

NOTES:

- This survey meets the mandatory class requirement as outlined in the MSG document 'Standards for Hydrographic Surveys within Queensland Waters V1'
- Contours are computer generated to hydrographic standard (inclusive).
- Coastline obtained from aerial photography is approximate only.
- Soundings colored to clearance depth of 3.4 m LAT for the Main Channel and 2.5m LAT for the North Arm.
- Vertical control for the survey was based on the the Applanix Navemaster V5 RTK-GPS survey system using HxGN Smartnet Service.
- Soundings reduced to LAT datum using LAT separation model: (\\V019_coast_region_20190124.v)
- Horizontal and vertical position check carried out over the 189792_25/02/2019.
- Channel linework and chainages based on Cad Files Chain 1189792_25/02/2019.dwg created by Tim Mackey 07/02/2019
- For Object Detection Report refer to GC140054.....

Horizontal Datum	MGA Zone 56 (GDA94)	Easting	Northing
Base Station	HxGN SmartNet Service (Fixed base "ARUN")	Vessel	GG Kalinga
Vertical Datum	LAT based on	Echo Sounder	Zongsberg Geoswath COMPACT PLUS 300MHz
Tide Notes	Soundings reduced to datum using RTK-GNSS observations with HxGN Smartnet Service and a MSG-LAT ellipsoid separation model. Refer to Note 6	Heave meter	APPLANIX NAVEMASTER (OW 9.80 Fm 9.77)
Depth Tolerance	0.2m	Horizontal Positioning	APPLANIX NAVEMASTER (OW 9.80 Fm 9.77)
Horizontal Tolerance	1.5m	Data Collection/Processing	HUGO SIMONEL SERVICE (OW 9.80 Fm 9.77)
Weather	5-10 kt SE	Tidal Reference Station	TS 100025, TS 045206A, TS10001

SOUNDINGS (m)
 25 below datum
 07 above datum

LEVELS (m)
 05 above datum
 03 below datum

SCALE 1 : 2000 AT A1

CLASS C CLIENT

GCWA

*SEE NOTES

Signature
 Hydrographic Surveyor
 Surveyor D NING
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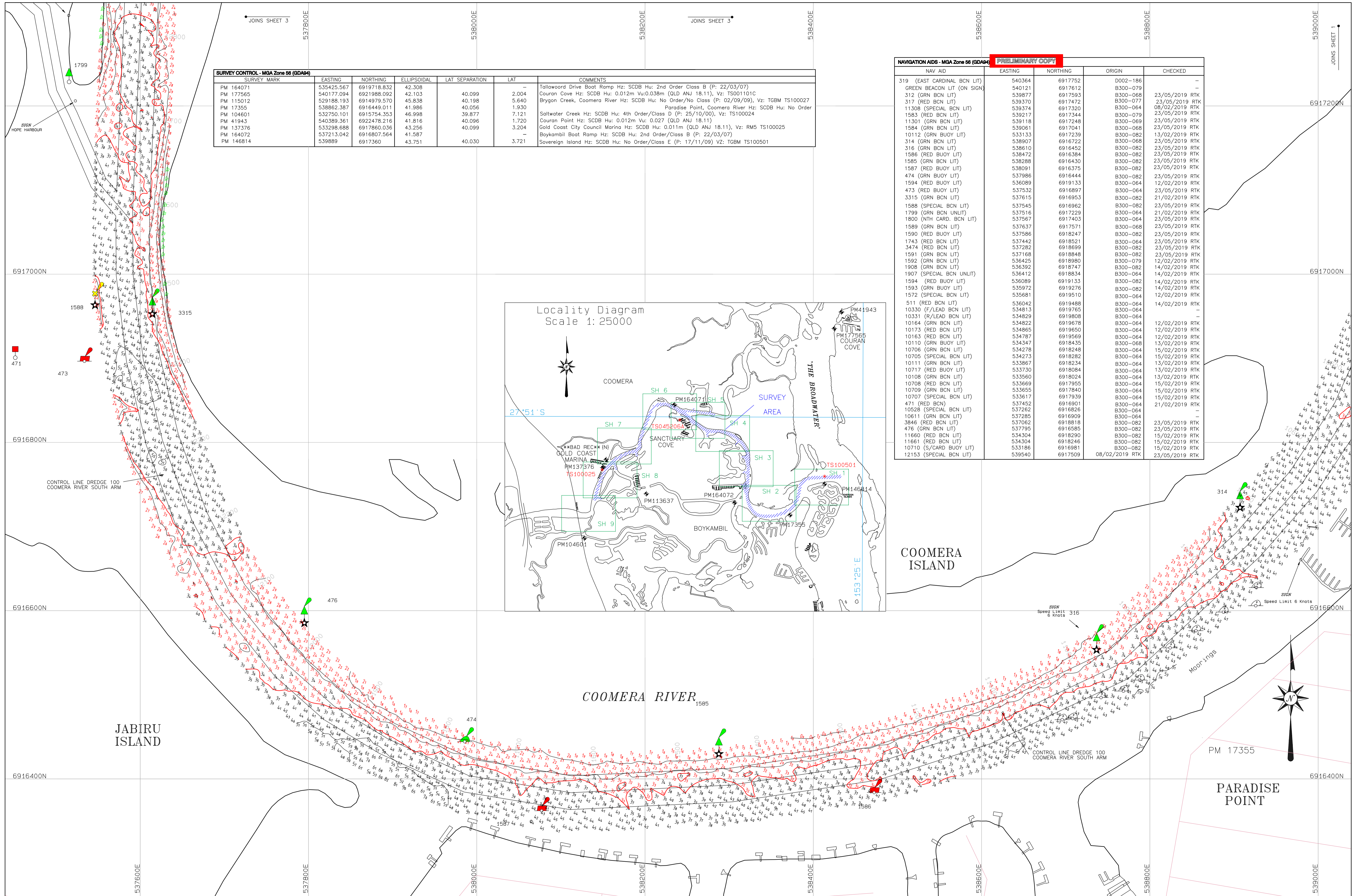
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COOMERA RIVER
 BROADWATER (Ch 8618) TO SANCTUARY COVE (Ch 15800)
 DREDGE SUPPORT HYDROGRAPHIC SURVEY
 7 JUNE 2019

Plot File: prelim_P1.PDF
 Job No: GC140055
 Plan No: **PRELIMINARY COPY**

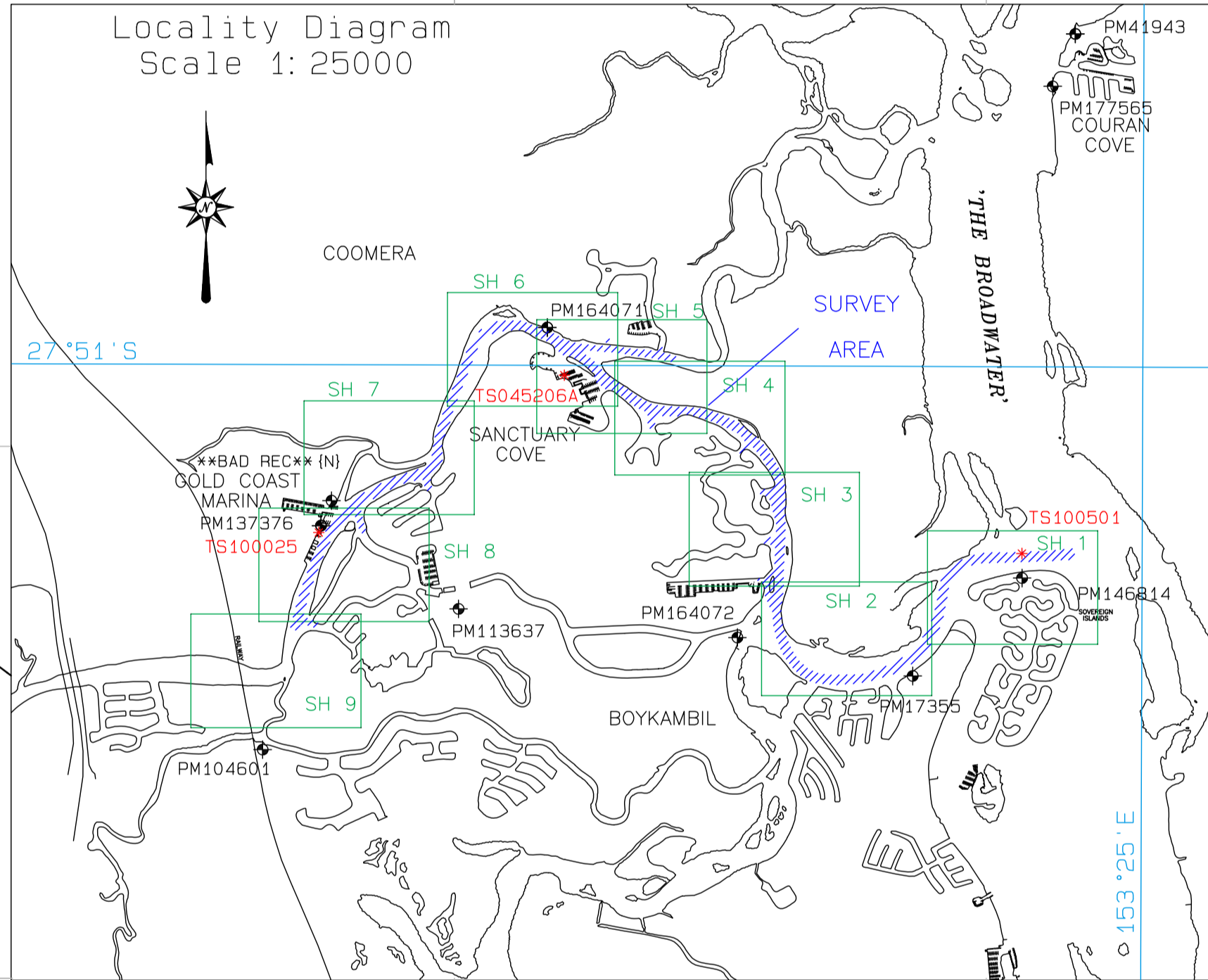
Prelim
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SURVEY MARK	EASTING	NORTHING	ELLIPSOIDAL	LAT SEPARATION	LAT	COMMENTS
PM 164071	535425.567	6919718.832	42.308			Tallowood Drive Boat Ramp Hz: SCDB Hu: 2nd Order Class B (P: 22/03/07)
PM 177565	540177.094	6921988.092	42.103	40.099	2.004	Couran Cove Hz: SCDB Hu: 0.012m Vu:0.038m (QLD ANJ 18.11), Vz: TS001101C
PM 115012	529188.193	6914979.570	45.838	40.198	5.640	Brygan Creek, Coomera River Hz: SCDB Hu: No Order/No Class (P: 02/09/09), Vz: TGBM TS100027
PM 17355	538862.387	6916449.011	41.986	40.056	1.930	Paradise Point, Coomera River Hz: SCDB Hu: No Order
PM 104601	532750.101	6915754.353	46.998	39.877	7.121	Saltwater Creek Hz: SCDB Hu: 4th Order/Class D (P: 25/10/00), Vz: TS100024
PM 41943	540389.361	6922478.216	41.816	40.096	1.720	Couran Point Hz: SCDB Hu: 0.012m Vu: 0.027 (QLD ANJ 18.11)
PM 137376	533298.688	6917860.036	43.256	40.099	3.204	Gold Coast City Council Marina Hz: SCDB Hu: 0.011m (QLD ANJ 18.11), Vz: RM5 TS100025
PM 164072	537213.042	6916807.564	41.587			Boykambil Boat Ramp Hz: SCDB Hu: 2nd Order/Class B (P: 22/03/07)
PM 146814	539889	6917360	43.751	40.030	3.721	Sovereign Island Hz: SCDB Hu: No Order/Class E (P: 17/11/09) Vz: TGBM TS100501

NAV AID	EASTING	NORTHING	ORIGIN	CHECKED
319 (EAST CARDINAL BCN LIT)	540364	6917752	D002-186	-
GREEN BEACON LIT (ON SIGN)	540121	6917612	B300-079	-
312 (GRN BCN LIT)	539877	6917593	B300-068	23/05/2019 RTK
317 (RED BCN LIT)	539370	6917472	B300-077	23/05/2019 RTK
11308 (SPECIAL BCN LIT)	539374	6917320	B300-064	08/02/2019 RTK
1583 (RED BCN LIT)	539217	6917344	B300-079	23/05/2019 RTK
11301 (GRN BCN LIT)	539118	6917248	B300-069	23/05/2019 RTK
1584 (GRN BCN LIT)	539061	6917041	B300-068	23/05/2019 RTK
10112 (GRN BUOY LIT)	533133	6917239	B300-082	13/02/2019 RTK
314 (GRN BCN LIT)	538907	6916722	B300-068	23/05/2019 RTK
316 (GRN BCN LIT)	538610	6916452	B300-082	23/05/2019 RTK
1586 (RED BUOY LIT)	538472	6916384	B300-082	23/05/2019 RTK
1585 (GRN BCN LIT)	538288	6916430	B300-082	23/05/2019 RTK
1587 (RED BUOY LIT)	538091	6916375	B300-082	23/05/2019 RTK
474 (GRN BUOY LIT)	537986	6916444	B300-082	23/05/2019 RTK
1594 (RED BUOY LIT)	536089	6919133	B300-064	12/02/2019 RTK
473 (RED BUOY LIT)	537532	6916897	B300-064	23/05/2019 RTK
3315 (GRN BCN LIT)	537615	6916953	B300-082	21/02/2019 RTK
1588 (SPECIAL BCN LIT)	537545	6916962	B300-082	23/05/2019 RTK
1799 (GRN BCN UNLIT)	537516	6917229	B300-064	21/02/2019 RTK
1800 (NTH CARD. BCN LIT)	537567	6917403	B300-064	23/05/2019 RTK
1589 (GRN BCN LIT)	537637	6917571	B300-068	23/05/2019 RTK
1590 (RED BUOY LIT)	537586	6918247	B300-082	23/05/2019 RTK
1743 (RED BCN LIT)	537442	6918521	B300-064	23/05/2019 RTK
3474 (RED BCN LIT)	537282	6918699	B300-082	23/05/2019 RTK
1591 (GRN BCN LIT)	537168	6918848	B300-082	23/05/2019 RTK
1592 (GRN BCN LIT)	536425	6918980	B300-079	12/02/2019 RTK
1908 (GRN BCN LIT)	536392	6918747	B300-082	14/02/2019 RTK
1907 (SPECIAL BCN UNLIT)	536412	6918834	B300-064	14/02/2019 RTK
1594 (RED BUOY LIT)	536089	6919133	B300-082	14/02/2019 RTK
1593 (GRN BUOY LIT)	535972	6919276	B300-082	14/02/2019 RTK
1572 (SPECIAL BCN LIT)	535681	6919510	B300-064	12/02/2019 RTK
511 (RED BCN LIT)	536042	6919488	B300-064	14/02/2019 RTK
10330 (F/LEAD BCN LIT)	534813	6919765	B300-064	-
10331 (R/LEAD BCN LIT)	534829	6919808	B300-064	-
10164 (GRN BCN LIT)	534822	6919878	B300-064	12/02/2019 RTK
10173 (RED BCN LIT)	534865	6919650	B300-064	12/02/2019 RTK
10163 (RED BCN LIT)	534787	6919569	B300-064	12/02/2019 RTK
10110 (GRN BUOY LIT)	534347	6918435	B300-068	13/02/2019 RTK
10706 (GRN BCN LIT)	534278	6918248	B300-064	15/02/2019 RTK
10705 (SPECIAL BCN LIT)	534273	6918282	B300-064	15/02/2019 RTK
10111 (GRN BCN LIT)	533867	6918234	B300-064	13/02/2019 RTK
10717 (RED BUOY LIT)	533730	6918084	B300-064	13/02/2019 RTK
10108 (GRN BCN LIT)	533560	6918024	B300-064	13/02/2019 RTK
10708 (RED BCN LIT)	533669	6917955	B300-064	15/02/2019 RTK
10709 (GRN BCN LIT)	533655	6917840	B300-064	15/02/2019 RTK
10707 (SPECIAL BCN LIT)	533617	6917939	B300-064	15/02/2019 RTK
471 (RED BCN)	537452	6916901	B300-064	21/02/2019 RTK
10528 (SPECIAL BCN LIT)	537262	6916826	B300-064	-
10611 (GRN BCN LIT)	537285	6916909	B300-064	-
3846 (RED BCN LIT)	537062	6918818	B300-082	23/05/2019 RTK
476 (GRN BCN LIT)	537795	6916585	B300-082	15/02/2019 RTK
11660 (RED BCN LIT)	534304	6918290	B300-082	15/02/2019 RTK
11661 (RED BCN LIT)	534304	6918246	B300-082	15/02/2019 RTK
10710 (S/CARD BUOY LIT)	533186	6916981	B300-082	15/02/2019 RTK
12153 (SPECIAL BCN LIT)	539540	6917509	08/02/2019 RTK	23/05/2019 RTK



NOTES:

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- Contours are computer generated to hydrographic standard (inclusive).
- Coastline obtained from aerial photography is approximate only.
- Soundings coloured to clearance depth of 3.4 m LAT for the Main Channel and 2.5m LAT for the North Arm.
- Vertical control for the survey was based on the the Applanix Navemaster V5 RTK-GPS survey system using HxGN SmartNet Service.
- Soundings reduced to LAT datum using LAT separation model: (1: Gold Coast Region 20190124.v4)
- Horizontal and vertical position check carried out over PM 189792 23/02/2019.
- Channel linework and chainages based on Cgd Files Chain Linework 20190124.dwg provided by Tim Mackey 8/4/2019
- For Object Detection Report refer to GC140054....

Horizontal Datum	MGA Zone 56 (GDA84)	Eastings	5378000E	Northings	6916400N
Base Station	HxGN SmartNet Service (Fixed base "ARUN")	Vessel	GG Kalinga	Soundings (m)	2.5 below datum 0.7 above datum
Vertical Datum	LAT based on	Heave	Rongsoberg Geoswath CONTACT PLUS 300MHz APPLANIX NAVEMASTER LOW 9.80 Fm 9.79	LEVELS (m)	0.5 above datum 0.3 below datum
Tide Notes	Soundings reduced to datum using RTK-GNSD observations with HxGN SmartNet Service and a MGA-LAT ellipsoidal separation model. Refer to Note 6	Horizontal Positioning	APPLANIX NAVEMASTER HxGN SmartNet Service LOW 9.80 Fm 9.79	CLASS	C
Depth Tolerance	0.2m	Horizontal Tolerance	1.5m	CLIENT	GCWA
Weather	5-10 kt SE	Tidal Reference Station	TS 100025, TS 045206A, TS 100501	Signature	D NING

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COOMERA RIVER
BROADWATER (Ch 8618) TO SANCTUARY COVE (Ch 15800)
DREDGE SUPPORT HYDROGRAPHIC SURVEY
7 JUNE 2019

Plot File: prelim_P2.PDF
Job No: GC140055
Plan No: PRELIMINARY COPY
SHEET 2 OF 5



NOTES:

- This survey meets the mandatory class requirement as outlined in the MSG document 'Standards for Hydrographic Surveys within Queensland Waters V1.3'
- Contours are computer generated to hydrographic standard (inclusive).
- Coastline obtained from aerial photography is approximate only.
- Soundings coloured to clearance depth of 3.4 m LAT for the Main Channel and 2.5m LAT for the North Arm.
- Vertical control for the survey was based on the the Applanix Mavemaster V5 RTK-GPS survey system using HxGN SmartNet Service.
- Soundings reduced to LAT datum using LAT separation model: (\\G019_coast_region_20190124.*)
- Horizontal and vertical position check carried out over RN 189798 23/09/2019.
- Channel linework and chainages based on CAD Files Channel Linework.dwg and Chain.dwg provided by Tim Mackey 8/4/2019
- For Object Detection Report refer to GC140054.....

Horizontal Datum	MGA Zone 56 (GDA84)	Easting	Northing
Base Station	HxGN SmartNet Service (Fixed base "ARUN")	Vessel	GG Kallings
Vertical Datum	LAT based on	Echo Sounder	Kongsberg Geoswath Compact Plus 300MHz
Tide Notes	Soundings reduced to datum using RTK-GNSS observations with HxGN SmartNet Service and a MSG-LAT ellipsoid separation model. Refer to Note 6	Heave Meter	APPLANIX MAVEMASTER (SW 9.80 FW 9.79)
Depth Tolerance	0.2m	Horizontal Positioning	APPLANIX MAVEMASTER (SW 9.80 FW 9.79) MSG SmartNet Service RTK-GNSS V5.002 separation model. Refer to Note 6
Horizontal Tolerance	1.5m	Data Collection/Processing	APPLANIX MAVEMASTER (SW 9.80 FW 9.79) MSG SmartNet Service RTK-GNSS V5.002 separation model. Refer to Note 6
Weather	5-10 kt SE	Tidal Reference Station	TS 100025, TS 045206A, TS10001

SOUNDINGS (m)
 2.5 below datum
 0.7 above datum

LEVELS (m)
 0.5 above datum
 0.3 below datum

SCALE 1 : 2000 AT A1

CLASS CLIENT
C GCWA

***SEE NOTES**

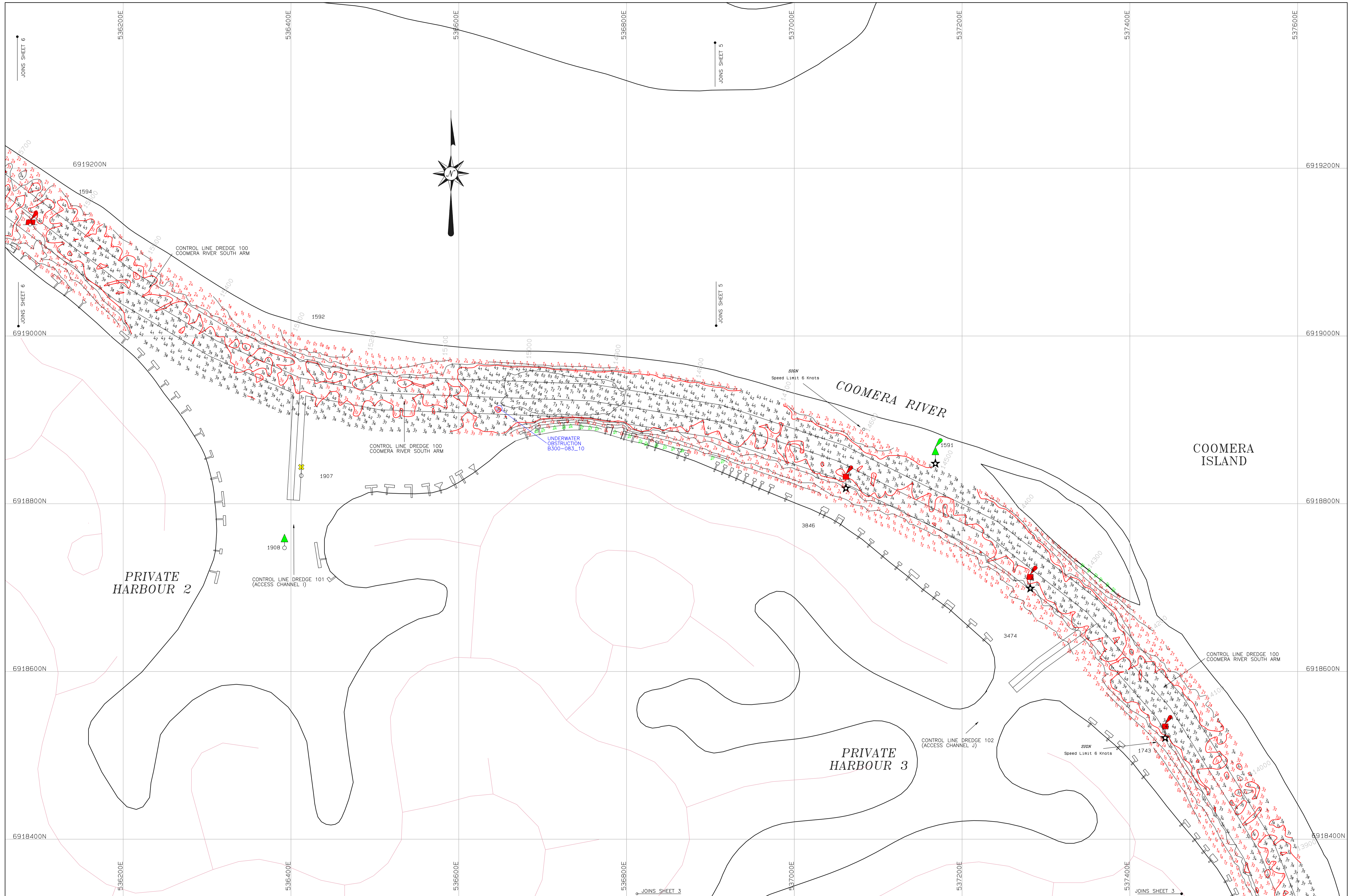
Signature
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COOMERA RIVER
 BROADWATER (Ch 8618) TO SANCTUARY COVE (Ch 15800)
 DREDGE SUPPORT HYDROGRAPHIC SURVEY
 7 JUNE 2019

Plot File: prelim_P3.PDF
Job No.: GC140055
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Prelim
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NOTES:

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- Contours are computer generated to Hydrographic Standard (inclusive).
- Coastline obtained from aerial photography is approximate only.
- Soundings colour-coded to clearance depth of 2.4 m LAT for the Main Channel and 2.5m LAT for the North Arm.
- Vertical control for the survey was based on the the Applixx Navemaster V5 RTK-GPS survey system using HxGN SmartNet Service.
- Soundings reduced to LAT datum using LAT separation model: (\\G019_coast_region_20190124.*).
- Horizontal and vertical position check carried out over RM 189792 (27/02/2019).
- Channel linework and chainages based on Cgd Files Channel Linework - Coomera River - 2019.dwg provided by Tim Mackey 8/4/2019.
- For Object Detection Report refer to GC140054.....

Horizontal Datum	MGA Zone 56 (GDA94)	Easting	Northing
Base Station	HxGN SmartNet Service (Fixed base "ARUN")		
Vertical Datum	LAT based on		
Tide Notes	Soundings reduced to datum using RTK-GNSS observations with HxGN SmartNet Service and a MSG-LAT ellipsoid separation model. Refer to Note 6		
Depth Tolerance	0.2m	Horizontal Tolerance	1.5m
Weather	5-10 kt SE		
Vessel	GG Kalinga	Echo Sounder	Zongsberg Geoswath COMPACT PLUS 300MHz
Heaveometer	APPLIXX NAVEMASTER (SW 9.80 FW 9.77)	Horizontal Positioning	APPLIXX NAVEMASTER (SW 9.80 FW 9.77)
Data Collection/Processing	APPLIXX NAVEMASTER (SW 9.80 FW 9.77) HXGN SMARTNET SERVICE (SW 1.00 FW 1.00) CARIS HIPS 6 SIGS V10.4.10 (recompiled 1/1/01)		
Tidal Reference Station	TS 100025, TS 045206A, TS100501		

SCALE 1 : 2000 AT A1

SOUNDINGS (m)
 2.5 below datum
 0.7 above datum

LEVELS (m)
 0.5 above datum
 0.3 below datum

CLASS CLIENT
C GCWA

*SEE NOTES

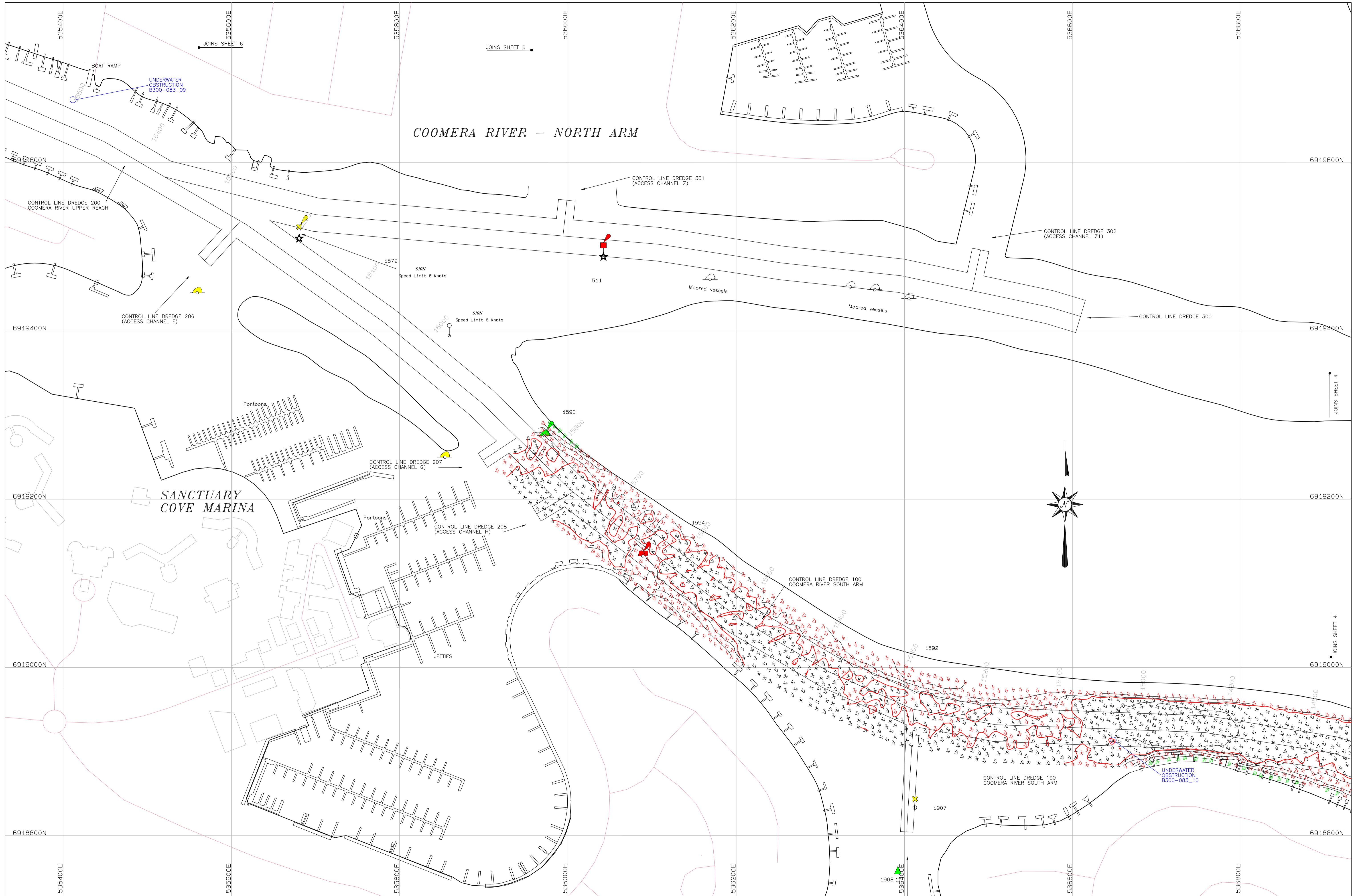
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COOMERA RIVER
 BROADWATER (Ch 8618) TO SANCTUARY COVE (Ch 15800)
 DREDGE SUPPORT HYDROGRAPHIC SURVEY
 7 JUNE 2019

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NOTES:
 1) This survey meets the mandatory class requirement as outlined in the MSG document 'Standards for Hydrographic Surveys within Queensland Waters V1.3'.
 2) Contours are computer generated to hydrographic standard (inclusive).
 3) Coastline obtained from aerial photography is approximate only.
 4) Soundings coloured to clearance depth of 3.4 m LAT for the Main Channel and 2.5m LAT for the North Arm.
 5) Vertical control for the survey was based on the the Applanix Mavemaster V5 RTK-GPS survey system using HxGN SmartNet Service.
 6) Soundings reduced to LAT datum using LAT separation model: (\\0019_coast_region_20190124.*).
 7) Horizontal and vertical position check carried out over RN 189792 23/02/2019.
 8) Channel linework and chainages based on Cgd Files Channel Linework - 2019.dwg processed by Tim Mackey 8/6/2019.
 9) For Object Detection Report refer to GC140054. **PRELIMINARY COPY**

Horizontal Datum	MGA Zone 56 (GDA84)	Easting	Northing
Base Station	HxGN SmartNet Service (Fixed base "ARUN")	Vessel	GG Kalinga
Vertical Datum	LAT based on	Echo Sounder	Kongsberg Geoswath CONTACT Plus 3000C
Tide Notes	Soundings reduced to datum using RTK-GNSS observations with HxGN SmartNet Service and a MSG-LAT ellipsoid separation model. Refer to Note 6	Heave Meter	APPLANIX MAVEMASTER (OW 9.80 Fw 9.77)
Depth Tolerance	0.2m	Horizontal Positioning	APPLANIX MAVEMASTER (OW 9.80 Fw 9.77)
Horizontal Tolerance	1.5m	Data Collection/Processing	Caris HIPS 6.0.18 v10.4.10 (Decompile: LAT.01)
Weather	5-10 kt SE	Tidal Reference Station	TS 100025, TS 045206A, TS100501

SOUNDINGS (m)
 2.5 below datum
 0.7 above datum

LEVELS (m)
 0.5 above datum
 0.3 below datum

SCALE 1 : 2000 AT A1

CLASS CLIENT
 C GCWA

GCWA

Signature Hydrographic Surveyor
 D NING

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COOMERA RIVER
BROADWATER (Ch 8618) TO SANCTUARY COVE (Ch 15800)
DREDGE SUPPORT HYDROGRAPHIC SURVEY
7 JUNE 2019

Plot File: prelim_P5.PDF
Job No.: GC140055
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