kilometres to the north.

Four moorings provide access for dive vessels and maintenance operations.

Figure 2-1: Purpose-Built Dive Attraction Location

3 Reef design

The purpose-built reef consists of nine Reef Structures. Each Reef Structure comprises of a floating Reef Flute, Reef Tether and Reef Foundation. Refer Figure 3-1.

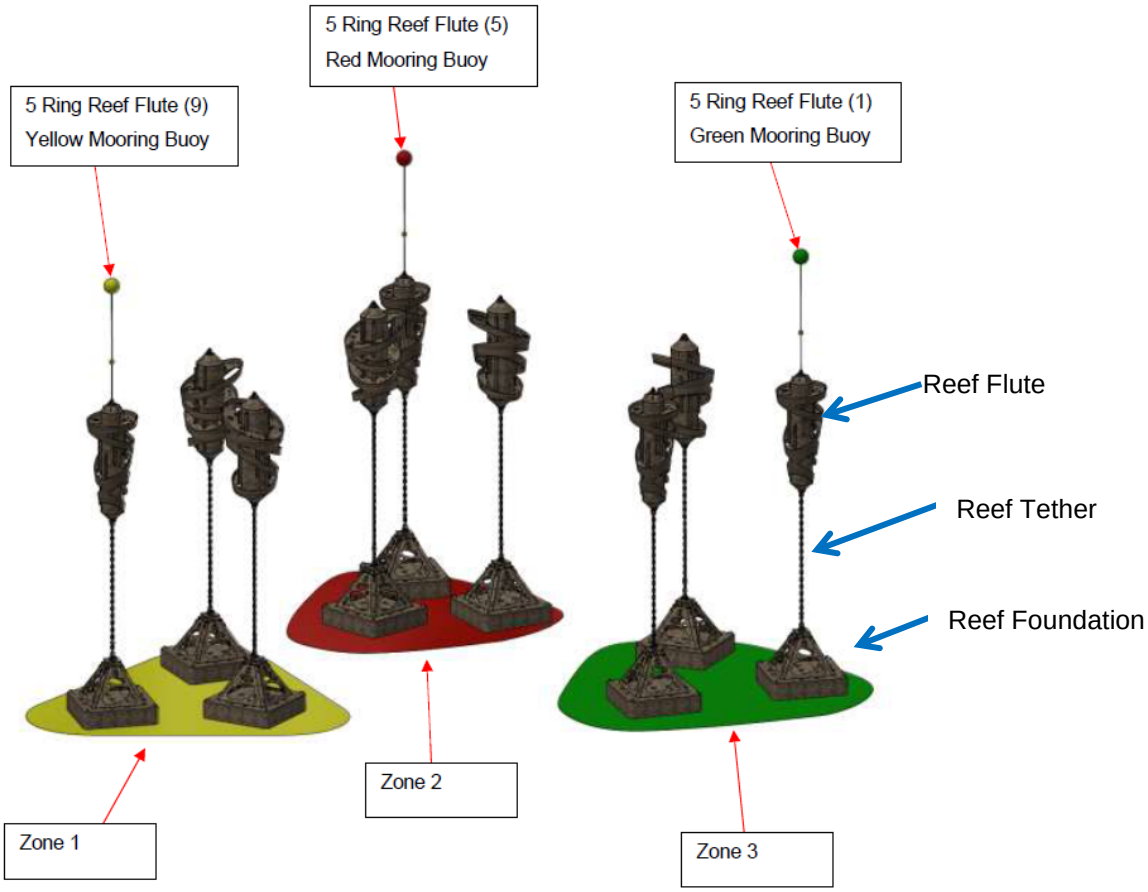


Figure 3-1: Gold Coast Dive Attraction Nine Reef Structures

3.1 Reef Flutes

The Reef Flute is the uppermost component of each Reef Structure. The Reef Flutes are positioned as high as permittable in the water column to take advantage of improved visibility conditions closer to the surface and maximise access for Resort divers.

Each Reef Flute is made of steel and features:

- A large cylinder buoyant tank that allows the Reef Flute to float. Anode rods are attached to the buoyant tank to minimise corrosion overtime.
- A series of ring plates wrapping around the buoyant tank. The ring plates feature holes and standpipes to promote marine growth, prevent silt build-up and allow light to penetrate.
- Four D-Ring connection points on the top ring of each Reef Flute. The D-Rings are sized to suit a standard sized 60mm carabineer and allow divers to connect a temporary dive line from the moored vessel to the Reef Flute as well as between Reef Flutes to assist with wayfinding. Due to the movement of the Reef Flutes in the water, dive lines must be removed at the completion of each dive.
- An identification number plate to assist divers in wayfinding.

There are two different Reef Flute designs:

- 4 Ring Reef Flute (five total); and
- 5 Ring Reef Flute with landing platform (four total).

Three of the 5 Ring Reef Flutes have a mooring line attached, allowing divers to descend directly onto the landing platform.

The Reef Flutes have been designed considering six divers on or around the structure at any one time.

3.1.1 4 Ring Reef Flute

The 4 Ring Reef Flute features four ring plates wrapping around the central buoyant tank. The 4 Ring Reef Flute is approximately 4 metres wide and 7 metres in length. The 4 Ring Reef Flute is the wider of the two Reef Flute designs.

Large voids (at least 750mm wide) provide vertical swim-through opportunities for certified divers.

Figure 3-2: Example swim through on 4 Ring Reef Flute

3.1.2 5 Ring Reef Flute with landing platform

The 5 Ring Reef Flute features five ring plates wrapping around the central buoyant tank. The 5 Ring Reef Flute has been specifically designed to cater for Resort Divers with the top ring plate almost horizontal to provide a large landing platform. Handrails attached to the top of the buoyant tank are provided for divers to hold onto while stopping on the landing platform.

Each 5 Ring Reef Flute is approximately 3.3 metres wide and 8 metres in length. The 5 Ring Reef Flute is the slenderer of the two Reef Flute designs.

The landing platform is approximately 3.3 metres wide, allowing up to six divers to comfortably rest on the landing platform at any one time.

Three of the four 5 Ring Reef Flutes include a swing mooring attached to the top of the buoyant tank. This allows divers to descend from the mooring onto the landing platform, following the mooring line. Further details on the moorings are provided in Section 4.

Figure 3-3 and Figure 3-4 below are images provided from the commissioning dive showing that 6 divers will be able to comfortably fit on top of the Reef Flute.

Figure 3-3: 5 Ring Reef Flute Landing Platform

Figure 3-4: 5 Ring Reef Flute Landing Platform

3.1.3 Reef Flute movement

Detailed hydrodynamic analysis has been undertaken to anticipate the movement or "sway" of a Reef Flute (attached to a Reef Tether) in the water as a result of wave forces.

The "diveable day" wave criteria are deemed to be the most severe weather that divers will still be able to access and dive the Reef Structures. This condition is defined in Table 3-1 of the IFC Design Submission Stability Report and is shown in Table 3-1 below:

Table 3-1: Diveable day weather criteria

Wave Criteria	Water Depth (m)	H_s (m)	H_{max} (m)	T_P (s)	Jointly Occurring Current Speed (m/s)
Diveable day [Ref B3]	29.1	1.1	2	9.5	0.5

On a standard operating "diveable day", Reef Flutes without moorings (2, 3, 4, 6. 7 and 8) could theoretically move a maximum distance of 0.27 metres over a period of 9.5 seconds. This movement is considered negligible, and it has been assessed that it will not pose a risk to diver safety.

The Reef Flutes with moorings attached (1, 5 and 9) could theoretically move up to 1.6m over the same period, although the analysis was performed assuming a 25m long vessel. The dive attraction limits the maximum vessel size for these moorings to 14m, therefore movement is expected to be much lower. Regardless, divers should always have awareness of their positioning and maintain appropriate distance from the Reef Flute and Tether including avoiding touching the Reef Tether and connectors. It is recommended that only experienced divers access the Dive Attraction in weather conditions approaching the maximum diveable day.

3.2 Reef Tethers

The Reef Tether connects the Reef Flute to the Reef Foundation. Each Reef Tether is made of large steel stud link chain (60mm), a swivel and shackles. The length of Reef Tethers is approximately:

- 9.3 metres for the 5 Ring Reef Flute structures
- 10.3 metres for the 4 Ring Reef Flute structures.

As the Reef Tethers are below 18 metres from the water's surface, only Advanced Open Water divers can descend to the depth of the Reef Tethers.

Advanced divers may use the Reef Tether as a visual guide to descend or ascend along the Reef Structure.

While movement of the Reef Tether is expected to be minimal in diveable conditions, divers should avoid touching the Reef Tether to mitigate potential pinch point injury or risk of finger / hand entrapment.

3.3 Reef Foundations

The pyramid shaped Reef Foundations gravity anchor each Reef Structure to the sea floor, providing stability of the floating Reef Flute above. The Reef Foundations are only accessible to divers with Advanced Open Water certification.

Each Reef Foundation is approximately 4 metres wide by 4 metres high. They are predominately made of steel with a concrete base and steel skirt.

Each Reef Foundation features:

- Large oval cut-outs approximately 1.0m high x 2.0m wide on each side, providing swim-through opportunities for Advanced Open Water divers
- Smaller holes to promote marine growth
- Four D-ring connection points, providing the opportunity for connection lines to be installed between Reef Foundations
- An identification number plate to assist divers in wayfinding.

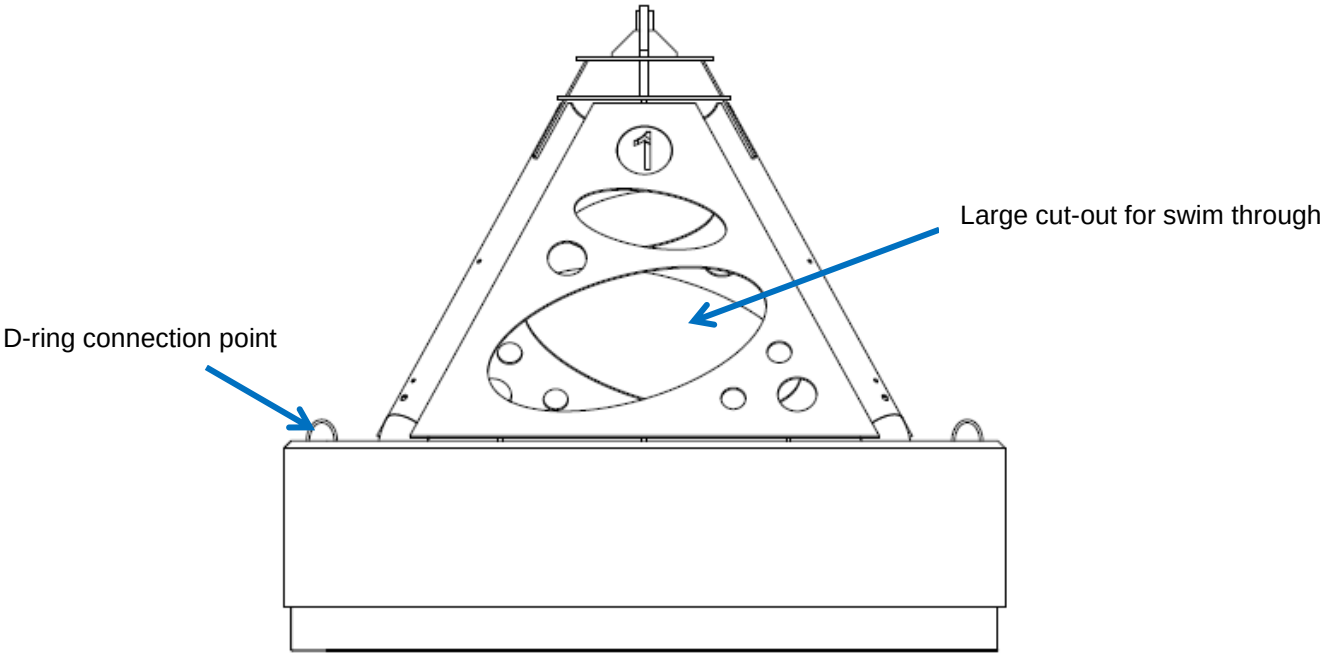


Figure 3-5: Reef Foundation Side View

4 Moorings

Four moorings provide access for dive vessels and maintenance operations. The moorings include:

- Three ‘Reef Flute moorings’, each attached to a 5 Ring Reef Flute (one in each dive zone). These will be connected to Reef Flutes 1, 5 and 9
- One ‘Outer mooring’ gravity anchored to the sea floor.

At the time of writing this report, the City was investigating options for establishing a booking / permitting system for the moorings.

Refer to APPENDIX C:for the Dive Mooring General Arrangement. The mooring design is included in the As Constructed drawing package provided.

4.1 Reef Flute moorings

The three moorings attached to the 5 Ring Reef Flutes provide the most direct access to the Reef, with a maximum swim distance of 30 metres.

The design criteria / features of the Reef Flute moorings include:

- 24 knots maximum wind criteria
- Maximum wave height of H_s=1.1 metres
- Maximum swing radius of 10 metres
- Maximum vessel length capacity of 14 metres
- 4 metre rope line with attached to the upper section of the mooring for securing the vessel bow or stern quarter cleats
- Subsurface marker situated at 5 metres from the surface at LAT. Divers will be able to use this subsurface marker as a guide for decompression on ascent. However due to tide variations, divers should rely on their own depth gauge to confirm appropriate decompression depth.

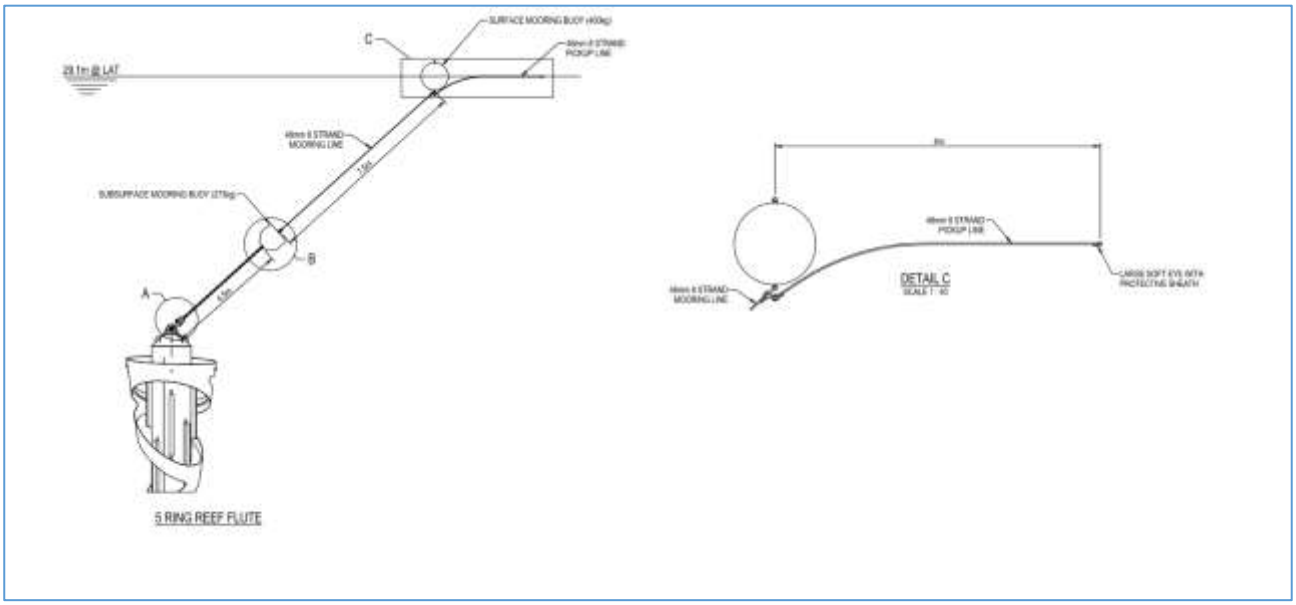


Figure 4-1: Reef Flute Dive Mooring (3off on Reef Flutes 1, 5 and 9)

4.2 Outer mooring

The outer mooring is a standard swing mooring gravity anchored to the sea floor with a large concrete block. It has been positioned to the north of the Reef to provide access in a variety of wind conditions, and push vessels closer to the Reef during northerly conditions predominate in the summertime.

The design criteria / features of the outer mooring are:

- Gravity anchor mooring with 1:5:1 scope
- 24 knots maximum wind criteria
- Maximum wave height of H_s=1.1 metres
- Maximum swing radius of 43 metres
- Maximum vessel length capacity of 25 metres, providing a maximum swim distance of 111 metres (43m + 43m + 25m) to the nearest Reef Flute
- Installed 45 metres away from the nearest Reef Structure to avoid the potential of the mooring chain tangling with a Reef Structure.

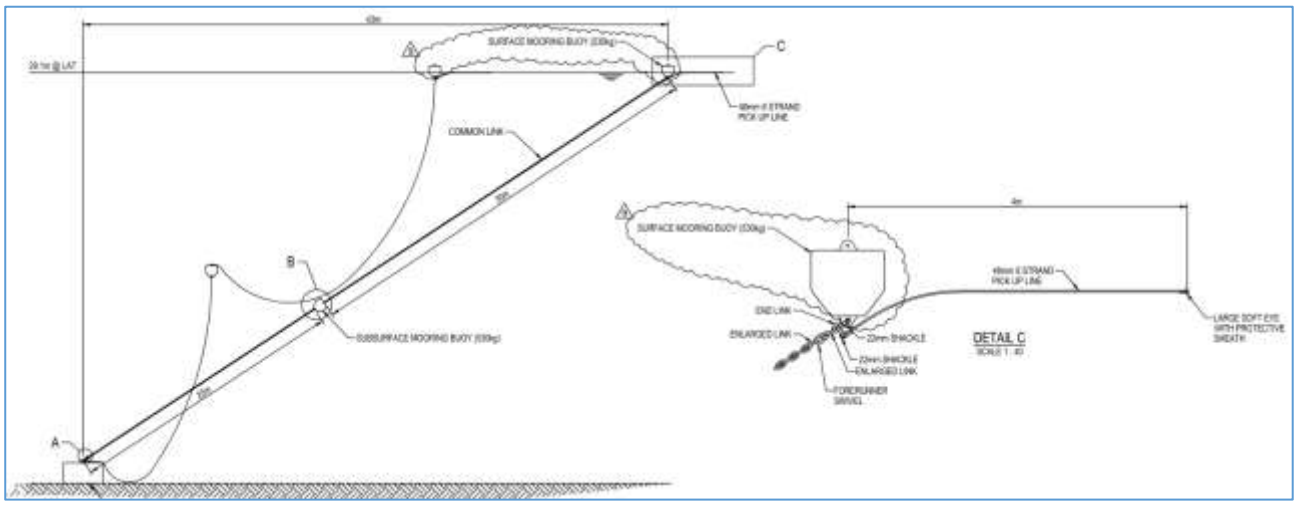


Figure 4-2: Outer Dive Mooring

5 Navigational markers

Four yellow navigational markers positioned at the four corners of the Dive Precinct delineate the management area, serve as a notice to marine traffic and advise of any specific restrictions for the precinct. Poseidon 1750 navigation markers made by Sealite are used on this project. They sit approximately 2.6m free of the waterline and are topped with solar powered lanterns for visibility at night.

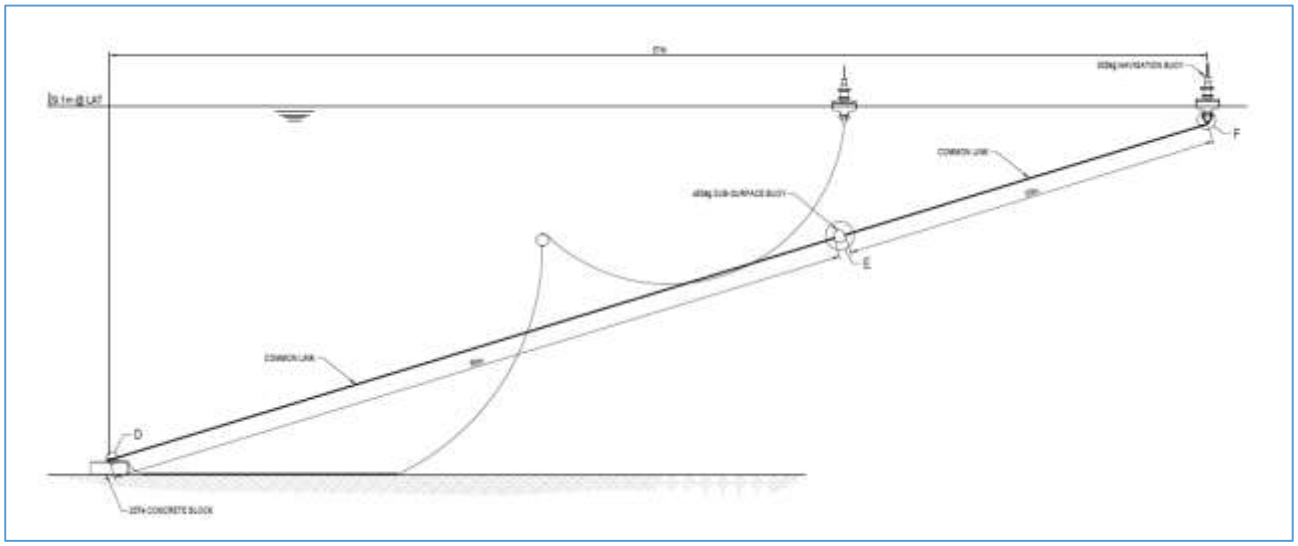


Figure 5-1: Navigation Marker - Typical layout

6 Reef elevation and diver depths

The Dive Precinct has a maximum depth of approximately 31 metres at the highest astronomical tide (HAT).

All the Reef Structures stand approximately 20 metres tall; elevated to the highest permittable point in the water column to allow Resort Divers to experience as much of the Reef Flute as possible, all year round.

Figure 6-1 explains different water depths shown in Table 6-1

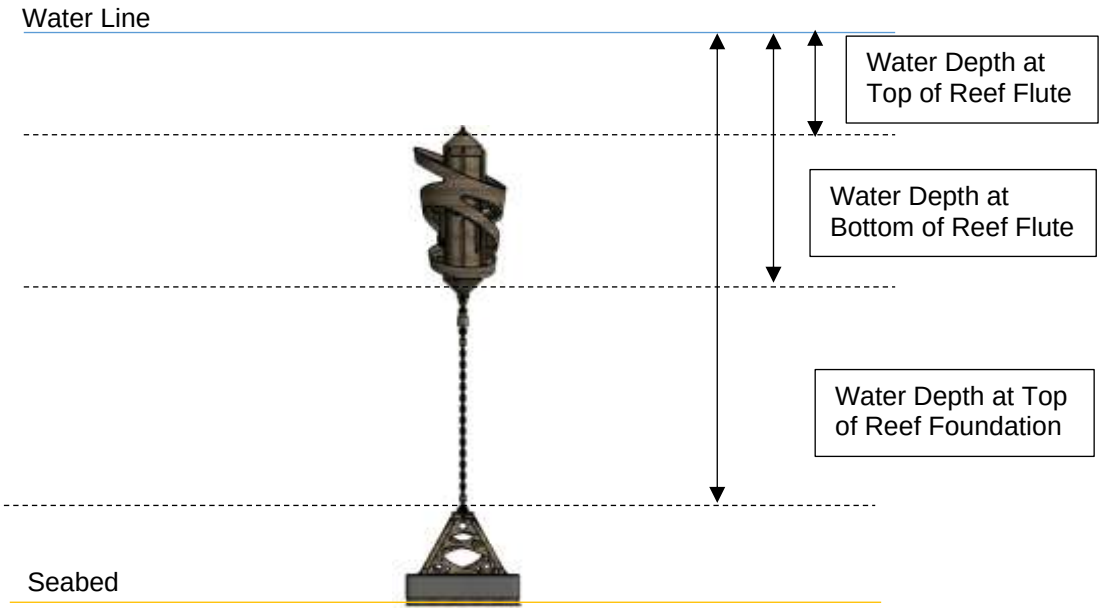


Figure 6-1: Water Depths Representation

Table 6-1 below provides a summary of the water depths of the Reef Structures relative to lowest astronomical tide (LAT) and highest astronomical tide (HAT).

Table 6-1: Reef Structure Depths

Reef Flute Type	Datum	Water Depth at Top of Reef Flute (m)	Water Depth at Bottom of Reef Flute (m)	Water Depth at Top of Reef Foundation (m)
5 Ring Reef Flute	LAT (29.1)	7.8	15.6	25.1
	HAT (31.01)	9.7	17.5	27.0
4 Ring Reef Flute	LAT (29.1)	7.5	14.6	25.1
	HAT (31.01)	9.4	16.5	27.0

7 Dive zones

The Dive Attraction has three dive zones, each zone having three Reef Structures with one Reef Mooring in each zone. The dive zones are spaced apart to mitigate the risk of moored vessels in each zone colliding. Refer to APPENDIX B: for the Field Layout of the Dive Attraction

Dive zone 1 is the western-most zone and features:

- One 4 Ring Reef Flute
- Two 5 Ring Reef Flutes with landing platforms, one with a mooring attached.

Dive zone 2 is the southern-most zone and features:

- Two 4 Ring Reef Flutes.
- One 5 Ring Reef Flute with a landing platform and mooring attached.

Dive zone 3 is the northern-most zone and features:

- Two 4 Ring Reef Flutes
- One 5 Ring Reef Flute with a landing platform and mooring attached.

The Reef Structures in each dive zone are spaced approximately 10 metres apart (centre to centre).

Each zone caters for Resort, Open Water and Advanced Open Water Divers. Dive zone 1, however, is more targeted at Resort divers as it includes two 5 Ring Reef Flutes with landing platforms for divers to be able to rest and hold onto the Reef. Divers should be aware that the distances between sones shown in Figure 7-1 below are indicative only and represent the minimum distances (i.e. distance from Reef 3 in Zone 1 to Reef 4 in Zone 2 is only 15m). Distances between other inter Zone Reef Assemblies or between Zone 1 and Zone 3 will be greater and this is represented best in Isometric view (Figure 7-2 below). The maximum horizontal swim distance between Reef Assemblies on the Dive Attraction would be between Reef 2 (Zone 1) and Reef 8 (Zone 3) as shown in Figure 7-3. Finally, divers of all experience levels should be mindful of the three dimensional nature of this Dive Attraction and so plan their total dive time and distance accounting for both depth and excursion from the vessel.

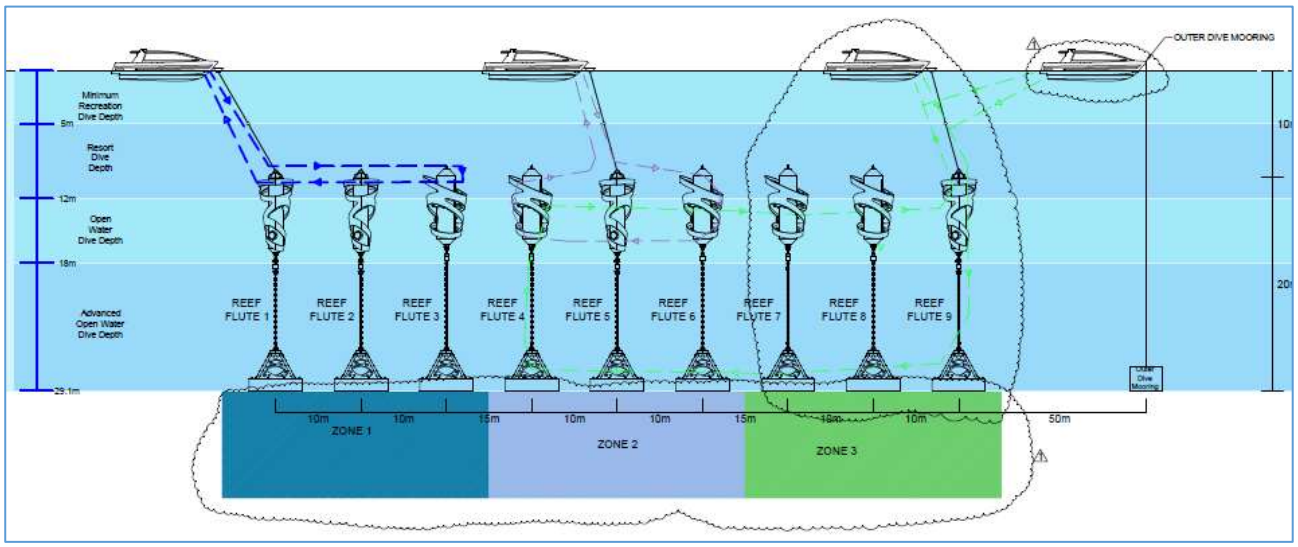


Figure 7-1: Dive Zones

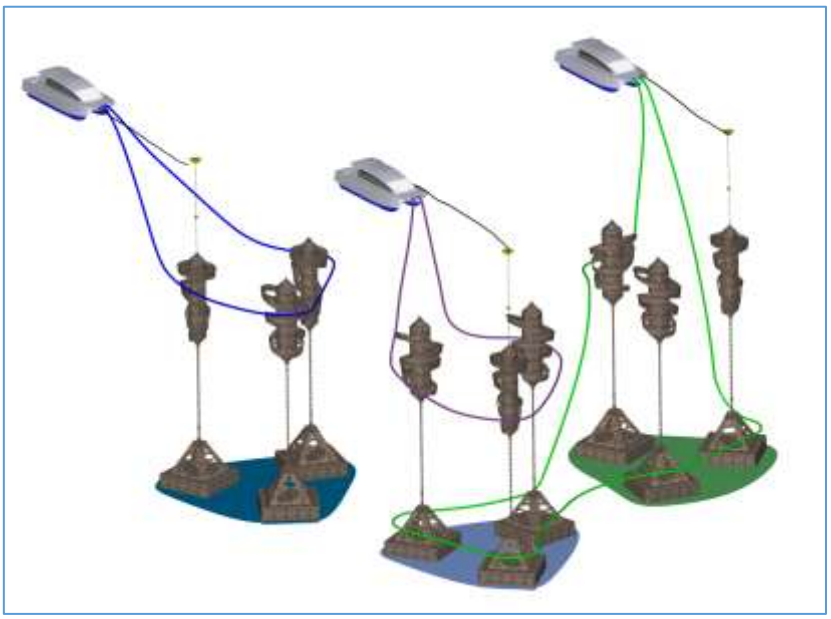


Figure 7-2: Example Dive Paths in Isometric View

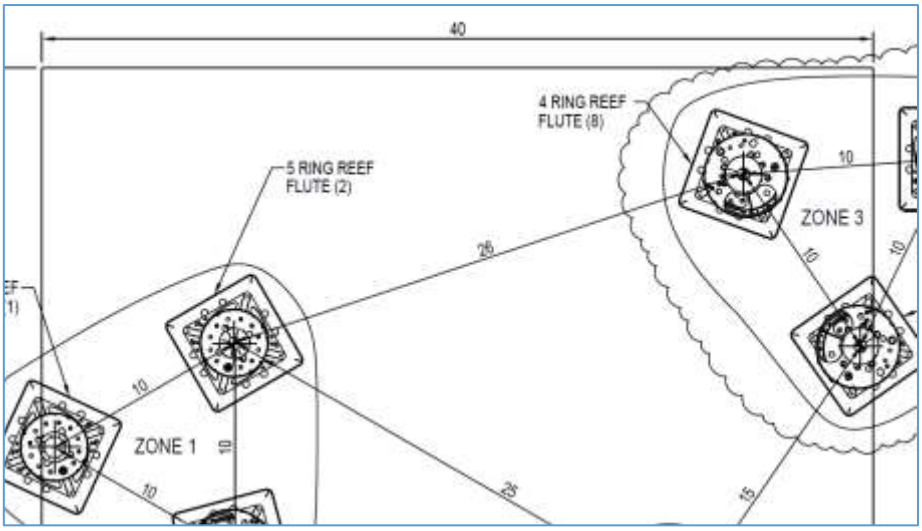


Figure 7-3: Maximum horizontal swim distance between Reef Assemblies

8 Example dive paths

8.1 Resort divers

A Resort diver may only dive under direct supervision of a certified professional to a maximum depth of 12 metres. Depth gauges should be used to monitor the distance between the diver and the water's surface.

It is anticipated that a Resort diver would enter the water from a vessel moored directly to a 5 Ring Reef Flute Mooring. From there, they can descend along the mooring line and follow their dive professional to the 5 Ring Reef Flute.

The dive professional has the option of running a dive line from their vessel to one of the Reef Flutes, as well as between Reef Flutes, noting each Reef Flute has four D Rings for dive lines to be attached.

Depending on the experience of the Resort diver, the diver may follow their instructor to experience one, two or three Reef Flutes within one dive zone. Due to the distance between dive zones, it is recommended that Resort divers only explore one dive zone in a single dive.

A Resort diver is to follow their dive professional back to their vessel to complete their dive. During ascent, divers may use the -5m marker buoy on the Reef Flute Dive Mooring line as a guide for their safety stop. It should be noted that the 5m marker buoy has been omitted from the Outer Dive Mooring as divers are likely to surface swim between the Outer Dive Mooring and the Dive Attraction

It should be noted that Zone 1 is more targeted to Resort divers given it has two landing platforms, however Resort divers are able to experience all three zones.

It is not advised that Resort divers use the Outer Mooring, given the longer swim distance to the Reef.

An example Resort dive path is shown in Figure 8-1 below, although the actual dive path is at the discretion of the dive instructor supervising the dive.

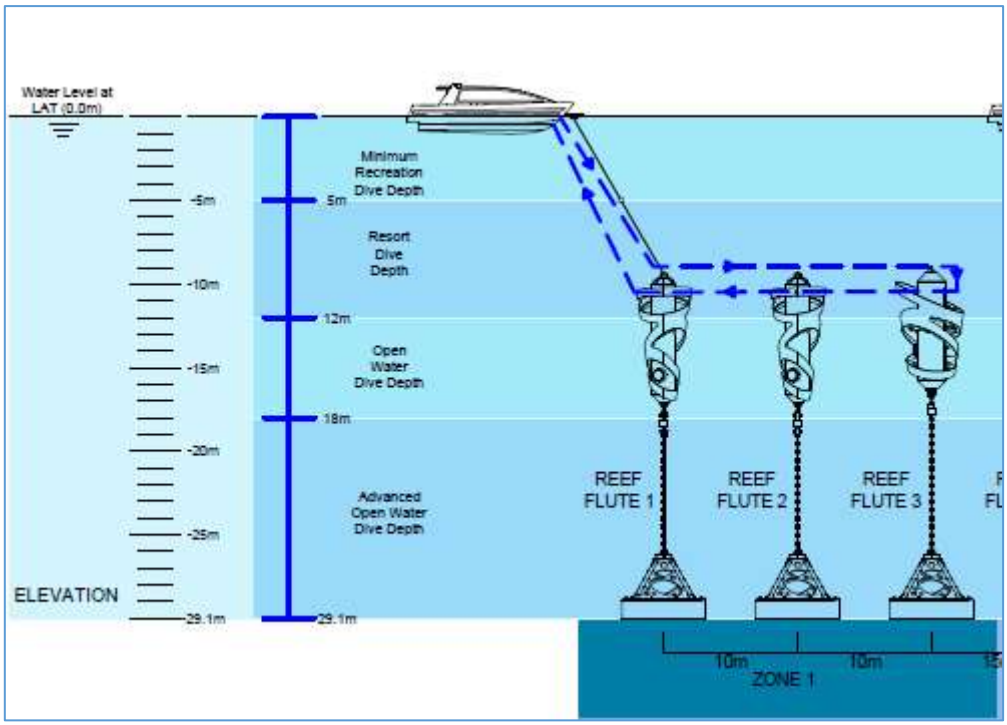


Figure 8-1: Example Resort Dive Path

8.2 Open Water divers

Certified Open Water divers can plan and execute dives with a certified buddy or dive professional to a maximum depth of 18 metres.

It is anticipated that an Open Water diver would enter the water from a vessel moored directly to a 5 Ring Reef Flute Mooring or the Outer Mooring. There is the option to run a dive line from the vessel to one of the Reef Flutes, as well as between Reef Flutes, noting each Reef Flute has four D Rings for dive lines to be attached.

The bottom of the Reef Flutes is approximately at the 18-metre depth limit (dependent on the tide – refer to Table 6-1). As such Open Water divers can experience the entirety of all Reef Flutes and use the bottom of the Reef Flutes as a guide to their maximum depth limit. Divers should, however, use their depth gauge to monitor the distance to the water's surface.

Depending on the experience level of the Open Water diver, it is expected that they could comfortably experience up to six Reef Flutes across two dive zones in a single dive. This includes the option for vertical swim-throughs with the 4 Ring Reef Flutes. Very experienced divers could experience all nine Reef Assemblies in the dive attraction in a single dive although this would involve a swim distance of approximately 120m or more if multiple depths were explored.

During ascent, divers may use the -5m marker buoy on the mooring line as a guide for their safety stop.

An example dive path is shown in Figure 8-2 below, however the actual dive path is at the discretion of the diver(s).

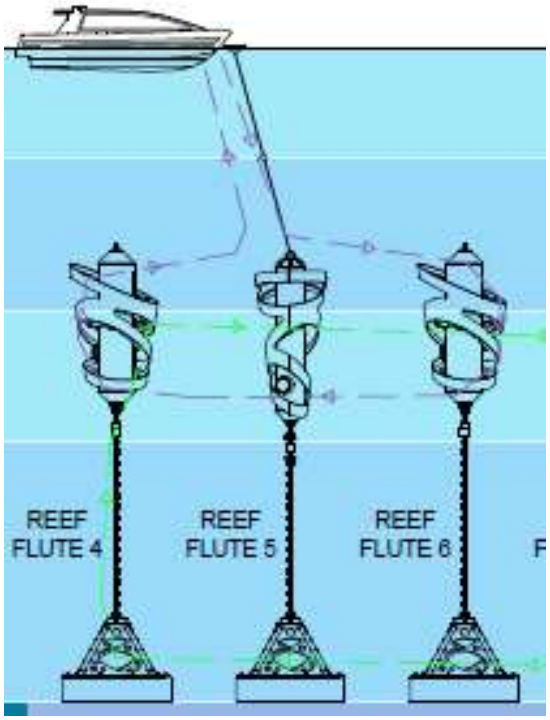


Figure 8-2: Example Open Water Diver Path

8.3 Advanced Open Water divers

Certified Advanced Open Water divers can plan and execute dives with a certified buddy or dive professional to a maximum depth of 30 metres. As the Dive Precinct has a maximum depth of approximately 31 metres HAT, Advanced Open Water divers can explore the entire Reef (Reef Flutes, Reef Tethers and Reef Foundations). This includes the option for vertical swim-throughs with the 4 Ring Reef Flutes and horizontal swim-throughs with the Reef Foundations.

Table 6-1 shows that the maximum water depth at the top of the Reef Flutes is 27 metres. As such, Advanced Open Water Divers can swim down to the Reef Foundations and use the seafloor as a guide to ensure they do not swim past their 30-metre limit. Divers should, however, use their depth gauge to monitor the distance to the water's surface.

There are four D-Ring attachments on each Reef Foundation (one per side), providing the opportunity for Advanced Open Water divers to run dive lines between Reef Foundations to assist with wayfinding.

Divers can use the Reef Tethers as a visual aid during descent and ascent. During ascent the divers may use the 5m marker buoy on the mooring line as a guide for their safety stop. It should be noted that there is no marker buoy on the Outer Dive Mooring.

Advanced Open Water divers should be aware that visibility at the lower depths of the site where the Reef Foundations are is often limited due to particulates in the water such as sand, sediment and weed. Divers should take extra caution and establish points of reference (such as the Reef Tether) during descent and ascent.

An example dive path is shown in Figure 8-3 below, however the actual dive path is at the discretion of the diver(s).

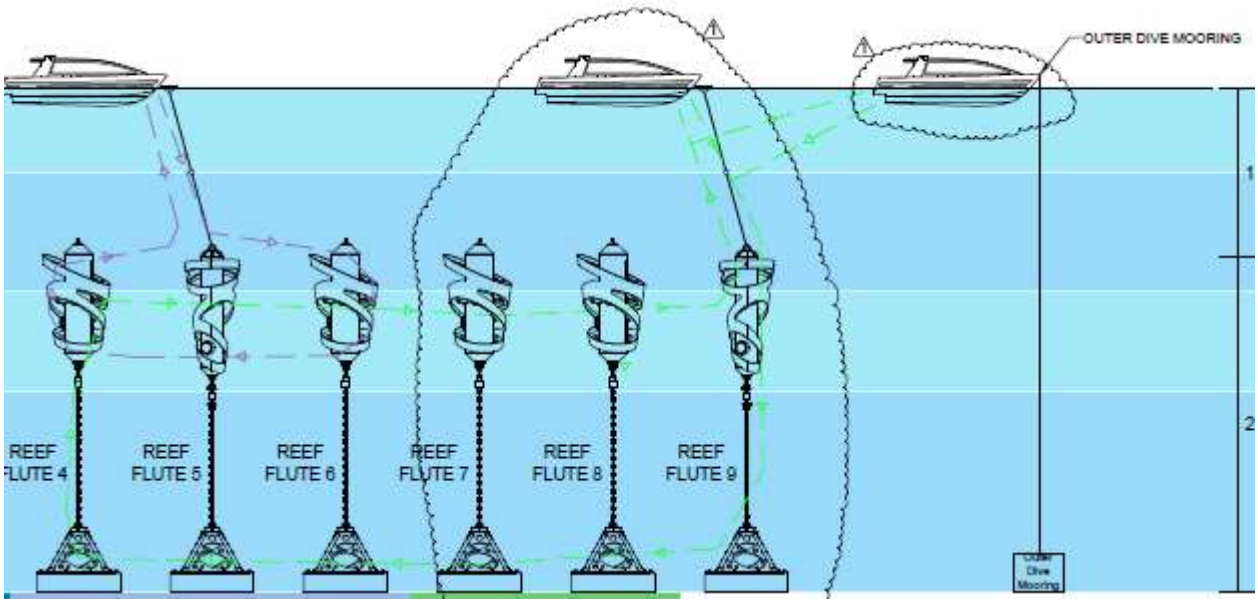
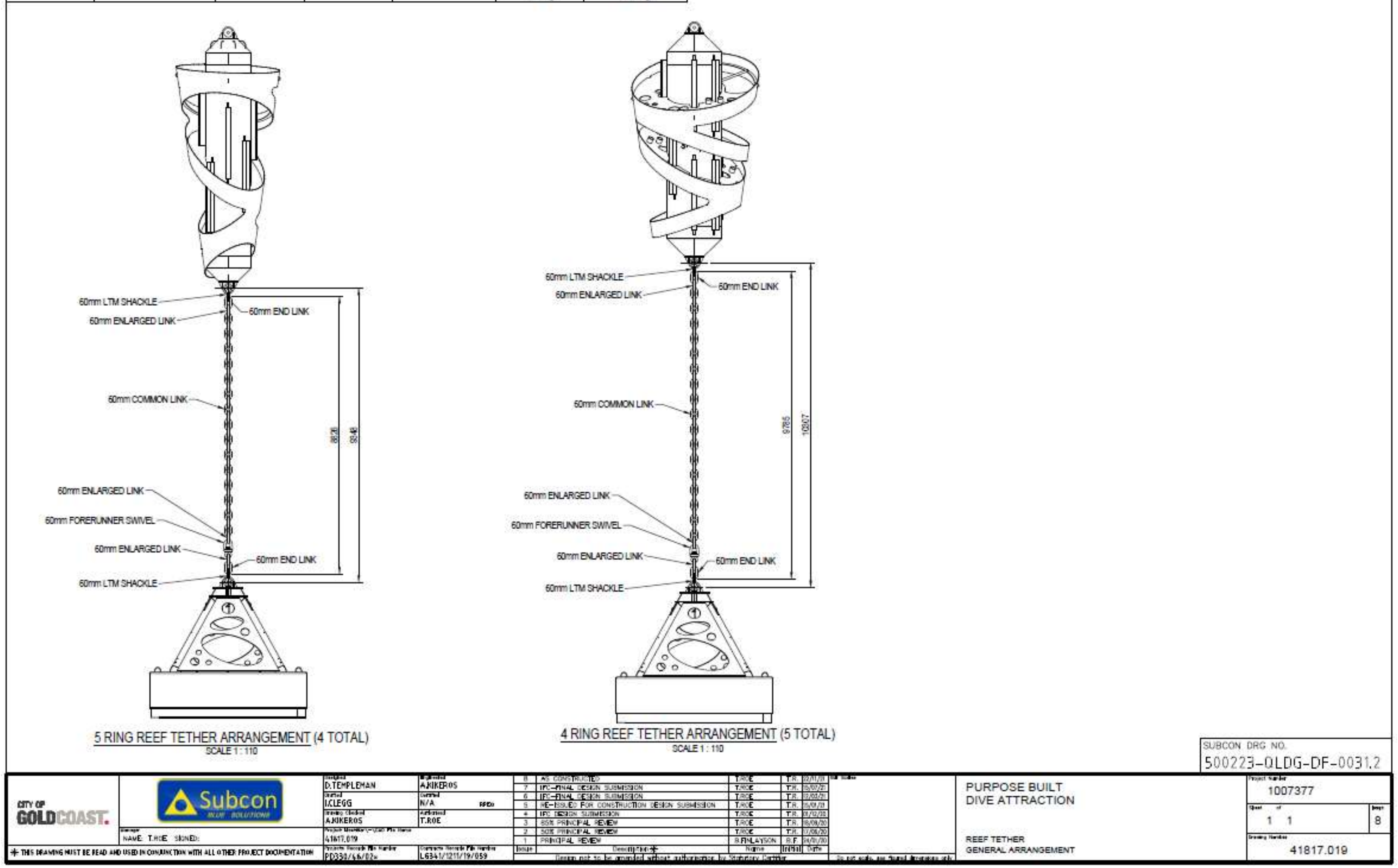


Figure 8-3: Example Advanced Diver Path

APPENDIX A: REEF FLUTE AND REEF FOUNDATION GENERAL ARRANGEMENTS

MTO						
#	DESCRIPTION	UNIT MASS	5 RING QTY	4 RING QTY	5 RING MASS	4 RING MASS
1	60mm LTM SHACKLE	75 kg	2	2	150 kg	150 kg
2	END LINK	27 kg	2	2	54 kg	54 kg
3	ENLARGED LINK	25 kg	3	3	75 kg	75 kg
4	COMMON LINK	19 kg	29	33	551 kg	627 kg
5	FORERUNNER SWIVEL	90 kg	1	1	90 kg	90 kg
					920 kg	996 kg


NOTES:
1. ALL DIMENSIONS ARE IN MILLIMETRES UNO.
2. ALL SHACKLE THREADS DAMAGED OR WELDED AFTER NUT INSTALLED TO PREVENT REMOVAL.
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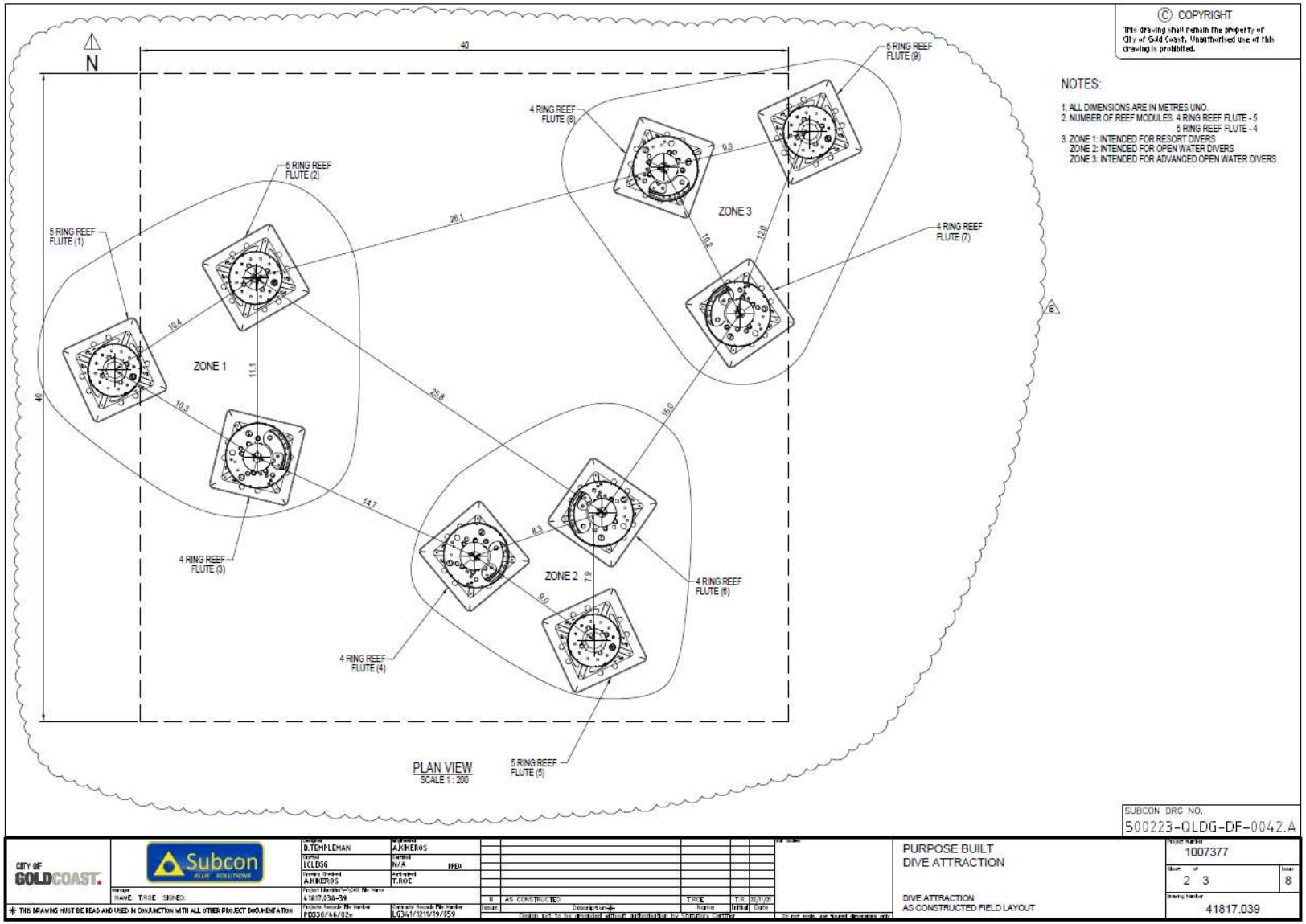
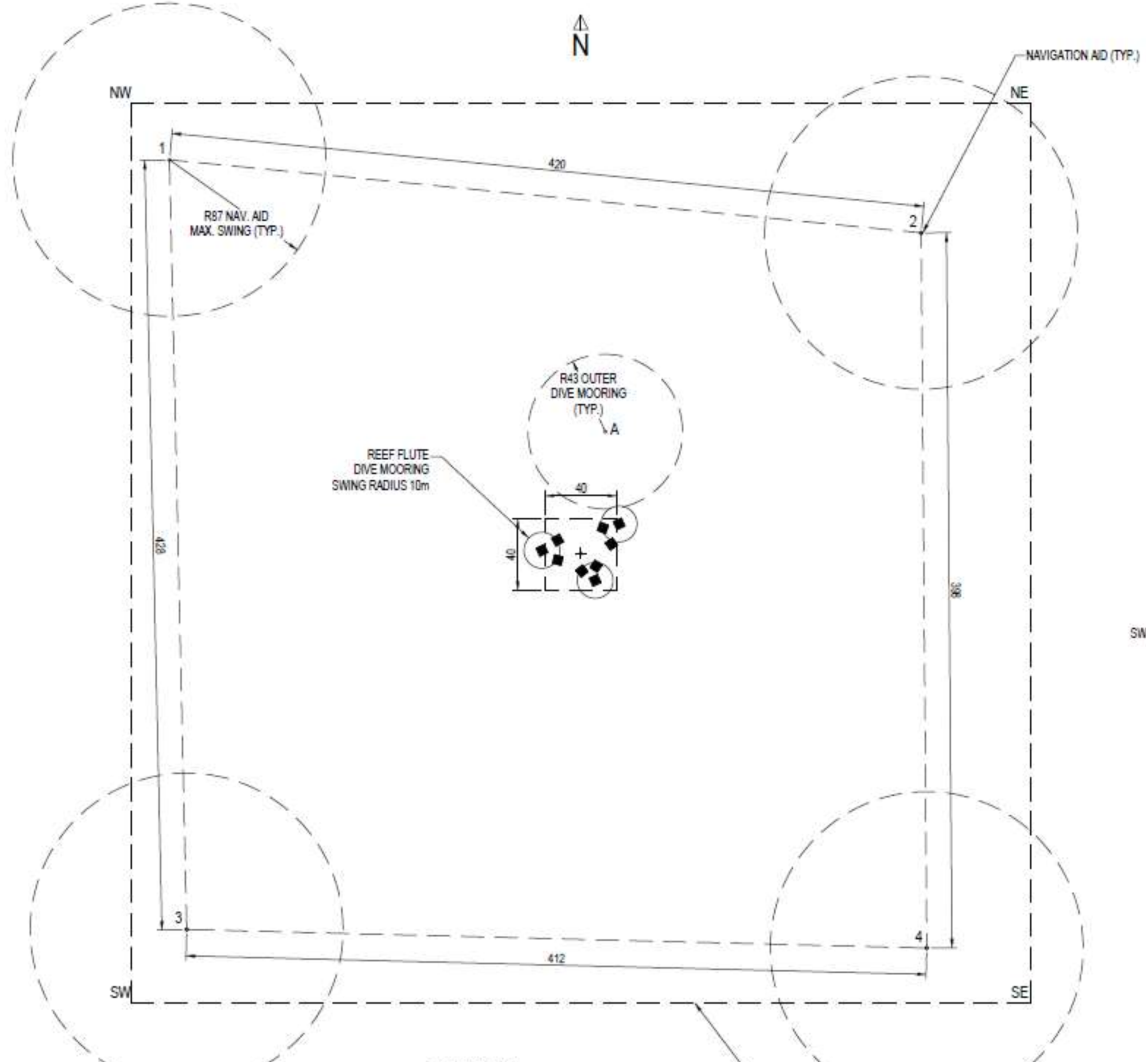
60mm LTM SHACKLE
60mm ENLARGED LINK
60mm END LINK
60mm COMMON LINK
60mm FORERUNNER SWIVEL
5 RING REEF TETHER ARRANGEMENT (4 TOTAL)
SCALE 1 : 110
4 RING REEF TETHER ARRANGEMENT (5 TOTAL)
SCALE 1 : 110
SUBCON DRG NO.
500223-QLDG-DF-0031.2
PURPOSE BUILT
DIVE ATTRACTION
REEF TETHER
GENERAL ARRANGEMENT
1007377
41817.019
THIS DRAWING MUST BE READ AND USED IN CONJUNCTION WITH ALL OTHER PROJECT DOCUMENTATION

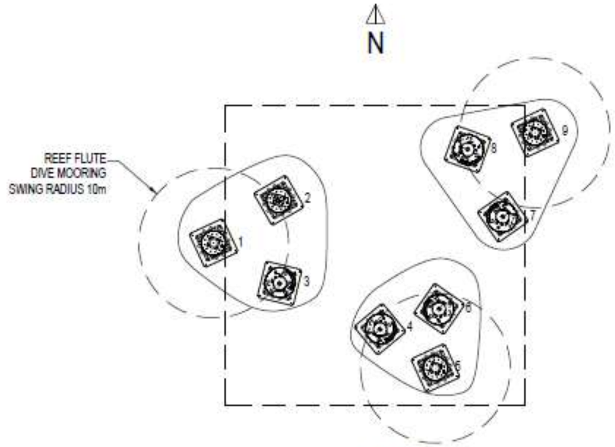
APPENDIX B: PURPOSE-BUILT DIVE ATTRACTION FIELD LAYOUT





PLAN VIEW
SCALE 1 : 2500

LOCATION	EASTING	NORTHING	LONGITUDE	LATITUDE
CENTRE POINT	544770	6906960	153 27.310 E	27 57.700 S
5 RING REEF FLUTE (1)	544748.4	6906961.7	153 27.297 E	27 57.699 S
5 RING REEF FLUTE (2)	5447571	6906967.4	153 27.303 E	27 57.696 S
4 RING REEF FLUTE (3)	544757.2	6906956.3	153 27.303 E	27 57.702 S
4 RING REEF FLUTE (4)	544770.6	6906950.2	153 27.311 E	27 57.706 S
5 RING REEF FLUTE (5)	544778.0	6906945.0	153 27.315 E	27 57.708 S
4 RING REEF FLUTE (6)	544778.5	6906952.9	153 27.316 E	27 57.704 S
4 RING REEF FLUTE (7)	544787.0	6906965.2	153 27.321 E	27 57.697 S
4 RING REEF FLUTE (8)	544782.3	6906974.2	153 27.318 E	27 57.693 S
5 RING REEF FLUTE (9)	544790.5	6906974.9	153 27.323 E	27 57.692 S
OUTER DIVE MOORING (A)	544783.6	6907027.7	153 27.319 E	27 57.664 S
NAVIGATION AID (1)	544541.2	6907178.8	153 27.170 E	27 57.582 S
NAVIGATION AID (2)	544959.3	6907138.2	153 27.426 E	27 57.603 S
NAVIGATION AID (3)	544550.8	6906750.9	153 27.177 E	27 57.814 S
NAVIGATION AID (4)	544962.4	6906740.6	153 27.428 E	27 57.819 S
DIVE PRECINCT (NW)	544520	6907210	153 27.157 E	27 57.565 S
DIVE PRECINCT (NE)	545020	6907210	153 27.462 E	27 57.564 S
DIVE PRECINCT (SW)	544520	6906710	153 27.159 E	27 57.836 S
DIVE PRECINCT (SE)	545020	6906710	153 27.463 E	27 57.835 S



PLAN VIEW
SCALE 1 : 600

SUBCON DRG NO.
500223-QLDG-DF-0042.A

CITY OF GOLDCOAST. | Subcon BLUE SOLUTIONS

Designed: D.TEMPLEMAN	Engineered: A.KIKEROS	
Drafted: LCLEG6	Certified: N/A	RPEQ
Drawing Checked: A.KIKEROS	Authorised: T.ROE	
Manager NAME: T.ROE SIGNED:	Project Identifier—CAD File Name: 41817.038-39	
Projects Records File Number: PD330/46/02x	Contracts Records File Number: LG341/1211/19/059	

Issue	Description	Name	Initial	Date
B	AS CONSTRUCTED	T.ROE	T.R.	22/11/21

Design not to be amended without authorisation by Statutory Certifier

Do not scale, use figured dimensions only

✱ THIS DRAWING MUST BE READ AND USED IN CONJUNCTION WITH ALL OTHER PROJECT DOCUMENTATION

PURPOSE BUILT
DIVE ATTRACTION

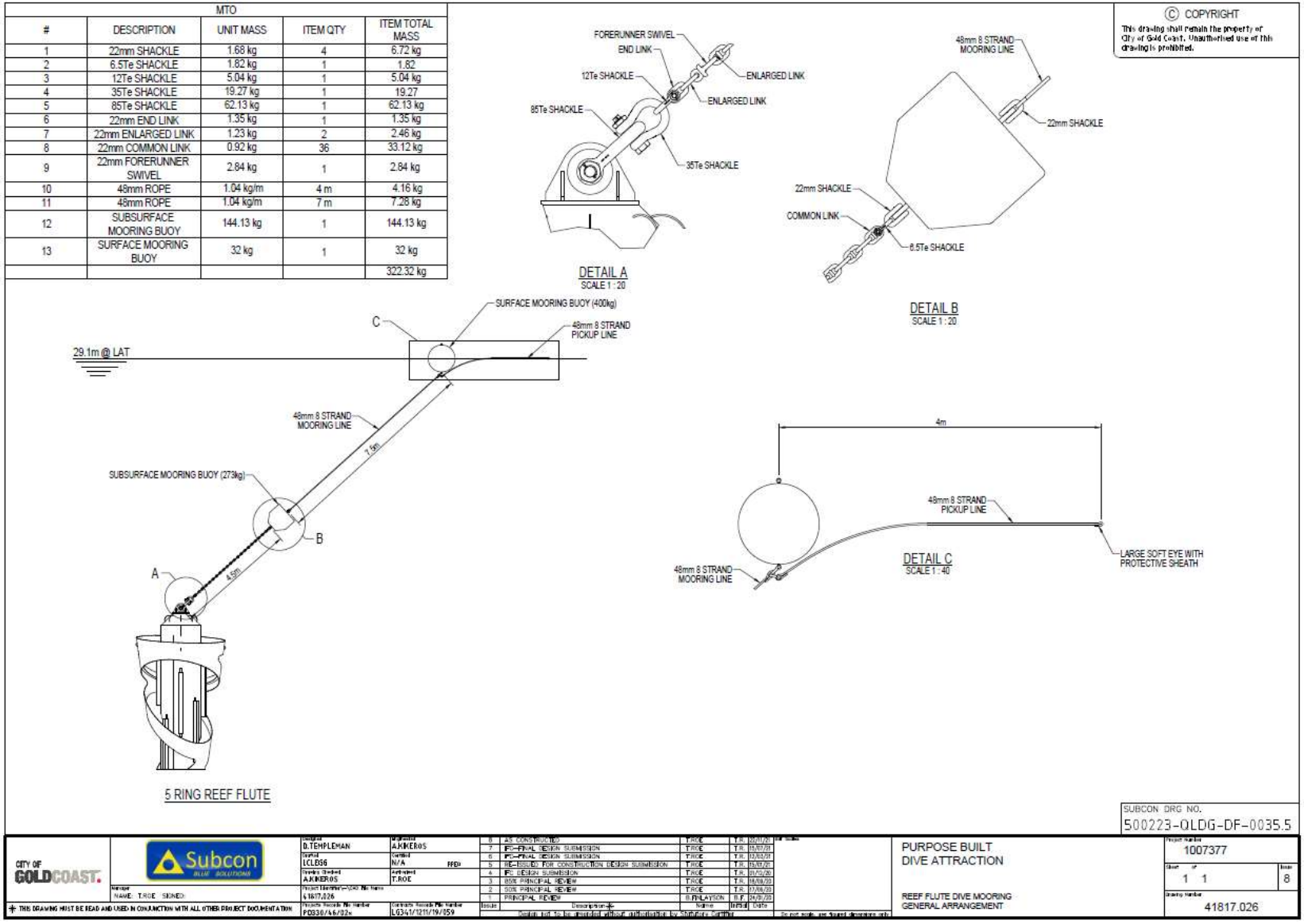
DIVE ATTRACTION
AS CONSTRUCTED FIELD LAYOUT

Project Number: 1007377
Sheet 1 of 3 | Issue 8
Drawing Number: 41817.038

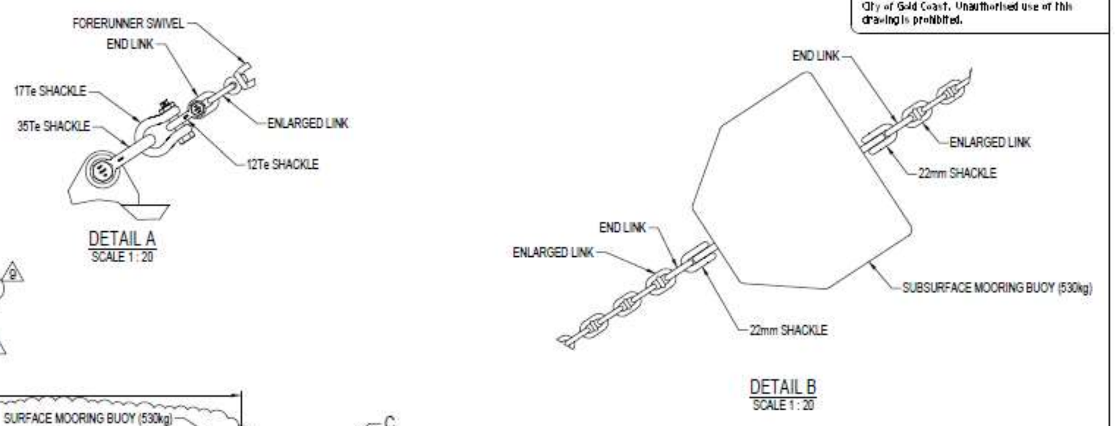
APPENDIX C: DIVE AND OUTER MOORING GENERAL ARRANGEMENTS

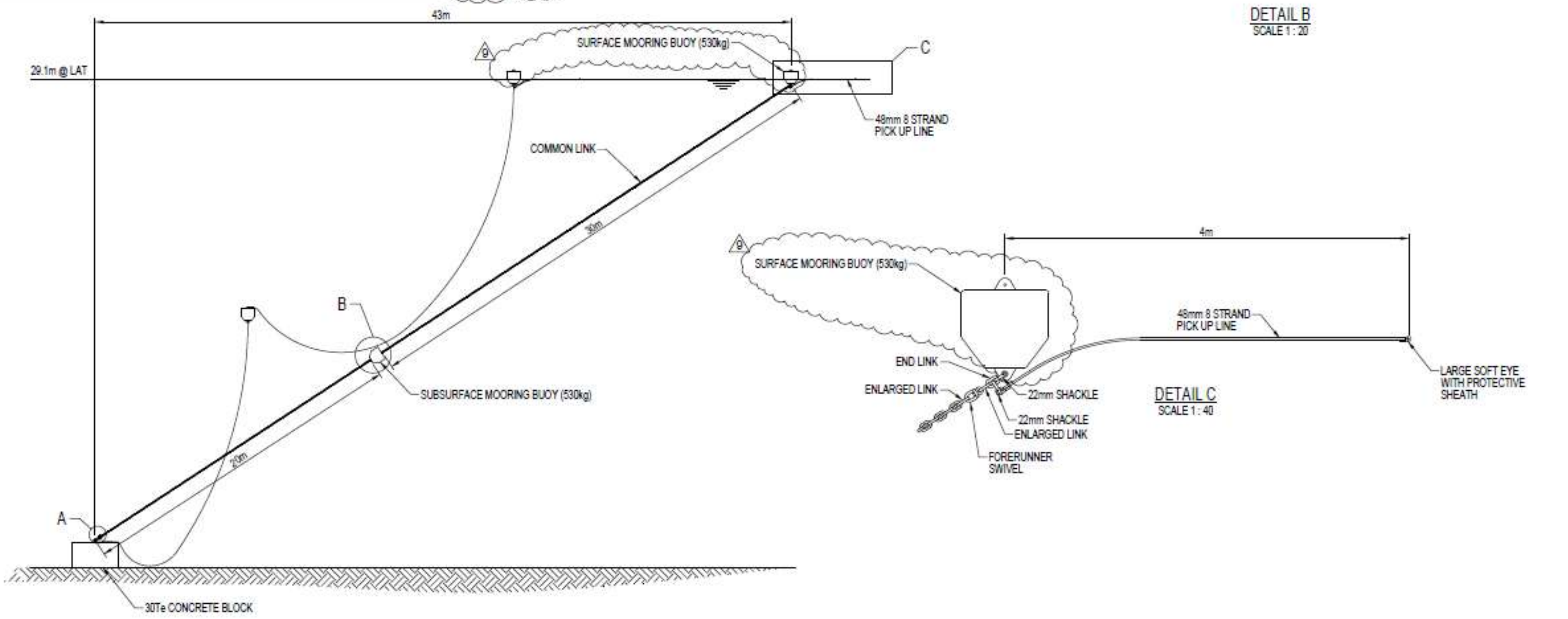
MTO

#	DESCRIPTION	UNIT MASS	ITEM QTY	ITEM TOTAL MASS
1	22mm SHACKLE	1.68 kg	4	6.72 kg
2	6.5Te SHACKLE	1.82 kg	1	1.82
3	12Te SHACKLE	5.04 kg	1	5.04 kg
4	35Te SHACKLE	19.27 kg	1	19.27
5	85Te SHACKLE	62.13 kg	1	62.13 kg
6	22mm END LINK	1.35 kg	1	1.35 kg
7	22mm ENLARGED LINK	1.23 kg	2	2.46 kg
8	22mm COMMON LINK	0.92 kg	36	33.12 kg
9	22mm FORERUNNER SWIVEL	2.84 kg	1	2.84 kg
10	48mm ROPE	1.04 kg/m	4 m	4.16 kg
11	48mm ROPE	1.04 kg/m	7 m	7.28 kg
12	SUBSURFACE MOORING BUOY	144.13 kg	1	144.13 kg
13	SURFACE MOORING BUOY	32 kg	1	32 kg
				322.32 kg



MTO				
#	DESCRIPTION	UNIT MASS	ITEM QTY	ITEM TOTAL MASS
1	22mm SHACKLE	1.68 kg	4	6.72 kg
2	12Te SHACKLE	5.03 kg	1	5.03 kg
3	17Te SHACKLE	8.43 kg	1	8.43 kg
4	35Te SHACKLE	19.27 kg	1	19.27 kg
5	22mm END LINK	1.35 kg	4	5.4 kg
6	22mm ENLARGED LINK	1.23 kg	6	7.38 kg
7	22mm COMMON LINK (20m CHAIN)	0.92 kg	216	198.72 kg
8	22mm COMMON LINK (30m CHAIN)	0.92 kg	332	305.44 kg
9	22mm FORERUNNER SWIVEL	2.84 kg	2	5.68 kg
10	48mm ROPE	1.04 kg/m	4 m	4.16 kg
11	SUBSURFACE MOORING BUOY	216.13 kg	1	216.13 kg
12	SURFACE MOORING BUOY	216.13 kg	1	216.13 kg
13	CONCRETE BLOCK	30000 kg		30000 kg
			TOTAL	30998.49 kg





SUBCON DRG NO. 500223-QLDG-DF-0036.5

Designed: D.TEMPLEMAN	Engineered: A.KIKEROS	
Drafted: LCLDG6	Certified: N/A	RPEQ
Drawing Checked: A.KIKEROS	Authorised: T.ROE	
Manager: NAME: T.ROE SIGNED:	Project Identifier/CAD File Name: 41817.024-025	
Projects Records File Number: PD330/46/02x	Contracts Records File Number: LG341/1211/19/059	

Issue	Description	Name	Initial	Date
9	AS CONSTRUCTED	T.ROE	T.R.	14/12/21
8	AS CONSTRUCTED	T.ROE	T.R.	20/11/21
7	IFC-FINAL DESIGN SUBMISSION	T.ROE	T.R.	15/07/21
6	IFC-FINAL DESIGN SUBMISSION	T.ROE	T.R.	12/03/21
5	RE-ISSUED FOR CONSTRUCTION DESIGN SUBMISSION	T.ROE	T.R.	15/01/21
4	IFC DESIGN SUBMISSION	T.ROE	T.R.	21/12/20
3	85% PRINCIPAL REVIEW	T.ROE	T.R.	18/09/20
2	50% PRINCIPAL REVIEW	T.ROE	T.R.	17/06/20

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PURPOSE BUILT DIVE ATTRACTION

OUTER DIVE MOORING GENERAL ARRANGEMENT

Project Number: 1007377

Sheet 1 of 1 — Issue 9

Drawing Number: 41817.024