GLAMORGAN SPRING BAY COUNCIL

ORDINARY COUNCIL MEETING – 19 JANUARY 2021

ATTACHMENTS

GLAMORGAN/SPRING BAY COUNCIL

NOTICE OF PROPOSED DEVELOPMENT

Notice is hereby given that an application has been made for planning approval for the following development;

SITE: 80 Burgess Street Bicheno

PROPOSAL: Demolition of hotel and construction of visitor accommodation units x 12

Any person may make representation on the application(s) by letter (PO Box 6, Triabunna) or electronic mail (planning@freycinet.tas.gov.au) addressed to the General Manager. Representations must be received before midnight on 04 December 2020.

APPLICANT:	PhilipLighton Architects
DATE:	18 August 2020
APPLICATION NO:	DA 2020 / 163

PhilpLighton Architects

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Hobart/Launceston/Burnie

Executive Manager - Development

Glamorgan Spring Bay Council

PO Box 6

TRIABUNNA TAS 7190

Attn: Mr Deon Bellingen

Email: planning@freycinet.tas.gov.au

deon.bellingan@freycinet.tas.gov.au

14 August 2020

Dear Deon

The Rookery Development

80 Burgess Street Bicheno

Application for Planning Approval

Further to our discussions and meeting on site, and as instructed by the landowner, Bicheno Investments Pty Ltd, please find attached the documents for the *Application for Planning Approval* for the above property.

Bicheno Investments Pty Ltd proposes to

a. Demolish the existing buildings formerly known as the Silversands Resort, together with all miscellaneous fences, outbuildings, sheds, carparks and paving.
b. develop high quality holiday accommodation to be known as *The Rookery* that will comprise 12 x 2 storey accommodation buildings ("Nests"):

- 10 x 2 storey x one bedroom Nests
- 2 x 2 storey x 2 separate one bedroom studio Nests – ground floor accessible
- linked by above ground pedestrian boardwalks
- associated infrastructure
- secure entry and car parking

c. Remediate and revegetate the whole of the site with native endemics, in a master landscape plan proposed by the renowned landscape architects *Inspiring Place* (Jerry de Gryse). The existing penguin protection fence will remain for the duration of the works.

The headland and adjacent foreshore is a treasured penguin habitat. The goal of *The Rookery* development is to use the valuable headland site to re-imagine an environment which will protect and foster the penguin population and create a place of relaxation and respite for guests.

The low impact, sustainably designed and operated boutique accommodation operation will integrate into the landscape, enhanced by re-established native plantings and walkways. Elevated boardwalks, embedded penguin nesting

boxes, low density accommodation and sustainable design features will combine to establishment a stunning yet restrained development.

Elevated boardwalks, embedded penguin nesting boxes, low density accommodation and sustainable design features will combine to establishment a stunning yet restrained development.

Lighter touch, higher value: the total footprint of the built area for *The Rookery* will be 1185m^2, representing a 40% reduction in built area from the existing Silver Sands resort at 2033m^2.

Priority continues to be given to protecting the existing penguin habitat, restricting all penguin access to the build site, and ensuring penguins have safe and unlimited movement across the site once it is re-developed and habitat plantings enhancements are complete.

Proposed materials are generally as shown on the drawings including:

Ground Floor	concrete slab
First Floor	timber framed
Wall cladding	rough sawn timber over timber stud framing
Windows	timber framed double glazed
Roof & spouting	corrugated prefinished metal (Colorbond Custom-orb)
Decking	timber framed
Boardwalks	timber framed

The estimated cost of the development is to the order of $5.0M + GST

We seek Council's earliest approval so we may commence the demolition of the existing buildings and prepare documents for the building and plumbing permits.

The attached documents are:

a. This letter *Philp Lighton Architects to Glamorgan Spring Bay Council*, 15 August 2020

b. Glamorgan Spring Bay Council *Application for Planning Approval Form*, submitted by the undersigned obo the Landowner

c. Philp Lighton Architects Pty Ltd's *Report to inform the Application for Planning Approval*

d. Michael Ball, Consultant Town Planner's *Planning Report*

e. Landowner *Consent to lodge*

f. Title Information CT50-134465

g. Heritage Tasmania advice

h. Aboriginal heritage advice

i. Guidelines for construction

j. Development Application Drawings

PLA Architectural:

DA00	Cover Sheet
DA01	Site Plan – Demolition
DA02	Site Plan – Proposed
DA03	Plans + Elevations Type A1
DA04	Plans + Elevations Type A2
DA05	Plans + Elevations Type B1

DA06 Plans + Elevations Type B2

DA07 Plans – Entry Building + Ancillary Buildings

DA08 Elevations – Ancillary Buildings

Inspiring Place Landscape Architects

The Rookery Landscape Plan DA ISSUE

The Rookery Landscape Strategy DA ISSUE

Aldanmark Engineers Pty Ltd

H1.02 Site Services Plan

CES Engineers Pty Ltd

206065-E1 Electrical Services

206065-E2 Electrical Services

Should you have any queries please do not hesitate to contact the undersigned.

Yours faithfully

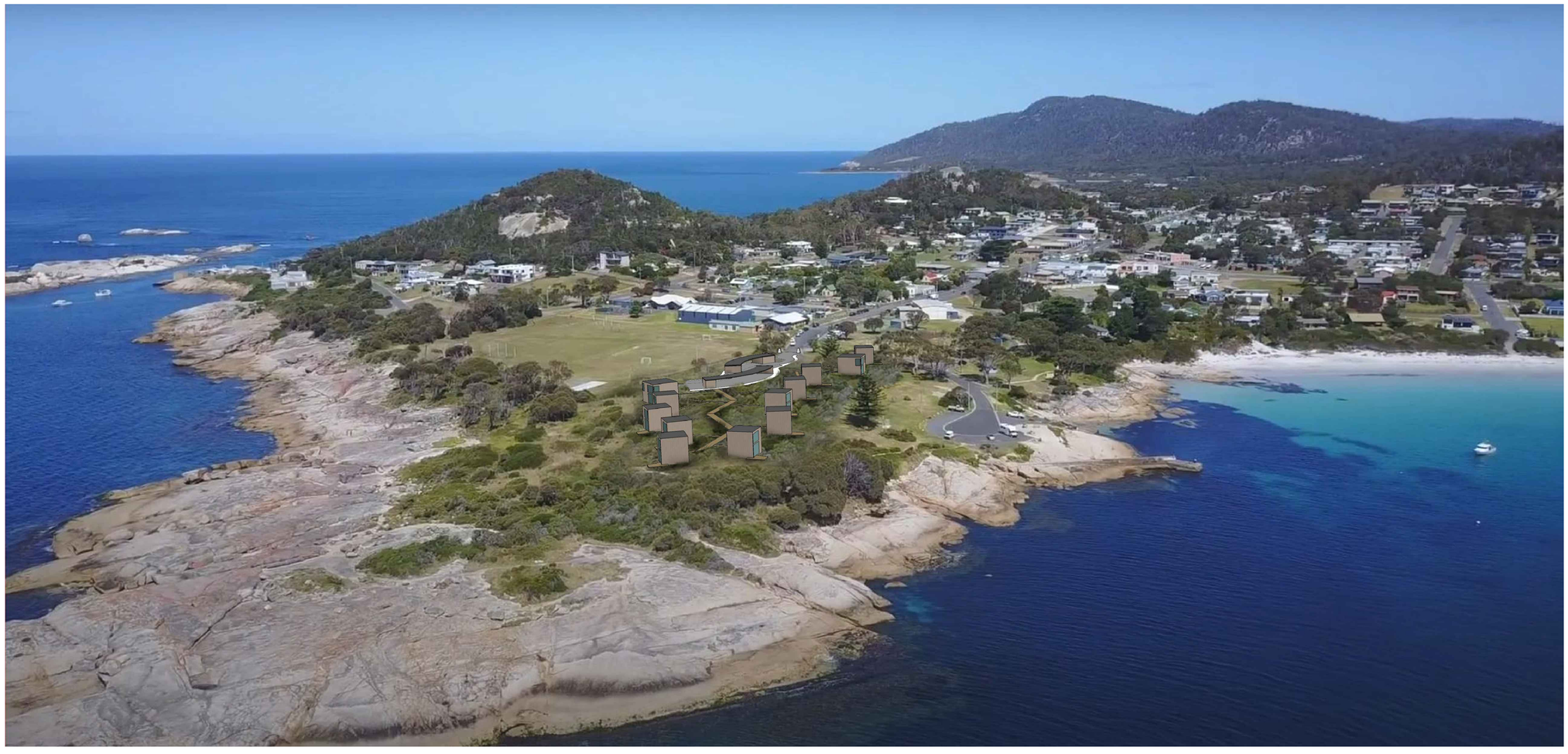
Philp Lighton Architects Pty Ltd

Peter Gaggin

Director + Principal Architect

Fellow Royal Australian Institute of Architects

CBOS Provider CC997A Architect



THE ROOKERY
VISITOR ACCOMMODATION

80 BURGESS STREET
BICHENO TASMANIA

DRAWING SCHEDULE

PhilpLighton Architects

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Hobart / Launceston

Project **THE ROOKERY**
80 BURGESS ST
BICHENO

Title DRAWING SCHEDULE

Scale @ A1 @ A3 | 14.08.2020 | 074.18138

Drawing No **DA00** Rev -

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NOTES

ALL EXISTING BUILDINGS AND ROAD SURFACES TO BE DEMOLISHED.
UNDERGROUND SERVICES TO BE PROTECTED AND MAINTAINED.
EXISTING TREES TO BE PROTECTED AND RETAINED

'PENGUIN FENCE' TO BE INSTALLED TO BOUNDARY THROUGHOUT CONSTRUCTION
REFER *FENCING DETAIL* BY *INSPIRING PLACE*

NORTH

0 10 20 30m

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Project **THE ROOKERY**

80 BURGESS ST
BICHENO

Title SITE PLAN - DEMOLITION

Scale 1:500 @ A1
1:1000 @ A3

14.08.2020

074.18138

Drawing No **DA01**

Rev **-**

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NORTH

0 10 20 30m

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Project **THE ROOKERY**

80 BURGESS ST
BICHENO

Title SITE PLAN - PROPOSED

Scale 1:500 @ A1
1:1000 @ A3

14.08.2020

074.18138

Drawing No **DA02** Rev **A**

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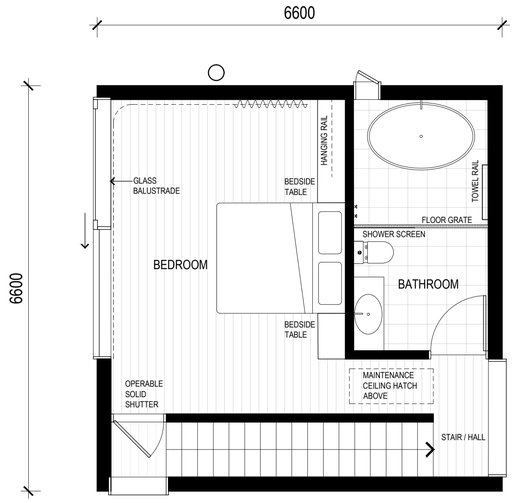

UPPER FLOOR PLAN - TYPE A1
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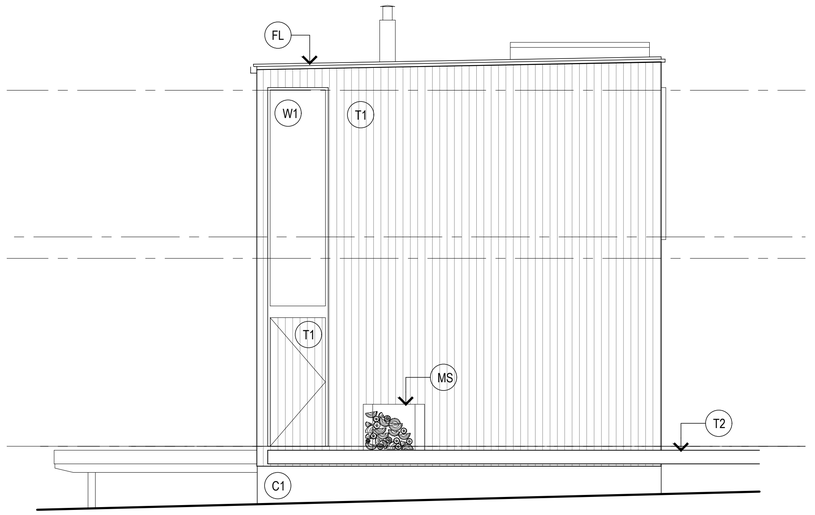
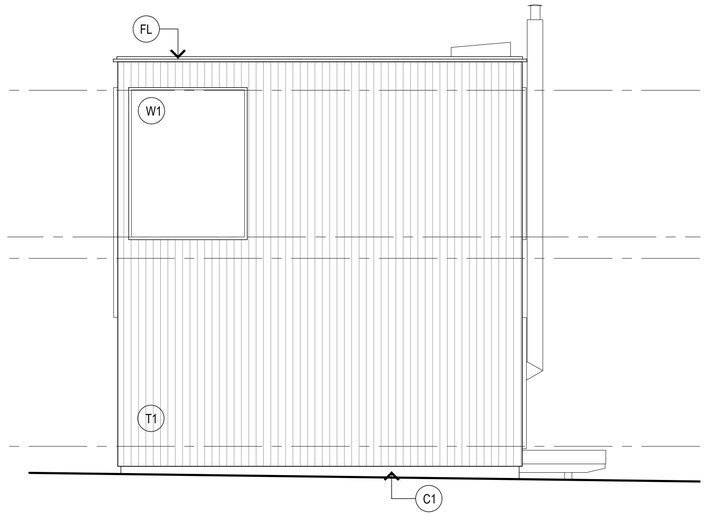


SOUTH ELEVATION
1:50



EAST ELEVATION
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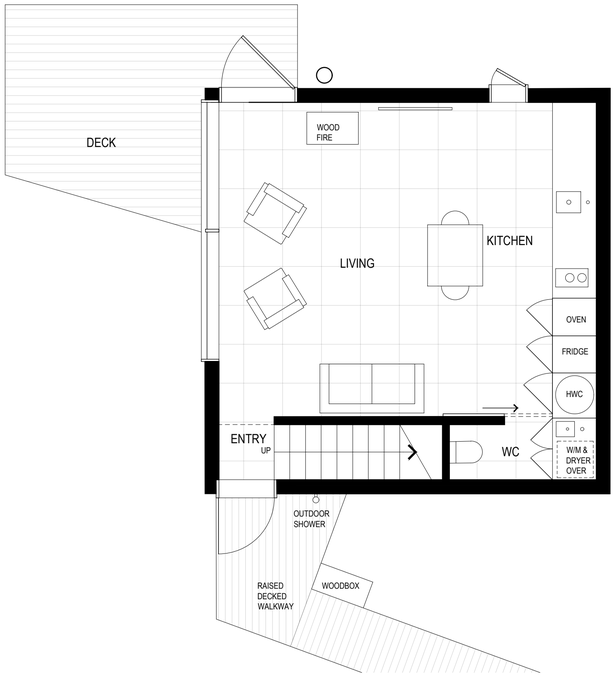

GROUND FLOOR PLAN - TYPE A1
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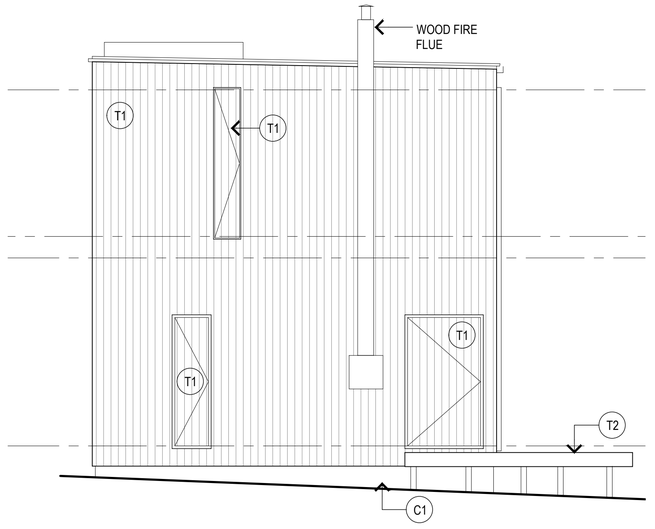
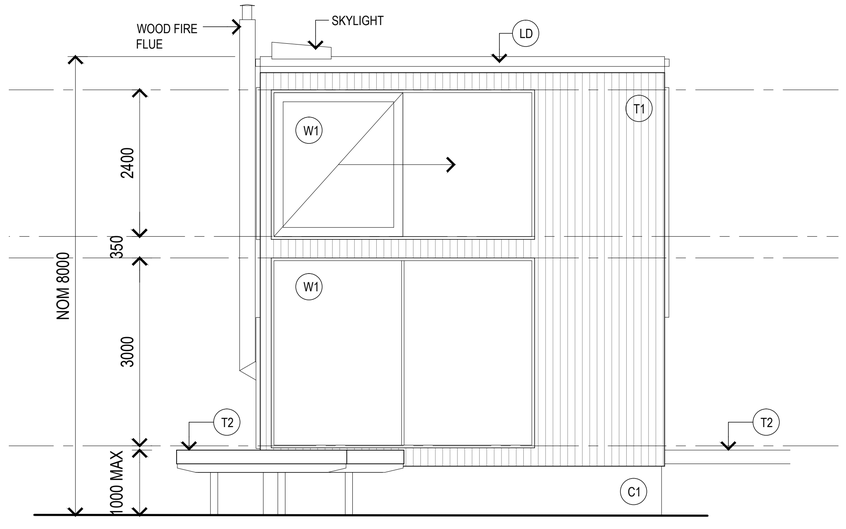


NORTH ELEVATION
1:50



WEST ELEVATION
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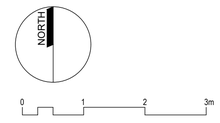

FINISHED KEY

C1	SITE CAST CONCRETE	MS	MILD STEEL, FINISH TBC
CS	CEMENT SHEET	SS	316 STAINLESS STEEL
FL	FLASHING. COLORBOND ULTRA STEEL 'MONUMENT'	T1	130 FACE SHIP LAP HARDWOOD CLADDING NATURAL FINISH
GB	GRANITE	T2	HARDWOOD DECKING
GS	GALVANIZED STEEL	W1	TIMBER FRAMED WINDOW
LD	LYSAGHT KLIPLOK ROOFING COLORBOND ULTRA STEEL 'MONUMENT'	W2	GLASS BALUSTRADE

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Hobart / Launceston

Project **THE ROOKERY**

80 BURGESS ST
BICHENO

Title TYPE A1

Scale 1:50 @ A1, 1:100 @ A3 | 14.08.2020 | 074.18138

Drawing No **DA03** Rev **-**

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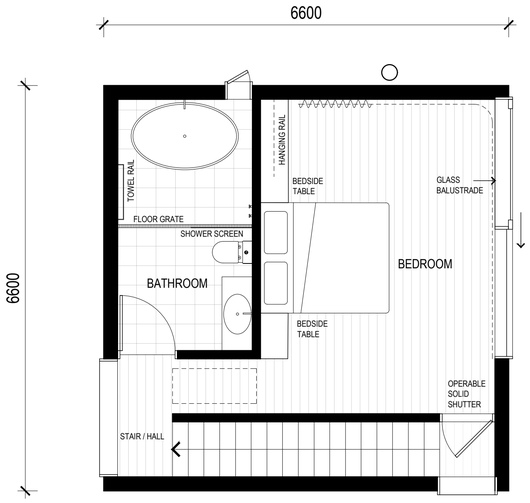

UPPER FLOOR PLAN - TYPE A2
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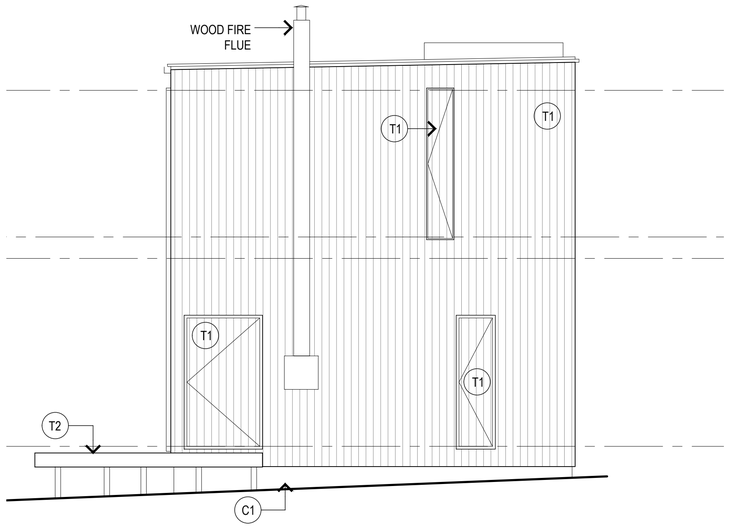

NORTH ELEVATION
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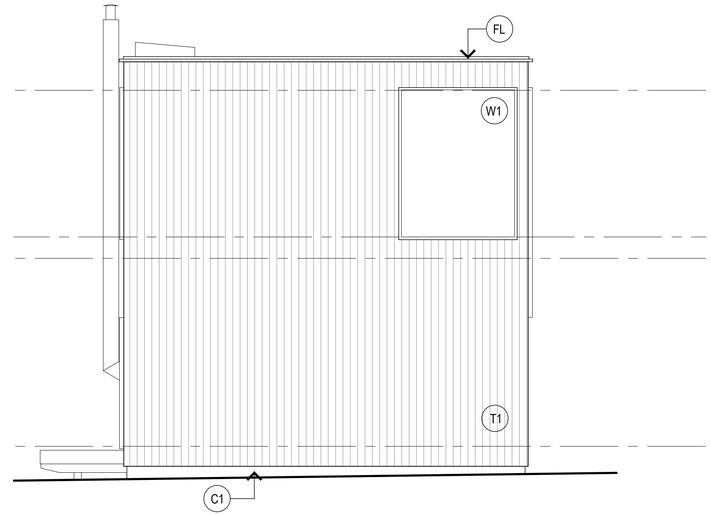

WEST ELEVATION
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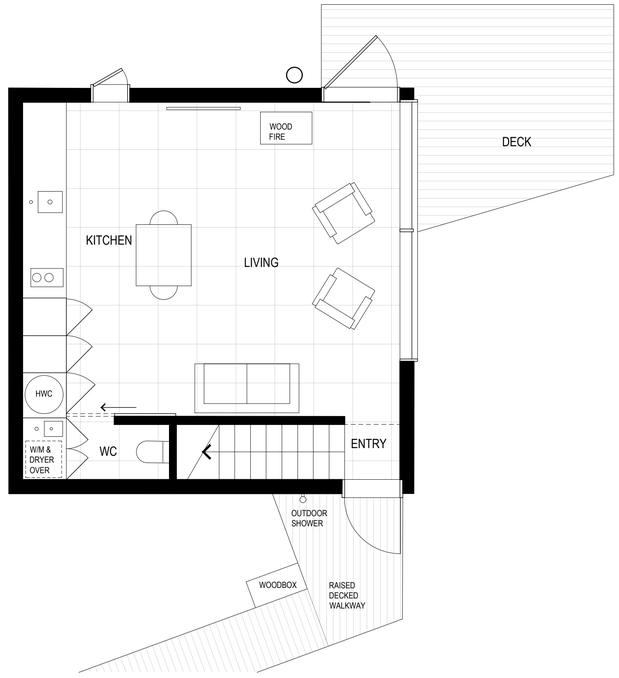

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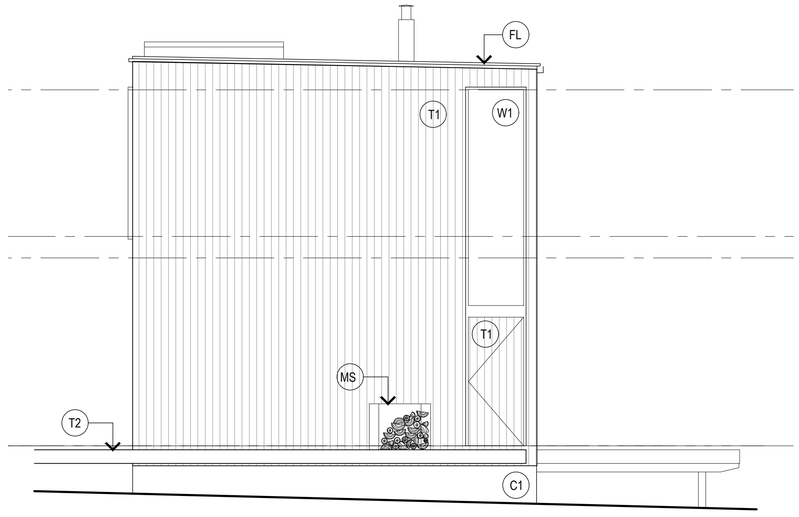

SOUTH ELEVATION
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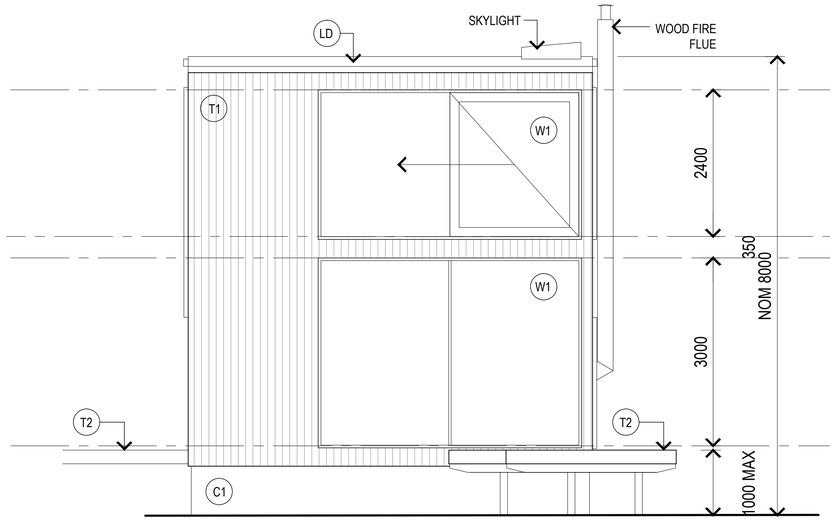

EAST ELEVATION
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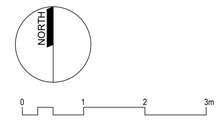

FINISHED KEY

C1	SITE CAST CONCRETE	MS	MILD STEEL, FINISH TBC
CS	CEMENT SHEET	SS	316 STAINLESS STEEL
FL	FLASHING. COLORBOND ULTRA STEEL 'MONUMENT'	T1	130 FACE SHIP LAP HARDWOOD CLADDING NATURAL FINISH
GB	GRANITE	T2	HARDWOOD DECKING
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LD	LYSAGHT KLIPLOK ROOFING COLORBOND ULTRA STEEL 'MONUMENT'	W2	GLASS BALUSTRADE

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Project **THE ROOKERY**
80 BURGESS ST
BICHENO

Title TYPE A2

Scale 1:50 @ A1
1:100 @ A3
14.08.2020
074.18138

Drawing No **DA04** Rev **-**

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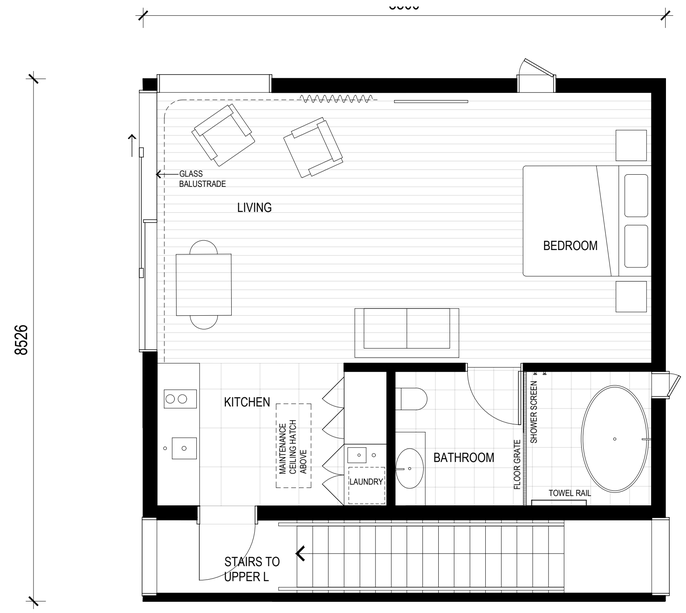

UPPER FLOOR PLAN - TYPE B1
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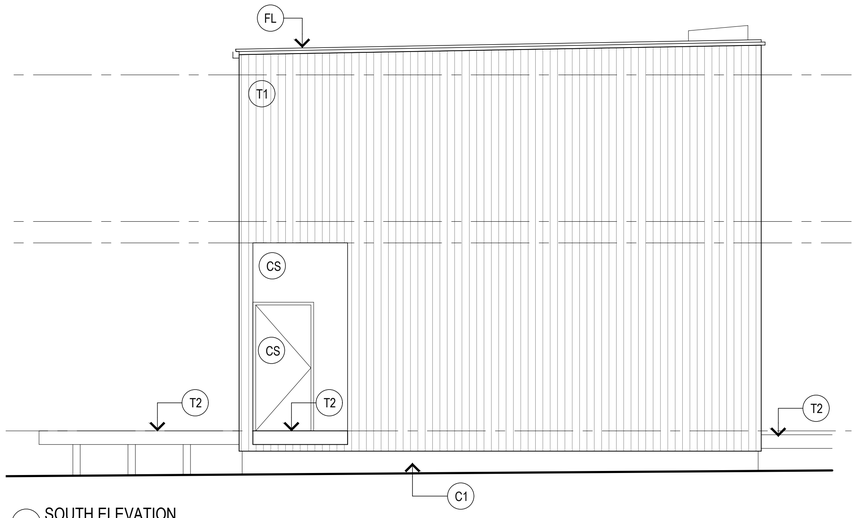
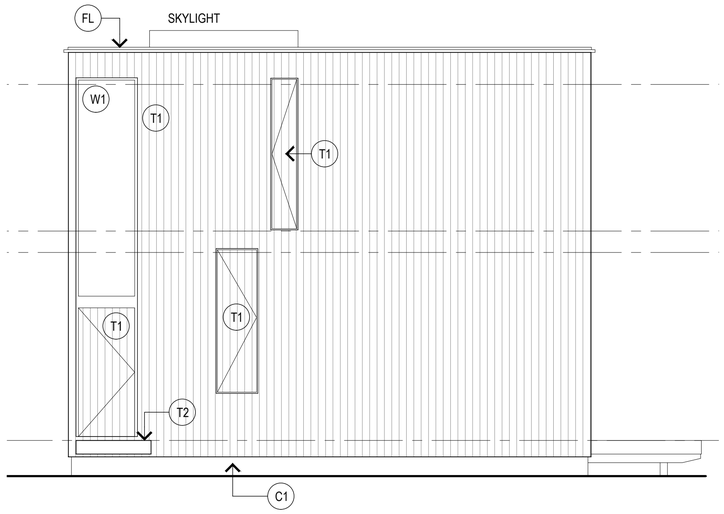


SOUTH ELEVATION
1:50

FINISHED KEY

C1	SITE CAST CONCRETE
CS	CEMENT SHEET
FL	FLASHING. COLORBOND ULTRA STEEL 'MONUMENT'
GB	GRANITE
GS	GALVANIZED STEEL
LD	LYSAGHT KLIPLOK ROOFING COLORBOND ULTRA STEEL 'MONUMENT'
MS	MILD STEEL, FINISH TBC
SS	316 STAINLESS STEEL
T1	130 FACE SHIP LAP HARDWOOD CLADDING NATURAL FINISH
T2	HARDWOOD DECKING
W1	TIMBER FRAMED WINDOW
W2	GLASS BALUSTRADE



EAST ELEVATION
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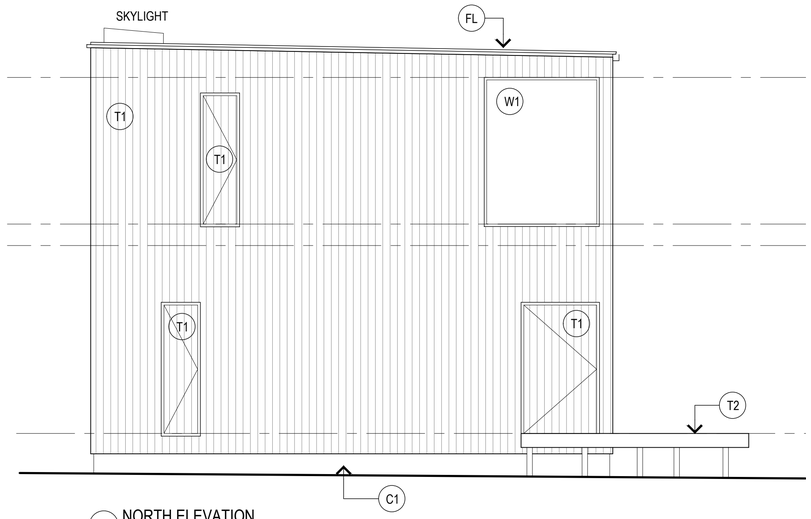

NORTH ELEVATION
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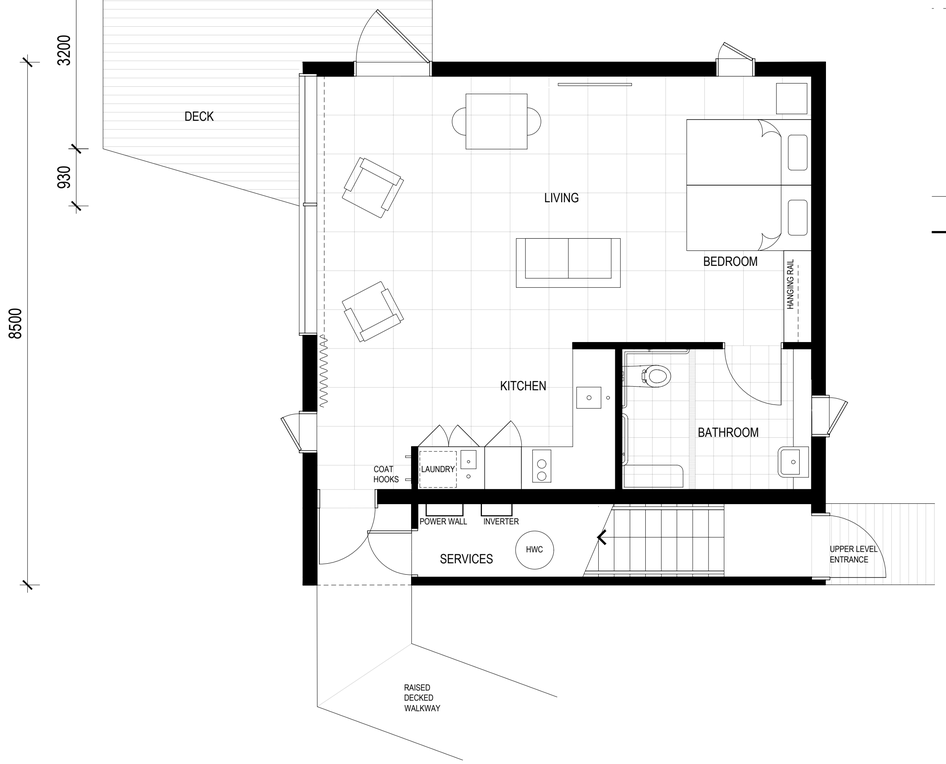

GROUND FLOOR PLAN - TYPE B1
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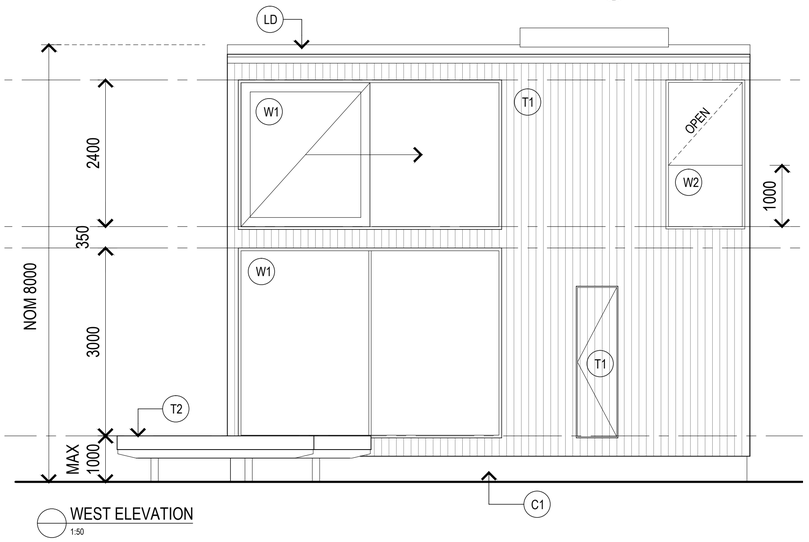

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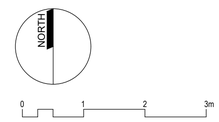

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Hobart / Launceston

Project **THE ROOKERY**
80 BURGESS ST
BICHENO

Title TYPE B1

Scale 1:50 @ A1
1:100 @ A3
14.08.2020
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Drawing No **DA05** Rev **-**

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UPPER FLOOR PLAN - TYPE B2
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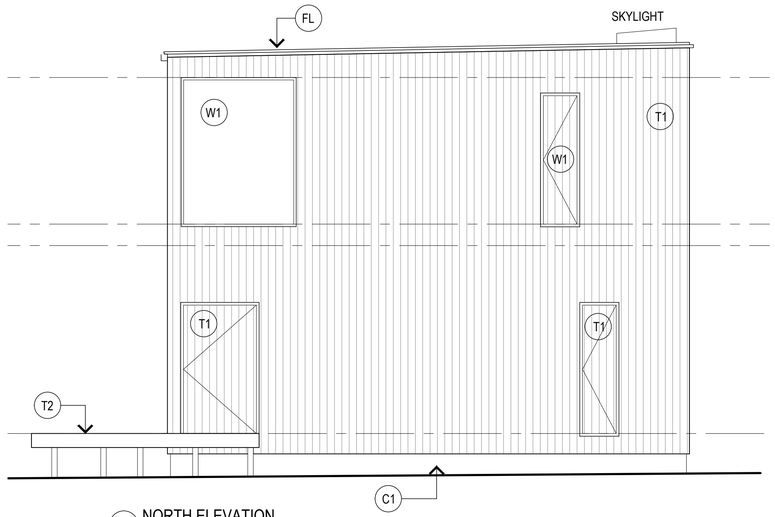
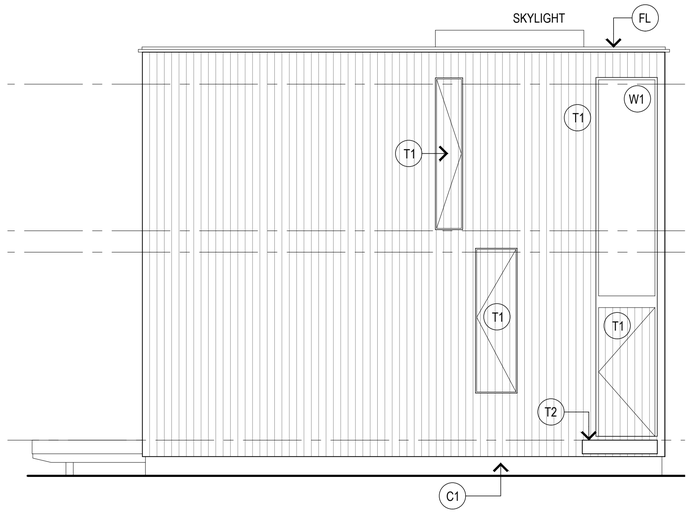


NORTH ELEVATION
1:50

FINISHED KEY

C1	SITE CAST CONCRETE
CS	CEMENT SHEET
FL	FLASHING. COLORBOND ULTRA STEEL 'MONUMENT'
GB	GRANITE
GS	GALVANIZED STEEL
LD	LYSAGHT KLIPLOK ROOFING COLORBOND ULTRA STEEL 'MONUMENT'
MS	MILD STEEL, FINISH TBC
SS	316 STAINLESS STEEL
T1	130 FACE SHIP LAP HARDWOOD CLADDING NATURAL FINISH
T2	HARDWOOD DECKING
W1	TIMBER FRAMED WINDOW
W2	GLASS BALUSTRADE



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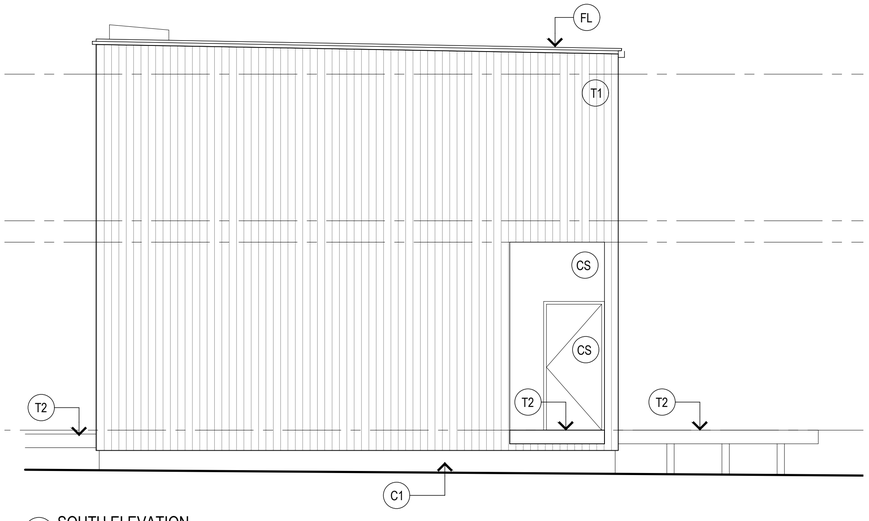

SOUTH ELEVATION
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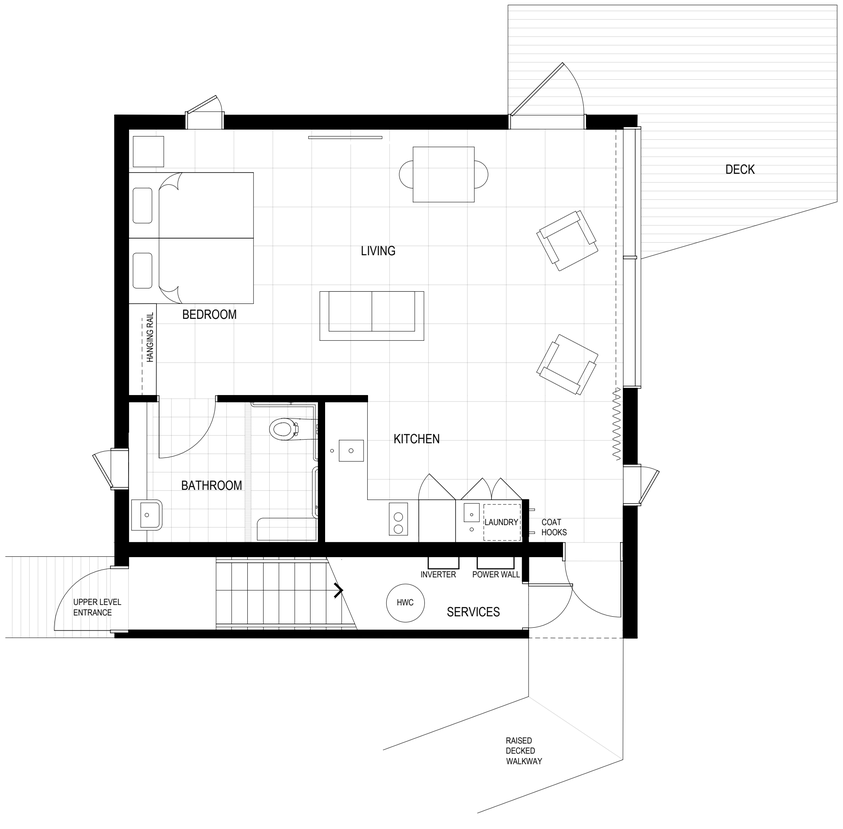

GROUND FLOOR PLAN - TYPE B2
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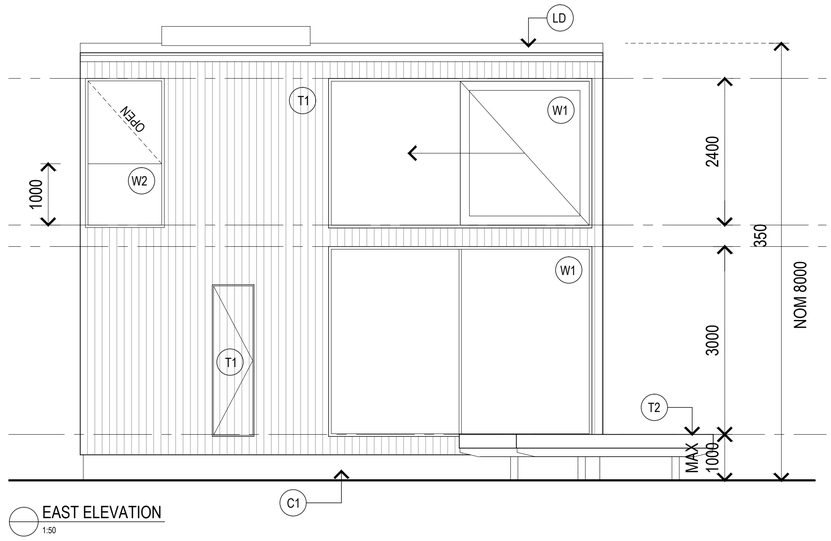

EAST ELEVATION
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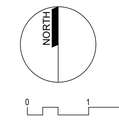

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Project **THE ROOKERY**

80 BURGESS ST
BICHENO

Title TYPE B2

Scale 1:50 @ A1, 1:100 @ A3 | 14.08.2020 | 074.18138

Drawing No **DA06** Rev -

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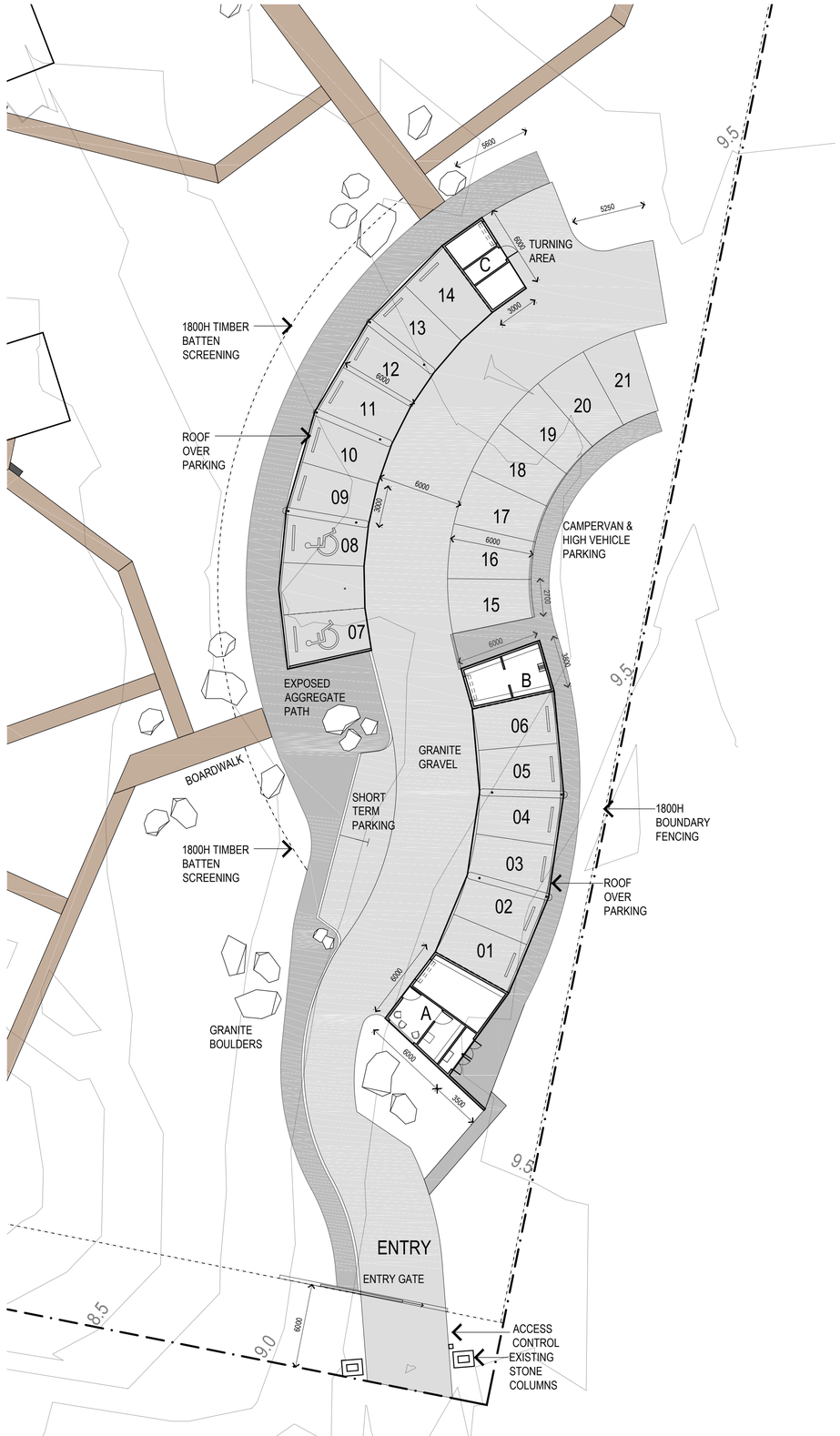
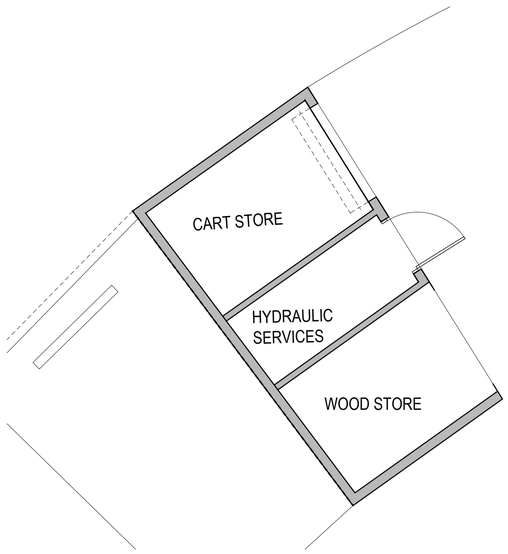
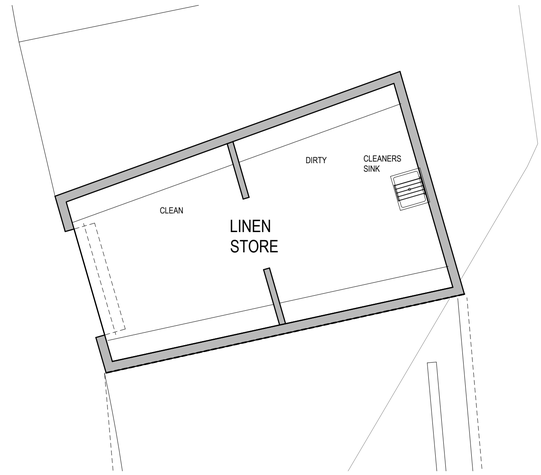


ENTRY & ANCILLARY BUILDINGS - PLAN
1:200



C - PLAN
1:50



B - PLAN
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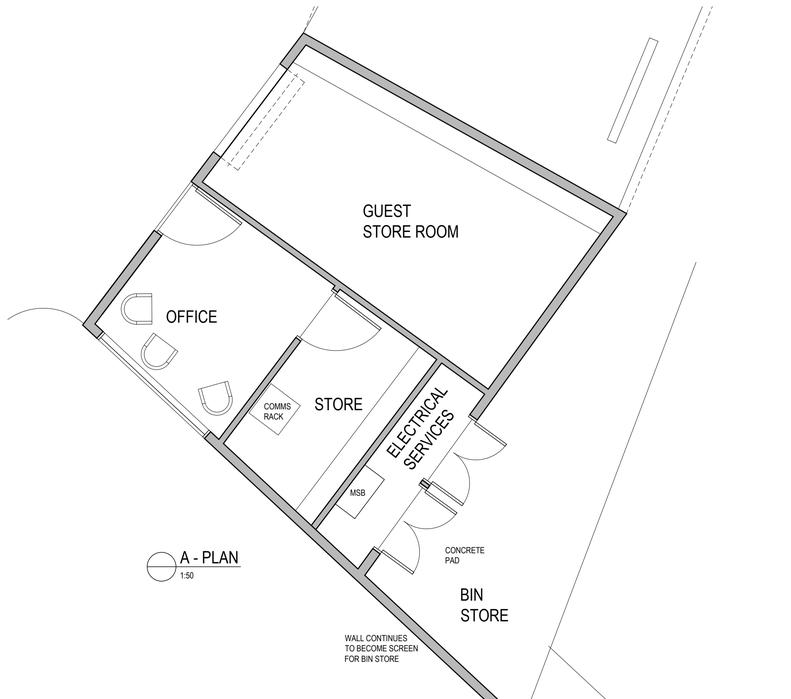

A - PLAN
1:50

NORTH

0 1 2 3 4 5 10m

PhilpLighton Architects

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Hobart / Launceston

Project **THE ROOKERY**

80 BURGESS ST
BICHENO

Title PLANS - ENTRY, CARPARK & ANCILLARY BUILDINGS

Scale 1:200 @ A1 14.08.2020 074.18138
1:400 @ A3

Drawing No **DA07** Rev **-**

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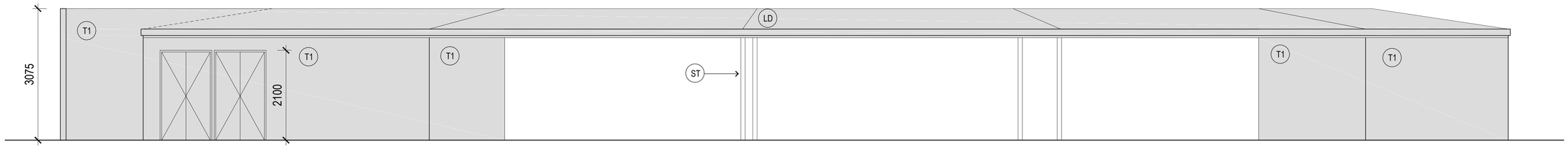
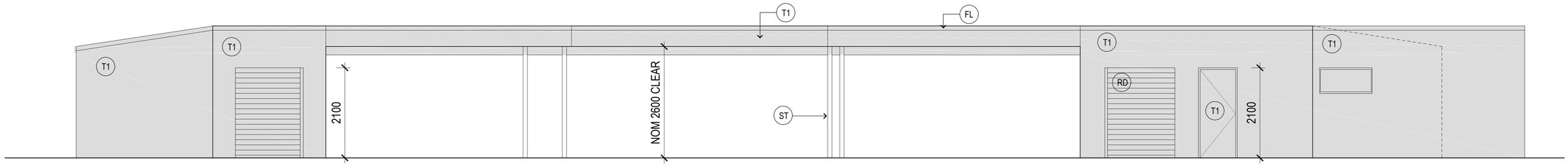
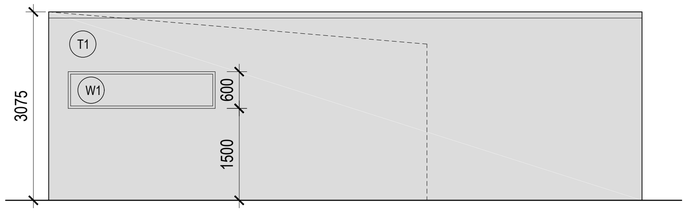


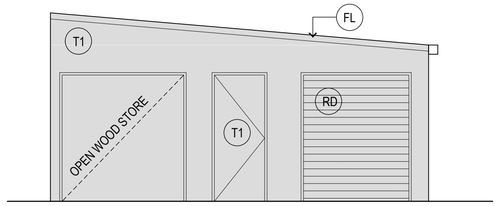
EAST ELEVATION - PARKING AREA 01
1:50



WEST ELEVATION - PARKING AREA 01
1:50



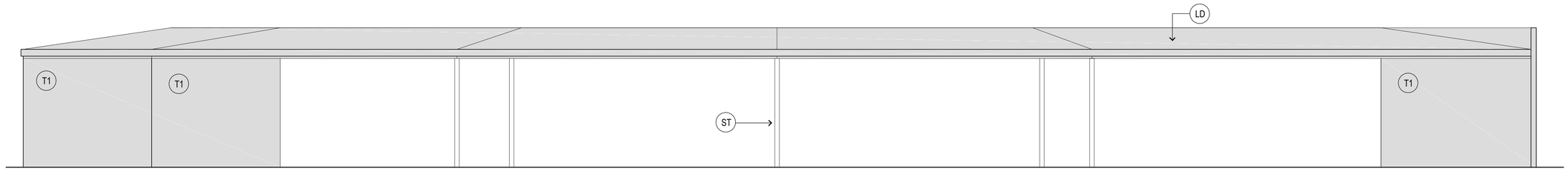
SOUTH ELEVATION - PARKING AREA 01
1:50



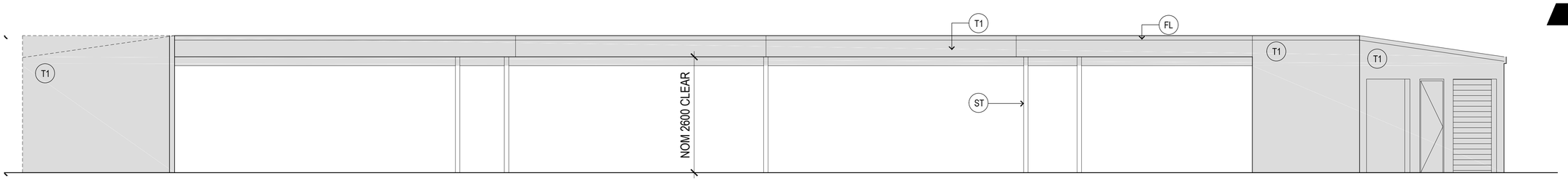
NORTH ELEVATION - PARKING AREA 02
1:50

FINISHED KEY

C1	SITE CAST CONCRETE	MS	MILD STEEL, FINISH TBC
CS	CEMENT SHEET	SS	316 STAINLESS STEEL
FL	FLASHING. COLORBOND ULTRA STEEL 'MONUMENT'	T1	130 FACE SHIP LAP HARDWOOD CLADDING NATURAL FINISH
GB	GRANITE	T2	HARDWOOD DECKING
RD	ROLLERDOOR - COLORBOND 'MONUMENT'	W1	TIMBER FRAMED WINDOW
LD	LYSAGHT KLIPLOK ROOFING COLORBOND ULTRA STEEL 'MONUMENT'	W2	GLASS BALUSTRADE



WEST ELEVATION - PARKING AREA 01
1:50



EAST ELEVATION - PARKING AREA 02
1:50

0 1 2 3m

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Title ENTRY, CARPARK & ANCILLARY BUILDINGS - ELEV

Scale 1:50 @ A1 14.08.2020 074.18138
1:100 @ A3

Drawing No **DA08** Rev **-**

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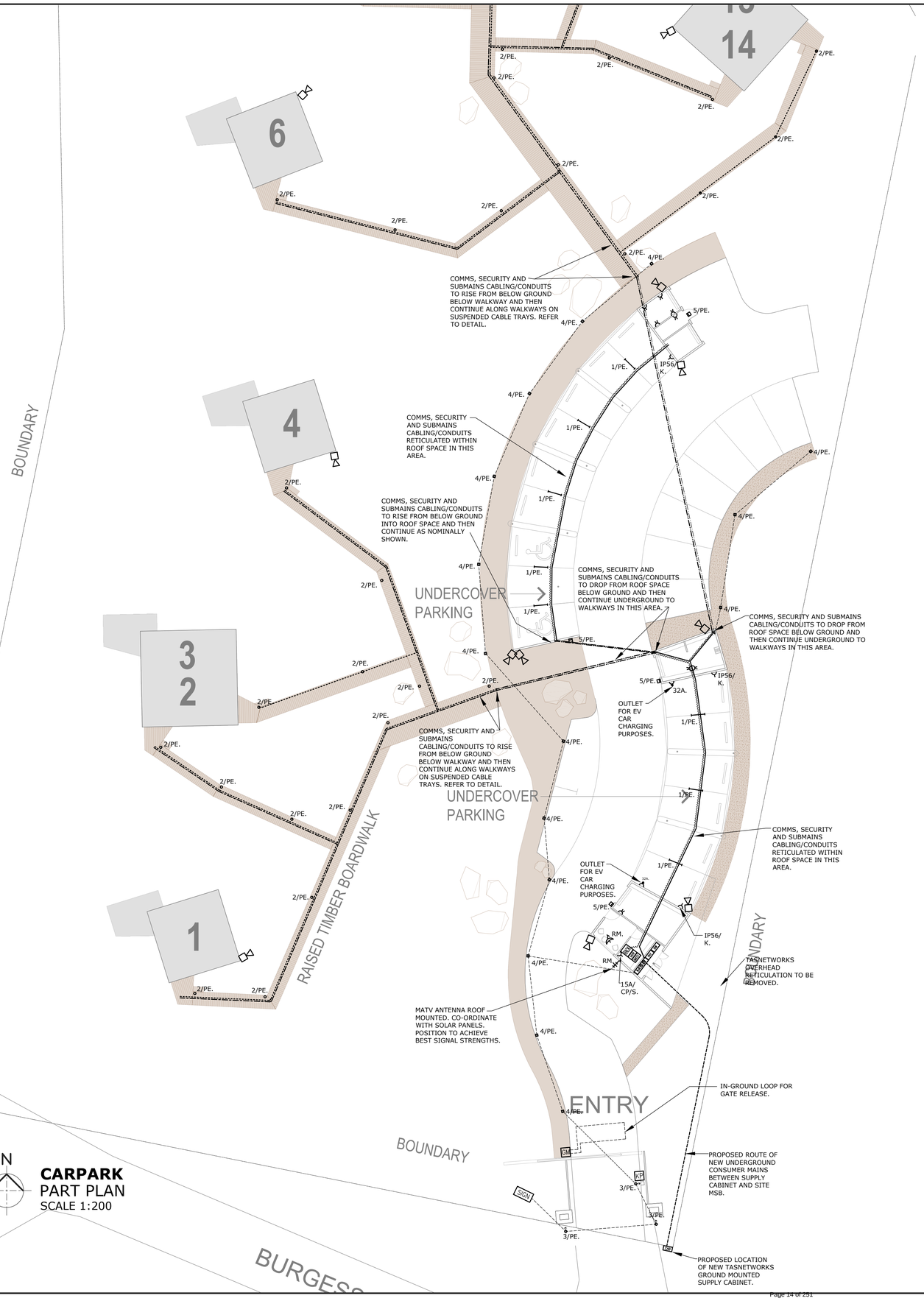
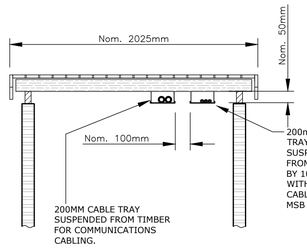


N

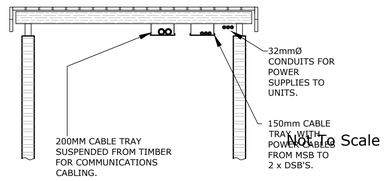
CARPARK
PART PLAN
SCALE 1:200

NOTES:

1. DRAWINGS TO BE READ IN CONJUNCTION WITH THE SPECIFICATION.
2. THE EXACT LOCATION OF ALL EQUIPMENT SHALL BE CONFIRMED ON SITE PRIOR TO COMMENCING WIRING INSTALLATION.
3. CO-ORDINATE ALL RECESSED EQUIPMENT WITH ALL ASSOCIATED SUB TRADES.
4. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH THE NCC AND ALL RELEVANT STANDARDS.
5. ALL GPO's/OUTLETS ETC TO BE MOUNTED AT 600 AFFL UNLESS OTHERWISE SHOWN.

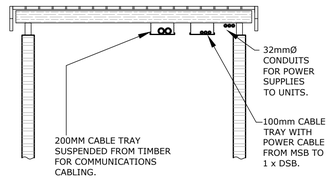


FROM START OF WALKWAY AT PARKING AREA TO UNIT 2/3.



NOT To Scale

FROM UNIT 2/3 UP TO UNIT 13/14.



FROM UNIT 13/14 UP TO UNIT 7.

WALKWAY CABLE PATHWAY DETAILS

ISSUE	REVISION	DATE	BY

CES | Coordinated Engineering Services
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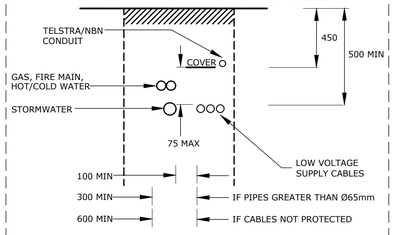
ELECTRICAL SERVICES
LIGHTING, POWER, COMMS AND SECURITY LAYOUTS. CAR PARKING AREA.

Issue Legend: **P** = Preliminary **T** = Tender **C** = Construction **A** = Amendment

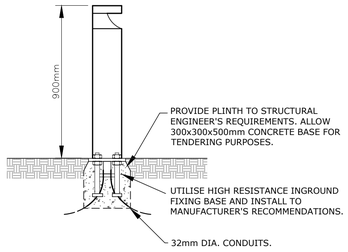
Drawn : SCK	PROJECT & SHEET No:	ISSUE:	SET OF:
Authorised : ACC	206065-E1	DA	2
Plot Date : 14/08/2020			
Scale/Size : 1:200 @ A1			
DWG File : 206065			

NOTES:
- CONFIRM CLEARANCES WITH LOCAL AUTHORITY, TASNETWORKS, NBN Co., CBOS, TASWATER AND TELSTRA

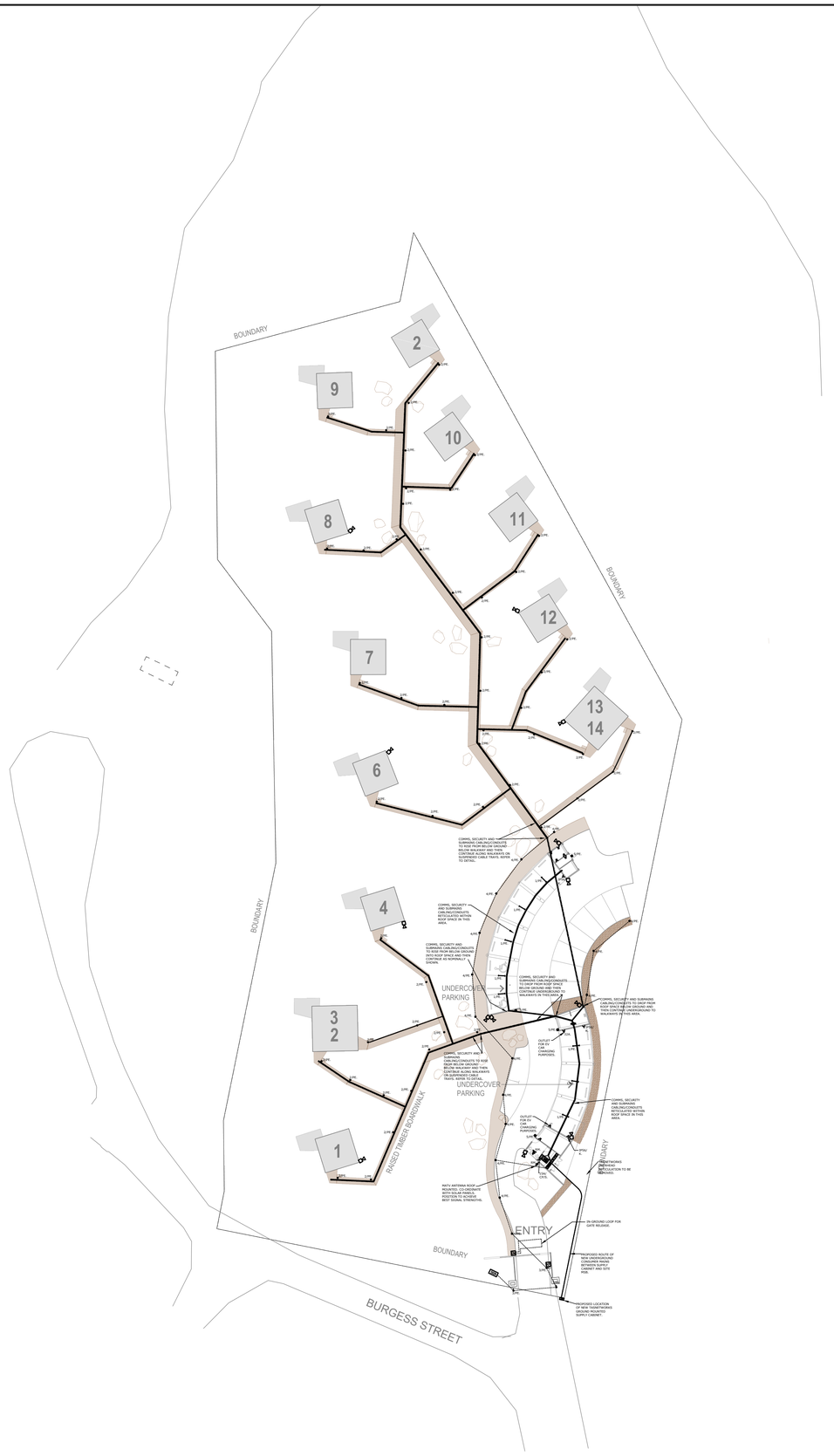
- UNDERGROUND CABLE INSTALLATION TO AS 3000. CATEGORY OF INSTALLATION TO BE SELECTED. INSTALLATIONS TO BE APPROVED PRIOR TO BACKFILLING.



TYPICAL DETAIL
SHARED TRENCH ARRANGEMENT
NOT TO SCALE



TYPE 4
BOLLARD LUMINAIRE DETAIL
NOT TO SCALE



N
SITE PLAN
SCALE 1:500

ABBREVIATIONS:

Ex.	DENOTES "EXISTING TO REMAIN"
ER.	DENOTES "EXISTING RELOCATED"
D.	DENOTES "TO BE DEMOLISHED"
IP56.	DENOTES "IP56 RATED TYPE"
K.	DENOTES "KEYED ALIKE"
15A.	DENOTES "15 AMP OUTLET"
32A.	DENOTES "32 AMP OUTLET"
CP.	DENOTES "CAPTIVE PLUG TYPE"
S.	DENOTES "SEPARATE CIRCUIT"
RM.	DENOTES "ROOF MOUNTED"
WM.	DENOTES "WALL MOUNTED"
CS.	DENOTES "MOUNTED IN CEILING SPACE"
WP.	DENOTES "WEATHERPROOF TYPE"
PE.	DENOTES "PE-CELL CONTROLLED"

NOTES:

1. DRAWING TO BE READ IN CONJUNCTION WITH THE SPECIFICATION, ARCHITECTURAL /CIVIL/LANDSCAPING WORKS DRAWINGS AND DETAILS.
2. REFER TO DRAWINGS 206065-E2 FOR OTHER GENERAL NOTES AND LEGEND OF SYMBOLS NOT SHOWN ON THIS DRAWING.
3. NOMINAL LOCATIONS OF ANY EXISTING EQUIPMENT SHOWN. CONFIRM EXACT LOCATION ON SITE And/Or FLOOR PLAN LAYOUT.
4. THE EXACT LOCATION OF ALL NEW EQUIPMENT SHALL BE CONFIRMED ON SITE PRIOR TO COMMENCING ANY TRENCHING, POLE FOOTINGS/CONCRETING & CABLING INSTALLATION.
5. PROVIDE TRENCHING, BACKFILLING AND MAKING GOOD OF ALL NEW/ OR RE-ROUTED UNDERGROUND SERVICES. UTILISE SHARED TRENCHING WHERE POSSIBLE, REFER DETAIL.
6. CO-ORDINATE ALL BELOW GROUND INFRASTRUCTURE/ EQUIPMENT WITH ALL AFFECTED SUB-TRADES.
7. ROUTE TRENCHING SUFFICIENTLY CLEAR OF TREES TO MINIMISE ROOT DAMAGE.
8. ALL WORKS TO BE CARRIED OUT IN ACCORDANCE WITH NCC AND ALL RELEVANT STANDARDS IN PARTICULAR AS 3000..
9. ALL CONDUITS TO BE SIZED WITH 50% SPARE CAPACITY, HAVE DRAW WIRES FITTED, LONG RADIUS BENDS UTILISED AND BE SEALED TO PREVENT MOISTURE INGRESS.

LEGEND:

- POWER/LIGHTING CABLING/CONDUIT UNDERGROUND
- COMMS/CABLING ON CABLE TRAY
- POWER/LIGHTING CABLING ON CABLE TRAY
- COMMS/SECURITY CABLING/CONDUIT UNDERGROUND
- POWER/LIGHTING CABLING/CONDUIT IN ROOF SPACE
- COMMS/SECURITY CABLING/CONDUIT IN ROOF SPACE
- LED BATTEN
- BOLLARD LUMINAIRE
- IN-GROUND LED MARKER LUMINAIRE
- IN-GROUND UPLIGHTER
- WALL MOUNTED LED BUNKER LUMINAIRE
- PE-CELL
- SIGN — SIGN WIRING POINT
- CAB — TASNETWORKS SUPPLY CABINET
- MSB — SITE MAIN SWITCHBOARD
- DSB — DISTRIBUTION SWITCHBOARD
- RACK — COMMUNICATIONS RACK
- NBN — NBN FRAME
- NVR — CCTV NETWORK VIDEO RECORDER - RACK MOUNTED
- MATV — MATV HEAD END - RACK MOUNTED
- MATV ANTENNA
- SATELLITE/MICROWAVE DISH
- GENERAL PURPOSE OUTLET
- DOUBLE GENERAL PURPOSE OUTLET
- 3 PHASE OUTLET
- CCTV CAMERA
- GM — GATE MOTOR WIRING POINT
- KP — ELECTRONIC KEY PAD

ISSUE	REVISION	DATE	BY

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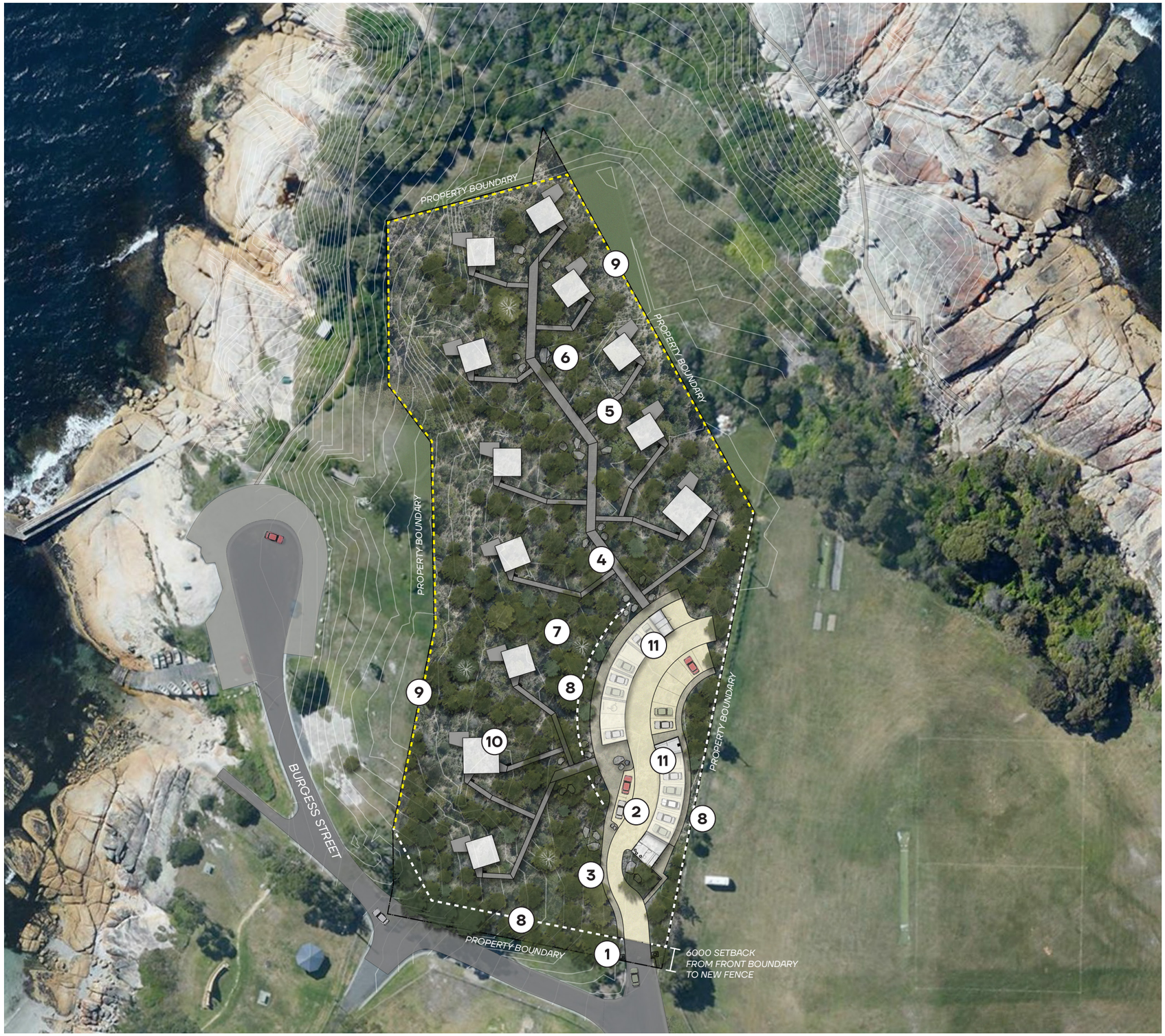
ELECTRICAL SERVICES
SITE LIGHTING, POWER, COMMS AND SECURITY LAYOUT.

Issue Legend: **P** = Preliminary **T** = Tender **C** = Construction **A** = Amendment

Drawn : SCK	PROJECT & SHEET No:	ISSUE:	SET OF:
Authorised : ACC			
Plot Date : 14/08/2020	206065-E2	DA	2
Scale/Size : 1:200 @ A1			
DWG File : 206065			



Key:

1. NEW SITE ENTRANCE GATE, EXISTING GRANITE COLUMNS RETAINED
2. COARSE GRANITE GRAVEL WITH STRUCTURAL HONEYCOMB REINFORCEMENT GRID TO ROAD AND CAR PARKING BAYS
3. EXPOSED AGGREGATE CONCRETE PATH WITH SHELL GRIT AND GRANITE AGGREGATE
4. 2200MM WIDE ACCESSIBLE TIMBER BOARD WALK WITH INTEGRATED PENGUIN NESTING BOXES
5. 1200MM WIDE ACCESSIBLE TIMBER BOARD WALK WITH INTEGRATED PENGUIN NESTING BOXES
6. LARGE GRANITE BOULDERS
7. SITE HABITAT RESTORATION WITH ENDEMIC COASTAL GRASSES, SHRUBS AND TREES (REFER TO ATTACHED LANDSCAPE STRATEGY REPORT AND PLANTING LIST)
8. 1800MM HIGH TIMBER BATTEN SCREENING FENCE (WHITE DASHED LINE)
9. 1200MM HIGH TIMBER BATTEN SCREENING FENCE (YELLOW DASHED LINE)
10. ACCOMMODATION SUITES WITH TIMBER DECK (REFER ARCHITECTURAL DRAWINGS)

L100 The Rookery - Landscape Concept Plan

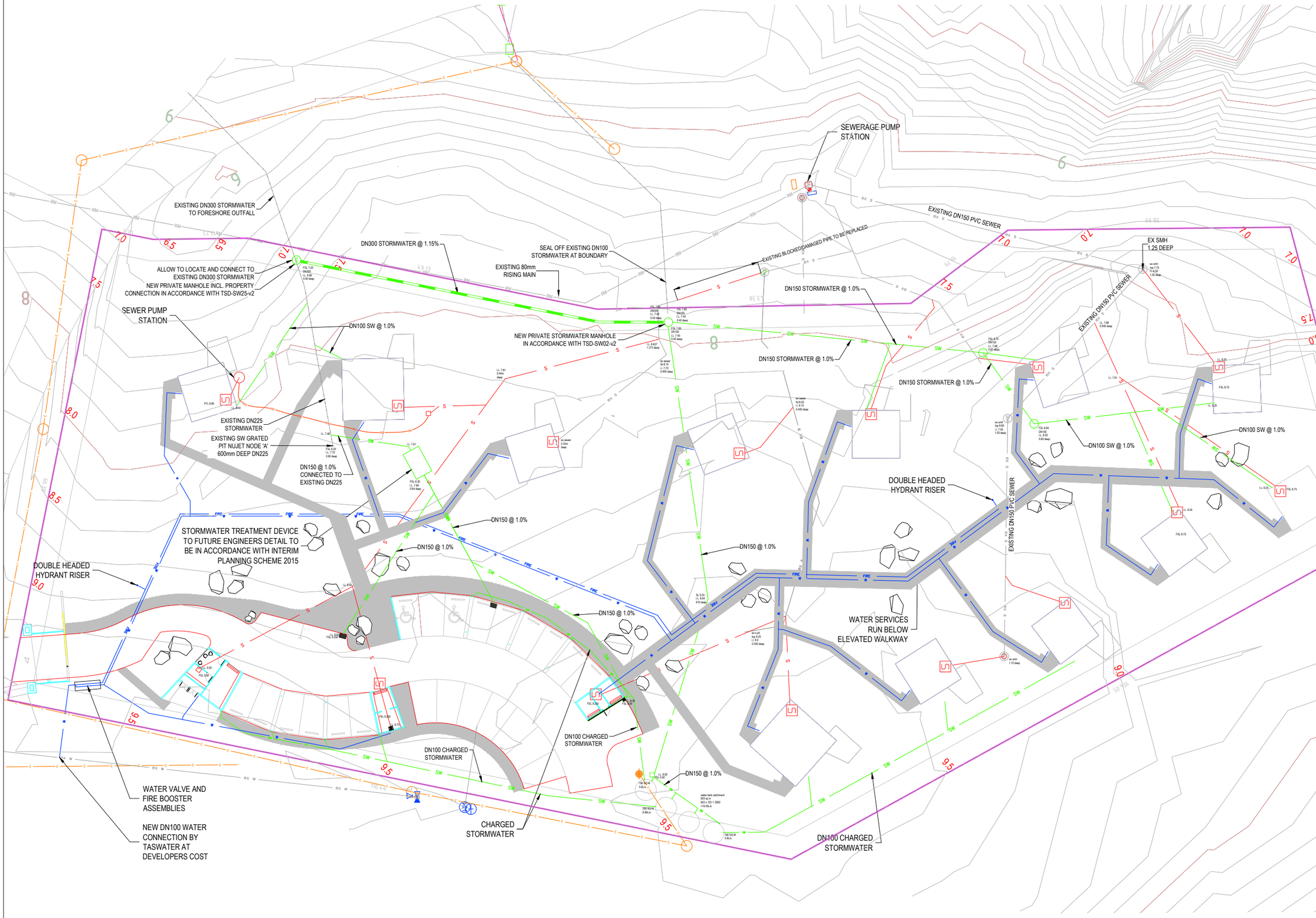
80 Burgess Street, Bicheno, Tasmania | Planning Approval V2

PREPARED FOR BICHENO INVESTMENTS PTY LTD

inspiring place

NORTH

Date 02/09/2020
Scale 1:500 @ A1
1:1000 @ A3



DRAINAGE SCHEDULE

—S—	SEWER LINE DN100 SN4 DWV AT MIN. 1.65% U.N.O.
—EXS—	SEWER LINE - EXISTING
—SW—	STORMWATER LINE DN100 SN4 PVC AT MIN. 1.0% U.N.O.
—EXSW—	STORMWATER LINE - EXISTING
—TW—	TRADE WASTE DN100 HDPE AT MIN 1.65% U.N.O
—EXTW—	TRADE WASTE - EXISTING
-'>'>'>-	AG DRAIN (DN90 SLOTTED PVC) U.N.O
'>'>'>'	AG DRAIN - EXISTING
	AIR ADMITTANCE VALVE
	DN100 SEWER STACK/DROPPER
	SEWER FIXTURE
	(DN90) STORMWATER DOWNPIPE U.N.O
	VENT (DN50) U.N.O
	TUNDISH
BTH	BATH (DN40)
B	BASIN (DN40)
FWG	FLOOR WASTE GULLY (DN50-DN100)
IO	INSPECTION OPENING
ORG	OVERFLOW RELIEF GULLY (DN100)
SHR	SHOWER (DN50)
S	SINK (DN50)
SL	SLOP HOPPER (DN50)
TR	TROUGH (DN50)
WC	WATER CLOSET (DN100)

WATER SERVICES SCHEDULE

—W—	COLD WATER MIN DN20 ID U.N.O.
—FS—	FIRE SERVICE DN100 GLAV ROLL GROOVE U.N.O
—THW—	TEMPERED HOT WATER
—HWF—	HOT WATER FEED
—HWR—	HOT WATER RETURN
	COLD WATER RISER
	HOT WATER RISER
	TEMPERING VALVE RMC Heat Guard MIX 15-20 (50deg) or approved eq.
	HW BALANCING VALVE - Aquastrom VT or approved eq.
	STOP VALVE
	THERMOSTATIC MIXING VALVE Caleffi 5213 TM(45deg) or approved eq.
	WATER METER
BTH	BATH
SHR	SHOWER
S	SINK
TR	TROUGH
UR	URINAL
WC	WATER CLOSET
T	TAP

INSTALL INSPECTION OPENINGS AT ALL MAJOR BENDS FOR STORMWATER AND ALL LOW POINTS OF DOWNPIPES

ALL PLUMBING AND DRAINAGE TO BE IN ACCORDANCE WITH COUNCIL REQUIREMENTS

ALL LOCATION OF EXISTING PIPES AND INVERTS TO BE DETERMINED BEFORE PERFORMING WORKS ON SITE

PAVED AND CONCRETE AREAS TO FALL TOWARDS PITS AT MIN 1%

DRAINAGE MUST COMPLY WITH:
-PLUMBING CODE OF AUSTRALIA PART DI
-AS/NZS 3500.3
-BCA VOLUME 2 PARTS 3.1.2 AND 3.5.2
(DEEMED TO SATISFY PROVISIONS)

SWIVEL AND EXPANSION JOINTS TO BE USED WHEN INSTALLING DRAINS IN HIGH REACTIVE SOILS.

PLUMBING AND DRAINAGE UNDER SLAB SHALL BE AVOIDED WHERE PRACTICAL

INSULATION SCHEDULE

HEATED WATER PIPES
TYPE SIZE RANGE INSULATION
CIRCULATING LINE 32-40 25mm ROCKWOOL WITH FOIL WRAP
BRANCH LINE 20-25 19mm FR BRADFLEX
OFFTAKE 18 13mm FR BRADFLEX

COLD WATER PIPES EXPOSED
TYPE SIZE RANGE INSULATION
ALL >20 13mm FR BRADFLEX

OTHER COLD WATER PIPES
TYPE SIZE RANGE INSULATION
ALL ALL NOT REQUIRED

NOTE: WATER PIPES ASSOCIATED DIRECTLY WITH PLANT EQUIPMENT SHALL BE INSULATED IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS FOR A TYPICAL INSTALLATION

HOT AND COLD WATER NOMINAL DIAMETERS

BRANCH OFF TAKES MIN. DN20
MAX OFF TAKE LENGTH 6m DN18
MAX OFF TAKE LENGTH 3m DN15
MAX OFF TAKE LENGTH 1m DN10

COPPER PIPES TO AS1432 (HOT AND COLD)
PE-X PIPES TO AS2492 (HOT AND COLD)
HDPE PIPES TO AS/NZS4130 (COLD ONLY)

HALF SCALE PRINT

DIAL BEFORE YOU DIG www.1100.com.au

BEWARE OF UNDERGROUND SERVICES
THE LOCATION OF UNDER GROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT LOCATION SHOULD BE PROVEN ON SITE BY THE RELEVANT AUTHORITIES. NO GUARANTEE IS GIVEN THAT ALL SERVICES ARE SHOWN.

THESE DRAWINGS MUST BE APPROVED BY COUNCIL & TASWATER PRIOR TO CONSTRUCTION

REV.	DESCRIPTION	DATE	REV.	DESCRIPTION	DATE
C	DEVELOPMENT APPLICATION	14/10/2020			
B	DEVELOPMENT APPLICATION	21/09/2020			
A	DEVELOPMENT APPLICATION	14/08/2020			

ALDANMARK CONSULTING ENGINEERS
Lower Ground
199 Macquarie Street
Hobart TAS 7000
03 6234 8666
mail@aldanmark.com.au
www.aldanmark.com.au

CLIENT: PLA ARCHITECTS
ADDRESS: 80 BURGESS STREET BICHENO TAS
SHEET: SITE SERVICES
PROJECT: THE ROOKERY
ISSUE: DEVELOPMENT APPLICATION

DRAWN:	DESIGNED:	VERIFIED:	DATE:
SL	NM	SL	14/10/2020
SCALE: 1:250		SIZE: A1	TOTAL SHEETS: 1
PROJECT No.		SHEET No.	REV No.
20E66-15		H1.02	C

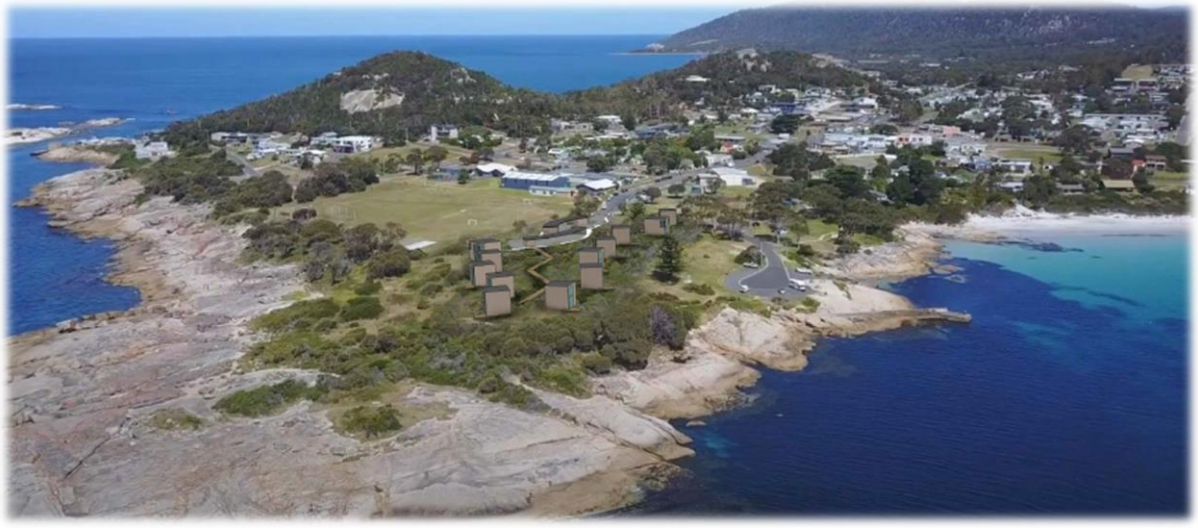
PROPOSED DEVELOPMENT:

DEMOLITION OF EXISTING STRUCTURE and VISITOR ACCOMMODATION

80 Burgess Street

Bicheno Tasmania

Philp Lighton Architects obo Bicheno Investments Pty Ltd



Prepared by: **Michael Ball**
BSc Hons Grad Dip Urban and Regional Planning
Consulting Town Planner

1. PROPOSAL

1.1 Philp Lighton Architects obo Bicheno Investments Pty Ltd make application for the redevelopment of the property known as 80 Burgess Street Bicheno. The application is in two parts. Firstly, the demolition of an existing structure on the site and secondly for a visitor accommodation complex on the site. The proposal plans are included as Attachment 1.

1.2 The proposed accommodation is comprised of twelve standalone visitor accommodation units, two of which are provide for separate occupation over two floors. The lower floor component providing for wheel chair access. Car parking for twenty-one vehicles (fourteen undercover and seven campervan spaces) are provided on the western boundary along with three service buildings incorporated into the covered car parking. These buildings provide for storage and administration.

1.3 The accommodation units are constructed in naturally finished timber and iron roofed on concrete slabs. Whilst the floor slabs are on-ground surrounding decking will be above ground providing safe habitat for the "little penguins" which are found in the area.

1.4 The accommodation units are served by timber walkways giving electric cart and pedestrian access from the carparking area.

1.5 The design of the accommodation units is based on prototypes at Deals road north of Bicheno. Figure 1 below shows the design and construction.

1.6 The location of the subject site is shown in Figure 2 below.

1.7 This report is presented as an assessment of the proposal from a planning perspective and in fulfilment of the provisions of the Glamorgan Spring Bay Planning Interim Planning Scheme 2015 (the Scheme).

FIGURE 1. An example of the accommodation units proposed.

FIGURE 2. Location (courtesy Google Earth)

2. SITE/EXISTING LAND USE

2.1 The site also known as Lot 50 on SP 134665 is an irregular shaped allotment of some of some 1.196 hectares. (A copy of the title is included as Attachment 2)

2.2 The site sits on a north facing point understood to be known as Peggys Point overlooking Waubs Bay and the Tasman Sea beyond as seen in Figure 2 above.

2.3 The property is not affected by any easements or restrictive covenants.

2.4 The site currently contains a number of structures historically used as a motel. The buildings have all been vacated and are in a relatively poor state of repair.

2.5 The site overall is relatively flat with gentle slopes falling away from the central high point.

2.6 The site is surrounded by the Lookout Rock State Reserve on the north east and western sides a sports ground, school and Council park to the south with the township of Bicheno beyond. An overview of the site is seen in Figure 2 above.

3. HYDRAULIC AND OTHER INFRASTRUCTURE

3.1 The site is currently served by both water supply and effluent disposal services provided by Taswater.

3.2 The site has frontage to Burgess Street which is a fully constructed road under the maintenance and management of the Glamorgan Spring Bay Council.

3.3 Power and telecommunications services are provided to the site.

FIGURE 3. Zoning of Property: Local Business (IPLANTAS website July 2020)

4. PLANNING CONTROLS

4.1 The site falls within the **Local Business Zone (Zone 20)** of the **Glamorgan Spring Bay Interim Planning Scheme 2015**.

4.2 The site also falls within the area affected by the Coastal Inundation Hazard area overlay

4.3 Part 20.1.1 of the Scheme provides the Zone Purpose Statements as follows

20.1.1.1 To provide for business, professional and retail services which meet the convenience needs of a local area.
20.1.1.2 To ensure that facilities are accessible by public transport and by walking and cycling.
20.1.1.3 To allow for small scale dining and entertainment activities at night provided that residential amenity of adjoining residential zoned land is protected.
20.1.1.4 To encourage residential use provided that it supports the viability of the activity centres and an active street frontage is maintained.
20.1.1.5 To ensure that building design and use is compatible with surrounding development and use, particularly on land in residential zones.
20.1.1.6 To allow for small shopping centres that might include a supermarket and specialty shops.
20.1.1.7 To allow for limited office based employment provided that it supports the viability of the activity centre and maintains an active street frontage.
20.1.1.8 To allow for dining and entertainment activities at night within food premises or local hotel.

4.4 There are no **Local Area Objectives** or **Future Character Statements** relating to this zone or site.

FIGURE 4: The development site viewed across Waubs Bay.

4.5 The proposed use falls within the **Visitor Accommodation** Use Class. Whilst not defined in the Scheme **Planning Directive 6** headed **Exemption and Standards for Visitor Accommodation in Planning Schemes** provides under 3.1(a)

"*the description for the Use Class of Visitor Accommodation is: use of land for providing short or medium term accommodation, for persons away from their normal place of residence, on a commercial basis or otherwise available to the general public at no cost. Examples include a backpackers hostel, bed and breakfast establishment, camping and caravan park, holiday cabin, holiday unit, motel, overnight camping area, residential hotel and serviced apartment."*

4.6 **Table 20.2** headed **Use Table** provides for the proposed use as a **Discretionary Use.**

4.7 The proposal is assessed against the following provisions of the Scheme.

20.3-Use Standards
- 20.3.1-Hours of Operation
- 20.3.2-Noise
- 20.3.3-External Lighting
- 20.3.4-Commercial Vehicle Movements

20.4-6.3.3-Development Standards for Buildings and Works
- 20.4.1-Building Height
- 26.4.2-Set-Back
- 26.4.3-Design
- 20.4.4-Passive Surveillance
- 20.4.5-Landscaping
- 20.4.6-Outdoor Storage

20.4.7-Fencing

Further assessment is provided in respect to the following Codes

E.1-Bushfire Prone Areas

E.6-Parking and Access

E.7-Stormwater Drainage and Disposal

E.15-Inundation Prone Areas

4.7.1 Part 20.3.1 relates to impact on residential amenity where the proposal is within 50 metres of a residential zone. The subject site is well beyond 50 m of the nearest residential zone and as such this part does not apply.

4.7.2 Part 20.3.2 relates to noise. The proposed use is of such a nature that it will not generate noise that would impact on the amenity of the surrounding area particularly residential land which is some 100metres away. It is submitted that the proposal will fulfil the Acceptable Solution.

4.7.3 Part 20.3.3 relates to impact of external lighting on residential lands within 50 metres. Again, the subject site is well beyond 50 metres from the nearest residential zone and as such this part is not applicable.

4.7.4 Part 20.3.4 relates to Commercial vehicle movements associated with a development within 50 metres of a residential zone. Again, the subject site is beyond 50 metres of the nearest residential zone and as such this part is not applicable.

4.7.5 Part 20.4.1 deals with Building Height. As the development site is beyond 10 metres of a Residential zone Acceptable Solution A1applies, that part provides for a building height of nine (9) metres. All of the proposed buildings are lower than that acceptable height.

4.7.6 Part 20.4.2 deals with setback. The Acceptable Solution provides for a setback of no greater than 3metres and buildings parallel to the frontage. The nature of the proposal and site precludes this solution and as such assessment is made against Performance Criteria P1 under this part and the following points are made.

(a) There are no Desired Future Character Statements for the area.
(b) There are no adjoining buildings and no continuous building line is evident in the streetscape
(c) It is submitted that the landscaping to be maintained and developed will enhance the adjoining allotments and streetscape generally.
(d) It is submitted that the large variation in front setback is appropriate maintain the existing streetscape and character of the area. Passive surveillance is maintained and entrapment minimised.

It is submitted that the proposal fulfills Performance Criteria P1 under this part.

4.7.7 Part 20.4.3 deals with Design. The Acceptable Solutions are not really relevant to the site or project and as such assessment is provided under the Performance Criteria under this part.

(a) The main access to the site is provided directly off Burgess Street through an existing identified access point marked by two stone cairns. The existing access is shown in Figure 5 below.
(b) The proposed office has a window overlooking the main access point. The streetscape is one of open vistas rather than building frontages and the proposed front setback is consistent with that appearance.
(c) The proposal does not involve large expanses of blank walls and the proposed landscaping will positively contribute to the existing streetscape.
(d) There is no significant mechanical plant proposed.
(e) No rooftop infrastructure is proposed

(f) No awnings over public footpaths are proposed.
(g) No shutters are proposed.
(h) There are no Desired Future Character Statements for the area.

In response to Acceptable Solution A2 under this part the proposed finished external timber surfaces fulfills the no greater than 40% light reflectance value.
It is submitted that the proposed design is a well-considered architectural design befitting the site characteristics and the surrounding area.

FIGURE 5. Existing entrance way and streetscape.

4.7.8 Part 20.4.4 deals with Passive Surveillance. The Acceptable Solutions under this part are not really relevant to the site or project and as such assessment is provided under the Performance Criteria under this part.

(a) The main access to the site and entrance to the office building are clearly visible from the adjacent public areas.
(b) The proposed office has a window overlooking the main access point and street beyond.
(c) No shop front is proposed.
(d) The site will be lit with appropriate bollard lighting providing security and safety for guests.
(e) Again, the carparking areas will be provided with bollard lighting.
(f) The access point is highly visible for users and clear sight lines are available to the public spaces and properties beyond.
(g) Sight lines will be available to other buildings and spaces although as can be seen from Figure 2 above they are substantially removed from the site.

4.7.9 Part 20.4.5 deals with Landscaping. A detailed landscaping plan has been prepared by Landscape Architects Inspiring Place to support this application. It is submitted that the proposed landscaping treatments fulfill the Performance Criteria as follows.

(a) The proposed landscaping will in my opinion enhance the appearance of the development and is particularly respectful of the character of the site and surrounds.
(b) The plan provides for an appropriate range of plantings and heights that create diversity interest and amenity whilst again being respectful of the site and surrounds.
(c) The plan is cognisant of the issue of site safety and entrapment spaces.
(d) There are no Desired Future Character Statements for the Area.

In response to Acceptable Solution A2 under this part there are no common boundaries with residential zones.

A copy of the landscaping plan is included as Attachment 3.

4.7.9 Part 20.4.6 deals with Outdoor Storage. No outdoor storage is proposed.

4.7.10 Part 20.4.7 deals with Fencing. A front boundary fence of 1800H timber posts and timber battens is proposed. This front fence is to be setback six (6) metres within the property boundary. Fencing along the common boundary with the adjoining oval to the east is to be 1800 high. The balance of the property is to be fenced to 1200 again with timber posts and battens. A 300mm gap at base for penguin permeability is included in the design.
It is submitted that the proposed fencing fulfills the relevant Acceptable Solutions. The fence is in my opinion a boundary marker rather than a security type fence.

4.7.11 Part E.1 headed Bushfire Prone Areas applies because of the areas of adjacent undeveloped land. Based on discussions with Mr Bellingan of Council a Bushfire Management Plan will necessarily be lodged with Council at the Building stage.

4.7.12 Part E.6 headed Parking and Access code deals with the provisions of carparking spaces and access relevant to the use. Table E6.1 requires for the proposed use as Visitor accommodation (Holiday Cabins) one (1) space per unit. In this instance fourteen units are proposed. Twenty-one (21) spaces are proposed of which seven (7) are campervan spaces addressing the need for a larger space to accommodate such vehicles. It is submitted that the number of spaces fulfills the Acceptable Solution under E6.6.1.

Spaces for persons with a disability are incorporated into the carpark design and are consistent with the Building Code of Australia. As such the proposal fulfills the Acceptable Solution under E6.6.2.

In respect to motorcycle spaces it is submitted that where guests arrive by motorcycle they will occupy one or more of the carparking spaces as is required. Further, experience shows that guests arriving by motorcycle are limited in numbers. I am of the opinion that the proposed arrangement is in fulfillment of E6.6.3 P1 (a) and (d).

4.7.13 Part E.6.7 headed Development Standards deals with standards as they relate to carparking and access. It is submitted that the proposal fulfills all of the relevant Acceptable Solutions under this part.

4.7.14 Part E7 deals with stormwater management. A Stormwater Management Plan for the proposal has been prepared by Aldanmark Engineers. That plan deals with onsite capture, treatment and disposal of stormwater consistent with the Acceptable Solutions under this part. A copy of the management plan is included as Attachment 4.

4.7.15 Part **E 15.1** of the Scheme provides the **Purpose of the Inundation Prone Areas Code** as follows

(a) identify areas which are at risk of periodic or permanent inundation from one or more of the following:
(i)riverine, watercourse and inland flooding, (where spatial information exists),
(ii)storm tide,
(iii)sea level rise;

(b) manage development in areas at risk from periodic or permanent inundation so that:

(i) people, property and infrastructure are not exposed to an unacceptable level of risk,

(ii) future costs associated with options for adaptation, protection, retreat or abandonment of property and infrastructure are minimised,

(iii) marine-infrastructure on coastal landforms is undertaken in a way that protects coastal features, processes and ecological systems from adverse impacts;

(c) *facilitate sustainable development of the coast in response to the impacts of climate change;*

(d) manage development on the coast so that:

(i) people, property and infrastructure are not exposed to an unacceptable level of risk,

(ii) adverse effects on the stability and functioning of the coastal environment are minimised,

(iii) future options for adaptation, protection, retreat or abandonment of property and infrastructure are maintained and associated future costs are minimised,

(iv) marine-infrastructure on coastal landforms is undertaken in a way that protects coastal features, processes and ecological systems from adverse impacts;

(e) preclude development that will affect flood flow or be affected by flood water, or change coastal dynamics in a way detrimental to development sites or other property;

(f) provide for appropriate development dependent on a coastal location.

Part E 15.7.3 provides the relevant development standards. It is submitted that the proposal fulfills A2 under this part as a site-specific survey shows that the site at its lowest point is some 6.5 metres above sea level. All of the proposed accommodation units will have a finished floor level of eight (8) metres. It is submitted that this is well in excess of any projected sea level rise as shown in Table 15.1. Further the site is underlain by Devonian granite which is not easily susceptible to erosion.

4.9.2 It is understood that the mapping carried out to determine potential inundation areas was not particularly detailed and identified all land under 10 metres above current sea level. This is to be corrected in the future and incorporated into the revised planning schemes. (Personal Comment Mr Luke Roberts Project Manager Flood Policy Unit SES Tas: 25 June 2020). I understand Mr Roberts has advised Council of these measures.

5.0 PLANNING ASSESSMENT SUMMARY

5.1 The proposal provides for a change of use and development. Essentially a high quality eco-friendly visitor accommodation experience is proposed taking advantage of the site characteristics and qualities.

5.2 The proposed design of the structure is in my opinion sensitive to the site having a minimal footprint leaving the substantive portion of the area for reinforcement of the existing landscape and protection of the habitat of the little penguins.

5.3 Whilst the use is of itself at Council's discretion and there is some reliance on performance criteria, I believe the proposal is a good use of the site from a planning perspective continuing an historical use of the land and further reinforcing the tourism attractions of the town for which it is well known. This latter point is entirely consistent with the Local Objectives for activity centres under 3.0.3 of the Scheme.

5.4 I am of the opinion that the proposal merits Council using the discretions available to it and therefore approval.

ATTACHMENT 1 PROPOSAL PLANS

ATTACHMENT 2 COPY OF TITLE

ATTACHMENT 3 LANDSCAPING PLAN

ATTACHMENT 4 STORMWATER MANAGEMENT PLAN

RESULT OF SEARCH

RECORDER OF TITLES

Issued Pursuant to the Land Titles Act 1980

SEARCH OF TORRENS TITLE

VOLUME	FOLIO
134465	50
EDITION	DATE OF ISSUE
5	18-Dec-2013

SEARCH DATE : 08-Jul-2020
SEARCH TIME : 11.12 AM

DESCRIPTION OF LAND

Parish of BICHENO, Land District of GLAMORGAN
Town of BICHENO
Lot 50 on Sealed Plan 134465
Derivation : Whole of 2-1-35 Granted to J. Barnard, J. Foster and R. Officer, Whole of Lot 1000 on Sealed Plan 134465 Gtd. to The Crown
Prior CTs 116403/1 and 134465/1000

SCHEDULE 1

C553994 TRANSFER to JANET HEATHER CAMERON Registered 23-Apr-2004 at noon

SCHEDULE 2

C262398 Land is limited in depth to 15 metres, excludes minerals and is subject to reservations relating to drains sewers and waterways in favour of the Crown
C262397 BOUNDARY FENCES AND OTHER CONDITIONS in Transfer
D107060 MORTGAGE to Bicheno Investments Pty Ltd Registered 18-Dec-2013 at noon
E36420 CAVEAT by Bollinger Investments Limited Registered 12-May-2016 at noon

UNREGISTERED DEALINGS AND NOTATIONS

No unregistered dealings or other notations

OWNER
WAUBEDEBAR PTY LTD & THE CROWN

FOLIO REFERENCE
CT 116403-1 27A. Appn.

GRANTEE
2a 1r 35p, J BARNARD, J FOSTER & R OFFICER PURS.
LOT 1000 1967m² THE CROWN

PLAN OF SURVEY

BY SURVEYOR A.S. HAMILTON

LOCATION
TOWN OF BICHENO
(SEC. H)

SCALE 1: 1000 LENGTHS IN METRES

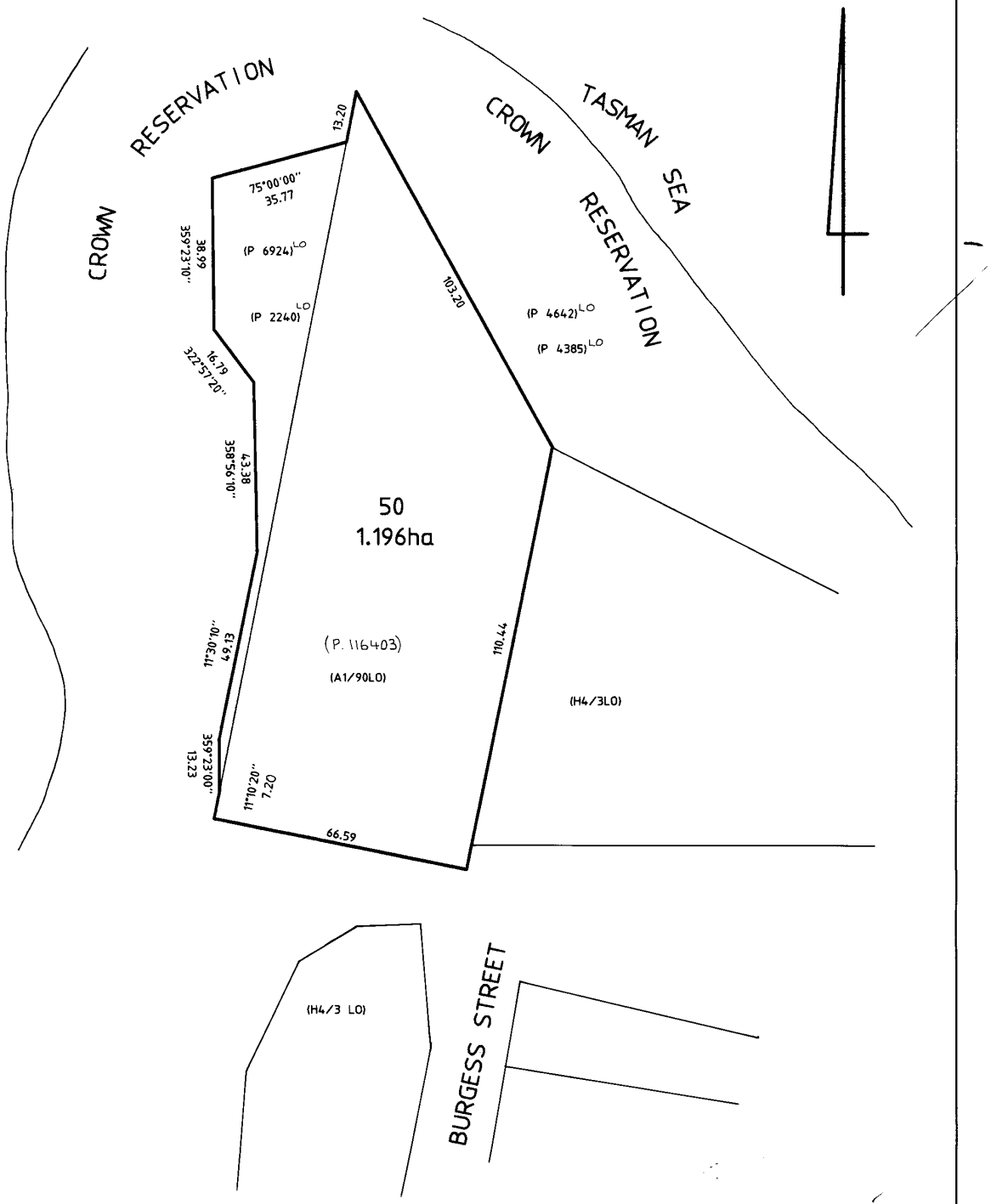
REGISTERED NUMBER
SP 134465

APPROVED 30 OCT 2000
EFFECTIVE FROM

Alice Kava
Recorder of Titles

MAPSHEET MUNICIPAL CODE No. 112 (6036)	LAST UPI No. 1605384	LAST PLAN No. 116403	ALL EXISTING SURVEY NUMBERS TO BE CROSS REFERENCED ON THIS PLAN

LOT 50 COMPILED FROM CT 116403-1 AND THIS SURVEY



SCHEDULE OF EASEMENTS	Registered Number
NOTE: THE SCHEDULE MUST BE SIGNED BY THE OWNERS & MORTGAGEES OF THE LAND AFFECTED. SIGNATURES MUST BE ATTESTED.	SP 134465

EASEMENTS AND PROFITS

Each lot on the plan is together with:-
(1) such rights of drainage over the drainage easements shown on the plan (if any) as may be necessary to drain the stormwater and other surplus water from such lot; and
(2) any easements or profits a prendre described hereunder.
Each lot on the plan is subject to:-
(1) such rights of drainage over the drainage easements shown on the plan (if any) as passing through such lot as may be necessary to drain the stormwater and other surplus water from any other lot on the plan; and
(2) any easements or profits a prendre described hereunder.
The direction of the flow of water through the drainage easements shown on the plan is indicated by arrows.

No easements covenants or profits a prendre are intended to be created.

SIGNED by Christopher Maxwell Price)
being and as a Property Manager)
prescribed in Statutory Rule No. 72 of 1999 and)
pursuant to an Instrument of Delegation dated the)
23rd day of September 1999 in the presence of:-)

Signature of witness:
Occupation: Property Officer
Address: Hobart.

Mike Anning

(USE ANNEXURE PAGES FOR CONTINUATION)

SUBDIVIDER: THE CROWN FOLIO REF: 134465/1000 SOLICITOR & REFERENCE: CROWN SOLICITOR 8550DR	PLAN SEALED BY: DATE: ..... REF NO. ..... Council Delegate
NOTE: The Council Delegate must sign the Certificate for the purposes of identification.	

SURVEY NOTES

SHEET 1 OF 1 SHEETS

Registered Number

SP 134465

CROSS REFERENCE PLAN NUMBERS USED AS PART OF THIS SURVEY

DESCRIBE BY REPORT THE EVIDENCE USED TO DETERMINE BOUNDARIES

All boundaries are open unless stated otherwise.
All CPs and LPs are steel stars unless shown otherwise
All traverse stns are SH nails unless shown otherwise

SURVEY CERTIFICATE

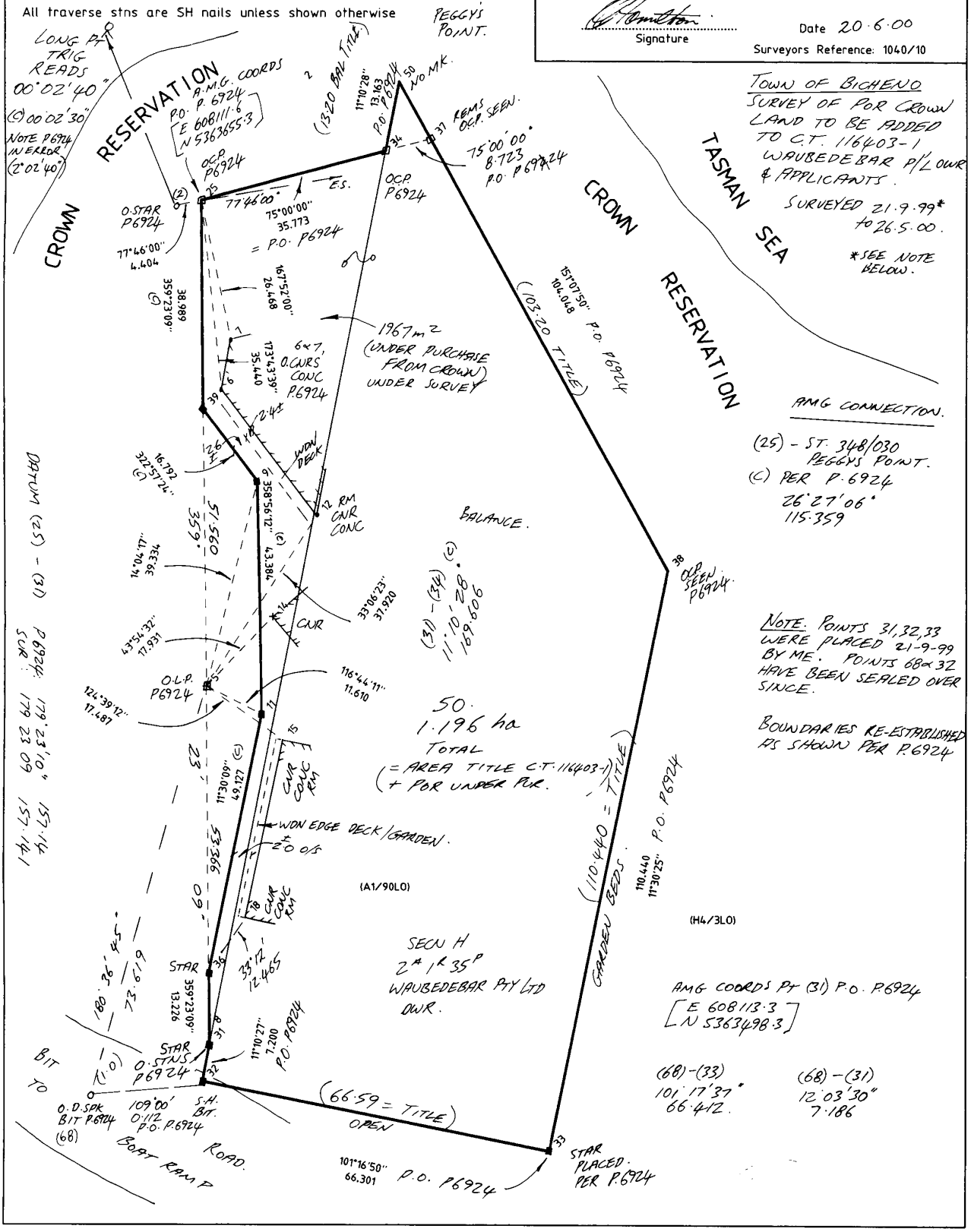
I, Andrew Stuart Hamilton of Howden in Tasmania
a registered surveyor HEREBY CERTIFY that:

(a) this survey is based upon the best evidence that the nature of the case admits
(b) the survey notes have been truly compiled from surveys made by me or made under my supervision; and
(c) this survey and the accompanying survey notes comply with the relevant legislation affecting surveys and are correct for the purpose required.

Signature

Date 20·6·00

Surveyors Reference: 1040/10



GUIDELINES FOR CONSTRUCTION ACTIVITIES AT SILVER SANDS (BICHENO) TO MINIMISE DISTURBANCE TO NESTING LITTLE PENGUINS ON SITE AND IN THE ADJACENT COASTAL RESERVE

Prepared by Eric J Woehler, BirdLife Tasmania for Jan Cameron, July 2016.

1. Introduction and context

These guidelines have been developed specifically for the proposed development at Silver Sands, Bicheno at the request of *Jan Cameron* to minimise the potential threats, impacts and disturbance to Little Penguins *Eudyptula minor* (LIPE) during pre-construction, construction activities, and post-construction and commercial operations phases on site.

Surveys by BirdLife Tasmania established the presence of nesting LIPE on site, primarily under a series of conjoined cabins on the northwest boundary of the property (adjacent to Burgess St) and under a refrigerated container on the southeast boundary (adjacent to school grounds and a service road).

Extensive searches of the site and adjacent coastal reserve by members with extensive experience in penguin surveys located several areas on site used for moulting (feather replacement following breeding season), suggesting that various areas of the Silver Sands property may be used for between 6 and 9 months annually, depending on individual variations in penguins' use of the site, and inter-annual differences in breeding effort.

With the previous (but still widely perceived) paradigm of a return to nests by penguins in Spring, breeding in Summer and moulting in Autumn no longer applicable (we are now recording year-round presence in colonies, with Winter breeding by penguins increasingly documented), it is critical to recognise that penguins may be on site potentially on any night of the year, albeit with lower likelihood in the April to August period, inclusive.

Some areas of dense native vegetation and introduced Blackberry (*Rubus* spp.) on site may hold nesting and/or moulting penguins but could not be assessed due to the density

of the vegetation and of the prickly canes (stems).

For the purposes of these guidelines, the breeding population of Little Penguins on site (ie the Silver Sands property but excluding those in the adjacent Coastal Reserve) is conservatively estimated to be 10 breeding pairs.

2. Pre-construction phase

Two elements of pre-construction preparations have been identified as compulsory before any construction activities are initiated on the property.

These are (1) fencing of the site's perimeter, and (2) provision of penguin nest boxes.

Fencing with one-way access will allow any penguins present on site to leave the site but not return, and will minimise (at best, prevent) the use of the site by penguins for roosting, breeding or moulting during the construction period. The fencing should be established during the nominal non-breeding period (April to August, inclusive) to minimise the number of penguins to be present on site during installation of the fence.

The fencing should extend into the soil to a depth of 20 - 30cm to prevent penguins burrowing under the fence to gain access to the site. Where possible, the fence should seek to reduce access for penguin predators to the site (domestic and feral cats and dogs, and Brushtail Possums in particular).

Once the fence is installed, any penguins present will be able to leave but not return, reducing the potential for penguins to initiate breeding inside the fenced enclosure. Based on current surveys of penguins elsewhere in Tasmania, it is expected that low numbers of penguins may be present on site during the non-breeding season. The fencing seeks to minimise the numbers present and to prevent further breeding by penguins on site during the construction phase.

Recognising that there will be penguins displaced by the fencing and construction, it is critical to provide nest boxes for penguins in the area surrounding the property. In this case, this would be the adjacent Coastal Reserve, and would likely require PWS approval.

It is expected that the nest boxes will accommodate breeding and moulting penguins displaced from the site during construction phase, and to facilitate potential increases in the local breeding population. Based on experiences elsewhere in Tasmania, the provision of nest boxes within and adjacent to existing LIPE colonies is generally successful over varying time periods from one season to several years.

The number of nest boxes required is site-specific, but given the estimated numbers of penguins displaced/disturbed by construction efforts (10 pairs, see above), and the relatively low cost in providing nest boxes, we propose an absolute minimum of 4x the estimated number of breeding pairs on site as an appropriate mitigation measure. We recommend that 40 nest boxes should be provided and established in the adjacent Coastal Reserve, subject to PWS permits (if deemed to be required).

All nest boxes provided on site or in the adjacent Coastal Reserve must be numbered with a unique identifier, and their locations mapped with GPS. These data (nest box identifier and GPS coordinates) must be provided to PWS and DPIPWE. We encourage the proponent to provide these data to BirdLife Tasmania to assist with ongoing surveys and monitoring efforts, and to facilitate the provision of population data to guests (see 4.4 Monitoring, below).

We encourage the proponent to consider whether additional nest boxes should be provided for penguins displaced from adjacent sandy foreshores if their breeding habitats are destroyed or rendered unusable by predicted rises in sea level, increased frequencies of extreme events and severity of storm surges.

BirdLife Tasmania recommends the design currently used by the New Zealand Department of Conservation (DOC). The design and construction specifications are provided in Appendix 1. We recommend additional ventilation holes are used for Bicheno.

3. Construction phase

Construction on site at Silver Sands poses several challenges to minimising disturbance to penguins. The fence will minimise the number of birds on site (ideally reducing the

numbers to zero), and the provision of nest boxes is expected to reduce the disturbance to displaced penguins.

Erring on the precautionary side by assuming that a number of penguins will be present on site (despite the fence) and in the adjacent Coastal Reserve, the following guidelines are proposed to minimise disturbance to these birds during the construction phase.

3.1 Timing of construction

Construction activities close to, or adjacent to the foreshore, should be timed as far as is practical and logistically feasible to be undertaken outside of the main breeding season of Little Penguins. We suggest that these construction activities be undertaken between April to August, inclusive – where practical and feasible, and without incurring unreasonable additional costs.

We recognise that it is possible that some construction activities may be required during the nominal penguin breeding season (September to March), and urge the proponent to consider undertaking additional surveys of penguins in adjacent areas to assess the numbers of penguins potentially at risk of impacts from construction activities during this period.

In addition to the reduction of noise associated with construction, potential disturbance to nesting birds from ground-vibrations from the construction activities during breeding season will be reduced or eliminated. It is believed that ground vibrations have the potential to cause nesting penguins to abandon their nests.

Where possible, no construction activities should be undertaken between Sunset and Sunrise. Generally there should be no activities undertaken at night as this is the time when the Little Penguins are most active in around the colony, and nocturnal activities will potentially disturb penguins in the adjacent Coastal Reserve.

3.2 Storage of materials

All stockpiles of natural and artificial building materials such as rocks, sand, soil and timber etc on site or on adjacent areas must be enclosed by penguin-proof fencing similar to the perimeter fence. Consideration should be given to storage/stockpiling of

these materials inside the perimeter fence.

Stockpiles of timber, soil, rocks etc present potential nesting and moulting habitats for penguins, and fencing them reduces the potential for penguins to occupy them at any stage of the development.

3.3 Nocturnal illumination

Illumination of the site is likely to be required for safety and security reasons during construction.

White light spill from buildings, vehicles and roadways onto adjacent areas will decrease the use of the foreshore by penguins. We encourage the proponent to investigate all options for minimising light spill onto the foreshore, whether active penguin colony or not, in order to minimise any adverse impacts of light spill during construction.

We also encourage the proponent to use illumination at the red end of the spectrum for illumination on site as required for safety and security purposes. Penguins are less sensitive to red light and its use would reduce the potential for light spill hindering the use of foreshore areas by penguins.

3.4 Coastal rehabilitation and revegetation

As with construction, rehabilitation and revegetation activities close to, or adjacent to the foreshore, should be timed as far as is practical and logistically feasible to be undertaken outside of the main breeding season of Little Penguins. We suggest that these construction activities be undertaken between April to August, inclusive – where practical and feasible, and without incurring unreasonable additional costs.

If the rehabilitation and revegetation activities require stockpiling of materials, see the guidelines at 3.2 above. If nocturnal illumination is required, please refer to the guidelines at 3.3 above.

3.5 Penguin encounters

On each day when heavy machinery is to be used on site, or when structures are to be removed or vegetation cleared, an inspection should be undertaken before any activities

to ensure no penguins are present in the immediate area that would be at risk of potential injury or death as a result of the planned operations.

It is quite possible that penguins are encountered after construction activities have commenced on a day (eg excavation exposes a nest/burrow), so vigilance by all construction personnel is required during all periods and phases of construction.

In the event of penguins being encountered, the following guidelines are recommended for adoption. Note, as Little Penguins are a protected species under Tasmanian legislation, these guidelines for penguin encounters may require approval and/or permits from DPIPWE/PWS.

It is critical to record all details associated with all encounters – no matter how brief and no matter where on site. If any penguins are found injured or dead, PWS must be notified immediately.

Further PWS requirements should be determined in consultation with PWS before construction commences. It is likely that PWS/DPIPWE will issue further conditions associated with penguin ad other wildlife encounters on site.

At a minimum, the following data must be recorded for each penguin encounter on site:

- date and time,
- detailed description of location on site, preferably with GPS coordinates and copy of site plan area relevant to encounter location,
- photo-documentation of the location showing (i) the penguin burrow/nest site, and (ii) the penguin(s) *in situ* if possible. Additional images to provide context of encounter if deemed useful and/or relevant, and
- detailed description of penguin(s) as per following categories (a) to (e) below. The situation of each encounter will determine the response(s) that are initiated.

The following are identified as potential situations that may be encountered during construction. For each, an interpretation is provided, and a series of proposed responses. DPIPWE/PWS may require additional responses to these situations.

On balance, it is likely that situations (c) to (e) will result in breeding failure (abandonment of eggs and chicks by the parents). Under these circumstances, PWS should be consulted for appropriate disposal of the eggs and chicks, with consideration of post-graduate student research projects, TMAG and/or QVMAG.

Little Penguin eggs will chill within 6 – 12 hours after abandonment, depending on ambient conditions, and should be collected after 48 hours, subject to permit requirements. If chicks are abandoned, consideration should be given for their immediate and urgent relocation to accredited wildlife carers with expertise and experience in fostering penguin chicks.

a) One or more adult penguins present, no chicks or eggs, no evidence of moult.

Situation encountered	Interpretation	Proposed response(s)
One or more penguins present within a nest or burrow, or under a structure or vegetation. No eggs or chicks present. No evidence of moult.	Inactive (non-breeding) burrow/nest. Pre- or post-moult penguins. Non-breeding, non-moulting penguins.	Translocate to an empty nest box in adjacent Coastal Reserve. All penguin(s) to remain together during translocation and placed in nest box within 2 minutes of removal from location where encountered.

b) One or more adults present, no chicks or eggs, evidence of moult.

Situation encountered	Interpretation	Proposed response(s)
One or more penguins present within a nest or burrow, or under a structure or vegetation. No eggs or chicks present.	Inactive (non-breeding) burrow/nest. Moulting penguins. Non-breeding penguins.	Translocate to an empty nest box in adjacent Coastal Reserve. All penguin(s) to remain together during translocation and placed in nest box within 2 minutes of removal from location where encountered.

Evidence of moult (feathers on ground and/or penguin in moult).		If there is evidence that the penguin(s) is/are attempting to leave nest box, consult with PWS with respect of taking penguin(s) into care for duration of moult, or to allow the penguin to select another moult site). Details to be recorded on moult stage of all penguins (ref and illustration required).

c) One or more adults present, egg(s) present, no chicks present.

Situation encountered	Interpretation	Proposed response(s)
One or more penguins present within a nest or burrow, or under a structure or vegetation. One or more egg(s) present, no chicks present.	Active (breeding) burrow/nest.	Translocate to an empty nest box in adjacent Coastal Reserve. Translocate substrate of nest/burrow with adult(s) in attempt to maintain breeding effort. All penguin(s) to remain together during translocation and placed in nest box within 2 minutes of removal from location where encountered. If only one adult present, monitor area of original nest for night-time return of partner, then translocate to same nest box as partner and egg(s) earlier. May require monitoring on second night if partner fails to return on first night following encounter.

		If there is evidence that the penguin(s) is/are attempting to leave nest box, consult with PWS/BirdLife Tasmania? with respect to allowing the penguin(s) to depart with consequential nest failure).

d) One or more adults present, one or more egg(s) and/or chick(s) present.

Situation encountered	Interpretation	Proposed response(s)
One or more penguins present within a nest or burrow, or under a structure or vegetation. Egg(s) and chick(s) present, or no eggs present, one or more chick(s) present.	Active (breeding) burrow/nest.	Translocate to an empty nest box in adjacent Coastal Reserve. Translocate substrate of nest/burrow with adults in attempt to maintain breeding effort. All penguins, egg(s) and chick(s) to remain together during translocation and placed in nest box within 2 minutes of removal from location where encountered. If only one adult present, monitor area of original nest for night-time return of partner, then translocate to same nest box as partner and egg(s) earlier. May require monitoring on second night if partner fails to return on first night following encounter. If there is evidence that the penguin(s) is/are attempting to leave nest box, consult with PWS/BirdLife

		Tasmania? with respect to allowing the penguin(s) to depart with consequential nest failure).

e) No adult(s) or eggs present, one or more chicks present

Situation encountered	Interpretation	Proposed response(s)
No adult penguins present. One or more chick(s) present.	Active (breeding) burrow/nest.	Place chick(s) into warm/dry temporary holding enclosure. The enclosure must be dark, well ventilated and be situated away from sources of noise and vibration. Consult with/advise PWS of situation. Translocate substrate of nest/burrow with chick(s) in attempt to maintain breeding effort. Late in the afternoon, place enclosure with chicks at site of nest/burrow to encourage/facilitate reunion of parents with chicks. Monitor area of original nest for night-time return of one or both adults. Capture parents if they return to nest site. If no adult(s) present on first night, advise PWS and return to monitor site for second night. Likely will require 2 or 3 nights to capture both parents.

		If both parents captured, translocate adults and chick(s) to an empty nest box in adjacent Coastal Reserve. All adults and chick(s) to remain together during translocation.

4. Post-construction and commercial operations phases

Activities on site following the completion of construction and rehabilitation activities pose ongoing potential risks and threats to Little Penguins on site and in the adjacent Coastal Reserve.

The increased human presence on site and in the adjacent Coastal Reserve is reasonably expected to increase the potential disturbance to nesting penguins, particularly after hours and on weekends during the summer months when penguin numbers ashore are at their highest.

The increased vehicular traffic on site and on adjacent coastal roads poses potential risks to Little Penguins by being struck by vehicles. Road kill of penguins is an existing issue in Bicheno (and elsewhere in Tasmania) during the summer months, and all instances of injured and deceased penguins on roads around the site must be recorded. We would encourage the sharing of data on road-killed penguins to be shared with BirdLife Tasmania, and for the carcases to be collected and provided to post-graduate researchers at the University of Tasmania. BirdLife Tasmania can arrange for this.

We encourage the proponent to consider if there is need to designate foreshore areas used by penguins as “no-go” areas for people throughout the year to minimise or remove potential human impacts on nesting penguins.

The following guidelines are provided to address these potential risks and threats, and to provide data on the status of the resident (on site) and adjacent (off-site, in the adjacent Coastal Reserve) Little Penguin breeding populations.

4.1 Nocturnal illumination

We encourage the proponent to use illumination for pedestrian routes, access to accommodation, car parks etc at the red end of the spectrum. The illumination should be kept to a minimum, use low-intensity red light(s) and avoid illuminating the main colony area amongst the accommodation units.

Light spill from accommodation and service facilities, walking decks and vehicles and car parking areas should be minimized as far as possible with regard to safety and security. This is critical for Little Penguins, as illumination can disorient penguins returning to their burrows.

All white-light sources such as torches, flashes on smart phones, tablets etc must be prohibited at all times outside accommodation and other buildings after sunset throughout the year to prevent disturbance to nesting and moulting penguins on site, or to penguins in the adjacent Coastal Reserve.

All events where these guidelines have been infringed must be recorded to assess the ongoing level of disturbance to nesting penguins on site.

4.2 Predator exclusion

Dogs on lead and free-ranging dogs pose serious risks to penguins, with numerous reports of dog attacks on penguins around Tasmania. Dogs are estimated to have killed approximately 100 penguins in the Bicheno area in the last few years (BirdLife Tasmania unpubl. data). Dogs have killed many penguins in recent years statewide, and the proposed walkways and coastal access are likely to increase the likelihood of dog attacks on site.

Consideration should be given for a dog-friendly detour in the Foreshore Walk. The route could leave the existing track and head towards the Lion's Park, pas the school and return to the Foreshore Walk close to the Gulch may reduce the use of the Peggy's Point foreshore area by dogs. Consultation with dog owners may reduce community opposition to dog restrictions around Peggy's Point.

Even well behaved dogs pose a risk to penguins; dogs on lead leave scent trails that other dogs follow. It is critical to consider the designation of foreshore areas used by penguins as "no-go" areas for dogs throughout the year. We encourage the proponent to consider making the entire Silver Sands area a dog-exclusion zone.

All instances where dogs have been present on site must be recorded to assess the ongoing level of disturbance to nesting penguins on site. All instances or suspected instances of dog attacks on penguins on site must be reported to PWS and details logged. BirdLife Tasmania is actively recording these events in a statewide database to allow a statewide analysis and synthesis to be competed. We request these data on dog attacks and suspected dog attacks are shared with BirdLife Tasmania.

4.3 Penguin encounters

There must be a strict policy on site for penguins to be 'off-limits' to guests and staff at all times of the year. The policy must include a strict "hands off" approach to penguins throughout the year. Guests, visitors and staff must be strongly discouraged from actively searching for penguins on site during their stays. This is true for both daylight and night-time periods. No penguins are to be handled by guests, visitors or staff under any circumstances.

BirdLife Tasmania encourages the proponent to consider the establishment of a penguin interpretation facility on site or possibly in the adjacent Coastal Reserve (subject to Council and PWS approvals). The facility could provide a means by which guests, visitors and staff (and potentially members of the Bicheno community and tourists) could see Little Penguins, be informed about conservation and management issues, and provide an additional focus for penguin research in association with the proposed development.

There will be instances where guests and visitors report 'injured' or 'abandoned' penguins on site (or elsewhere) to staff. Almost always, such reports are incorrect – moulting birds, failed-breeding and non-breeding birds, and large chicks outside burrows are often misreported by well-meaning persons to be injured or abandoned.

All such reports must be checked immediately to determine that the birds involved were in fact uninjured. It is recommended that two staff members have the responsibility of

investigating such reports. These staff should have some additional training from a wildlife carer or veterinarian with expertise in penguins.

In the event of an injured or deceased penguin is reported and located, it is recommended that a local veterinarian is contacted and the injured penguin transported for assessment and treatment. The veterinarian will provide appropriate guidance to the staff on all aspects of the response.

All instances of injured and deceased penguins must be reported to PWS/DPIPWE. If the injuries require euthanasia, the carcase should be retained for potential necropsy to determine cause of death, and the carcase made available for research purposes. For example, there are several post-graduate projects investigating the ingestion of plastics in seabirds at the University of Tasmania. BirdLife Tasmania has permits to collect carcasses and is involved in several research projects at the University of Tasmania.

All instances of injured and deceased penguins must be logged, with details on the date and location recorded, treatment regime as determined by the veterinarian, and the ultimate disposition of the individual (returned to wild, under care of wildlife carer etc). These data are to be provided to PWS/DPIPWE.

4.4 Monitoring

The collection of scientifically-robust data is critical for assessing the efficacy of all on-site management efforts and to establish the status and trends of the breeding population of Little Penguins on site and in the adjacent Coastal Reserve.

Analyses and interpretation of the efficacy of management strategies will be critical for PWS/DPIPWE and for Silver Sands management and staff, in recognising and reinforcing the value of efforts to conserve Little Penguins on site.

In summary, we recommend that the following threats are to be monitored on site and in the adjacent Coastal Reserve, with the data provided to PWS/DPIPWE on an annual basis, or more immediately in the event of an extreme event (2 or more birds involved in the same incident):

- Road kill and vehicular strikes where reported,

- Dog attacks, and
- Instances of injured or deceased penguins (may be a result of either above).

These data can be used by the proponent as the basis for community engagement and education. With several instances of dog attacks on penguins at Bicheno in recent years, active efforts to protect penguins from dog attacks on site would send a strong message to the community. Data from these monitoring efforts can be shared with the community and distributed in the form of interpretive handouts to guests and visitors, and to the wider Bicheno community.

The numbering and GPS mapping of nest boxes on site and in the adjacent Coastal Reserve (see *2. Pre-construction phase*, above) will allow for monitoring of the adoption of nest boxes and the breeding success of each nest box over time. Monitoring of nesting penguins requires Animal Ethics Committee (AEC) approval and DPIPWE/PWS permits. BirdLife Tasmania undertakes such monitoring in southeast Tasmania and would be willing to undertake the monitoring for this site. Adoption of BirdLife Tasmania protocols provides opportunities for undergraduate and post-graduate student involvement, research opportunities, and the potential for community engagement and education.

Monthly monitoring of basic population parameters, including but not limited to:

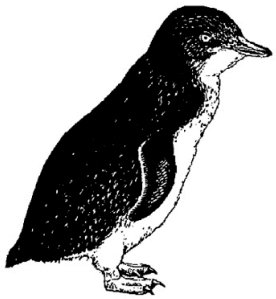
- numbers of penguins present in nest boxes on site and adjacent off-site,
- numbers of active nests on site and adjacent off-site,
- numbers of chicks on site and adjacent off-site,
- numbers of successful breeding pairs on site and adjacent off-site, and
- numbers of moulting penguins on site and adjacent off-site,
- etc

will allow these data to be provided on an ongoing basis for guests and staff as part of the ongoing management of the site. These monthly data can be compared with parallel monitoring efforts elsewhere in Tasmania, and provide the potential for research opportunities.

Acknowledgements

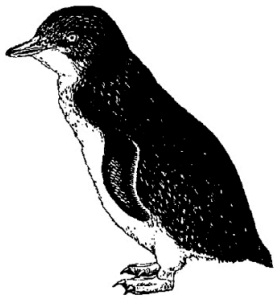
I am grateful for comments on an earlier draft by Dr Valeria Ruoppolo (DVM), Dr Cathy Bulman and Dr Perviz Marker that improved the guidelines.

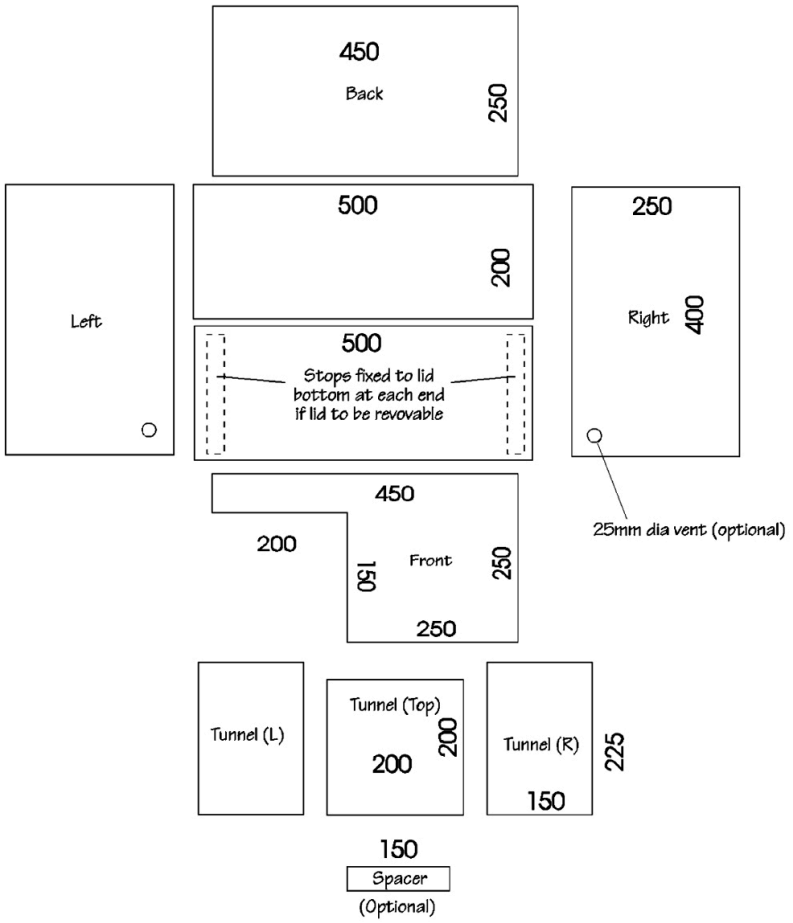
Appendix 1. Little Penguin nest box design specifications used in New Zealand and recommended by BirdLife Tasmania for the Silver Sands site. Additional ventilation holes are recommended for Bicheno.

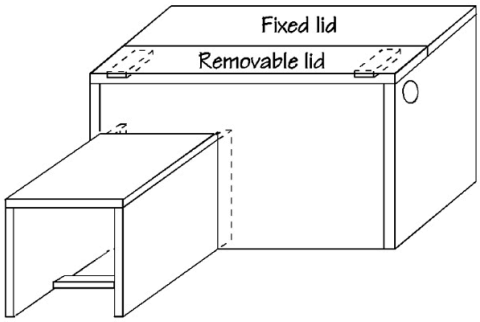


Blue penguin nest box

Version 5.0 (fixed or part removable lid)







Materials

All timber H3 P. rad
1.2m 200*25
1.7m 250*25
0.45m 150*25
Scraps for spacer and stops
25mm holes (2)
Quantity 75mm galv flathead nails

Department of Conservation
Te Papa Atawhai

Dave Houston
Oamaru Field Centre
Department of Conservation
Box 388, Oamaru, New Zealand
dhouston@doc.govt.nz

Appendix 2. PWS Information Sheet on Little Penguins. Note the figure under the heading "Seasonal activities" on page 3 below is no longer valid (see text above, *1. Introduction and Context*). Source: http://www.parks.tas.gov.au/file.aspx?id=24979).

WILDLIFE

Little Penguin

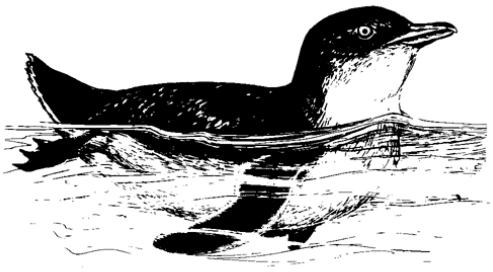
Eudyptula minor

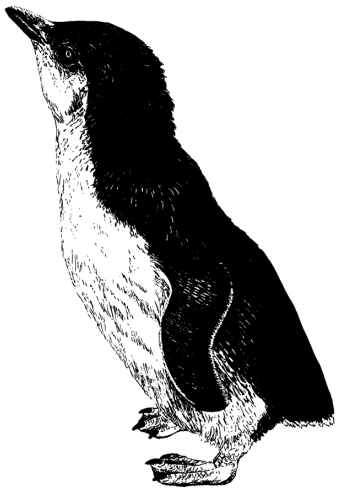
The scientific name of the little penguin (or little penguin) *Eudyptula minor*, is most descriptive. Not only is it the smallest of all penguins, but also the Greek word 'Eudyptula' means 'good little diver'. This flightless seabird breeds in colonies along the southern coast of Australia, as far north as Port Stephens in the east to Fremantle in the west. Subspecies are also found in New Zealand. Very little is known about their populations. However, Tasmania estimates range from 110,000–190,000 breeding pairs of which less than 5% are found on mainland Tasmania. The most abundant populations are found on offshore islands. Adults weigh around 1 kilogram and grow to a height of 40 cm with an average lifespan of 6 years. In one instance, an age of 21 years has been recorded.

At sea

The little penguin is superbly adapted to life at sea. Its streamlined shape and the efficient propulsion of its flippers (used underwater in a similar manner to that of birds in the air) enables it to seek prey in shallow short dives, frequently between the 10–30 m range and very occasionally extending to 60 m. Its webbed feet are excellent for manouvering on the surface and has claws for digging and climbing slippery rocks. Penguins have large eyes with retinas specially adapted for detecting movement in low light. Unlike us, little penguins have flattened corneas so that they can see clearly both under and above water.

In common with other penguins and many other sea creatures, the little penguin uses counter-shading as camouflage; the upper surface being dark to blend in with the sea from above while the underside is silvery-white, similar to surface reflections from below. This



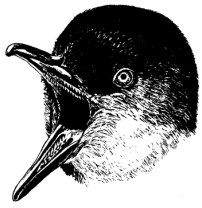


helps penguins avoid the attention of predatory birds from above, seals and sharks from below and also means their prey may not detect them. Some little penguins return consistently to their burrows year round but most stay at sea throughout the autumn-winter period.

Feeding

The little penguin diet varies in different locations but consists mainly of small school fish, some squid or krill (shrimp-like crustaceans). Prey is caught with rapid jabs of the beak and swallowed whole, aided by barbs on the roof of the mouth. Prey is swallowed whole. Food is stored centrally in a large gut rather than in a crop, as this would unbalance them.

Little penguins need to eat about 25% of their body weight per day just to maintain condition, more if feeding young or putting on condition to moult. Occasionally they will take crab larvae or sea horses from the sea floor.



Department of Primary Industries, Parks, Water and Environment

Tasmania

Colonies and nest sites

Most resident birds in a colony return to their burrows in small groups within an hour or so of darkness, to avoid predators such as gulls, ravens and sea eagles. Groups of penguins gather beyond the surf where they may be heard calling to each other. They come ashore in a flock because there is safety in numbers. More birds means more eyes to detect predators and the sheer numbers can be confusing to a predator. With large colonies hundreds of birds may come ashore in a brief space of time.

Nests are usually at least 2 m apart and generally consist of a 60–80 cm tunnel ending with a nest 'bowl' made from grass or seaweed. Other nests may vary from mere scrapes beneath a clump of tussock, to elaborate connecting tunnels or a home amongst coastal rocks. Little penguins may have to compete with shearwaters, water rats, snakes and more recently, rabbits, for burrows.

Breeding

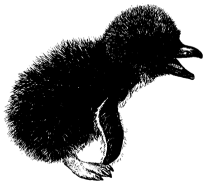
Between June and August male penguins return to either renovate old burrows or to dig new ones. Noisy male courting displays greet arriving female penguins. Although only one mate is chosen, they will usually not be their sole partner for life. Birds breed annually, and in eastern Australia the usual clutch of two eggs may be found as early as May or as late as October.

In successful years, two clutches might be reared in one season, which is unusual among penguins. The penguin pair share incubation shifts of usually 1–2 days and hatching takes place within 33–37 days. About 60% of the eggs successfully hatch.

At hatching the chicks are sooty black and weigh little more than 25 g. Both parents feed the chicks which eat up to half their weight per day and at 40 days old thay may be even heavier than their parents.

When 5 weeks old, the chicks are very active and even stay outside burrows waiting to be fed by their parents. Within another 2 or 3 weeks they are ready to move to the sea, where they will grow to maturity.

About 70% of chicks reach this stage however only 15% will live to maturity of two years old. Most of these mature birds will return to their natal colony to breed.



2 days old

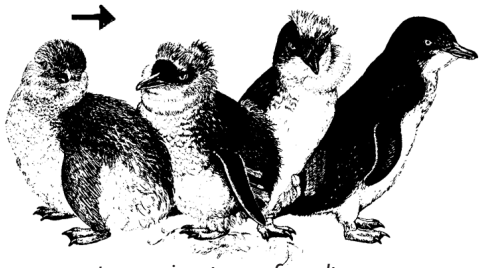
17 days old

25 days old

35 days old

Moult

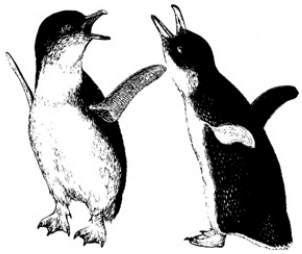
After breeding, the adults feed frantically to put on condition for their two week moult ashore. They must nearly double their weight because they will not feed or drink during moult. If their nests are large, moulting will occur there but often the penguins choose a roomier place where they can more easily preen and scratch. Such places are obvious from the thousands of feathers scattered about.



progressive stages of moult

Song

Song and displays serve to attract mates, stave off intruders and, as a duet, unite a pair's attachment to each other. The distinctive individual song moves from a bass rumble to a trumpeting cry, accompanied by flipper, beak and body movements. These calls and displays vary in intensity from a 'half-trumpet display' to a fever pitch of sound and body activity. At night, and especially during the breeding season, the noisy din of a penguin colony can be considerable.



Seasonal activities

Variations in food supplies, caused by changes in ocean currents or other factors, determine the pattern of life for each local population of little penguins and may differ considerably from the diagram below. In favourable years, eggs may be laid in May and up until October, with two or even three broods of chicks reared in one year.

Threats and predation

Seasonal changes in natural food supplies from year to year cause many young birds to be washed up dead or in weak condition on our beaches. Nestlings may also be killed by heat or by tick infestations. Due to their small size little penguins have many predators. Australian and New Zealand fur seals both eat little penguins as does the occasional leopard seal. Large gulls can kill penguins and inshore, white-bellied sea eagles catch many.

Around colonies water rats take eggs and chicks. Ravens and raptors patrol these areas for exposed eggs, chicks and adults, as do quolls and Tasmanian devils at night on Mainland Tasmania. However, little penguins have evolved alongside these predators and can cope with them. Introduced predators such as rats, dogs and cats and threats from humans pose a greater problem.

Thoughtless activities create extra problems for little penguins. They may be drowned when amateur fishermen unknowingly set gill nets near penguin colonies

Oil spills are disastrous for penguins and other sea birds. Not only is oil toxic when ingested, but the buoyancy and insulation of penguin plumage is damaged. Plastics are mistakenly swallowed and bottle packaging can become a noose around a penguin neck.

Uncontrolled dogs or feral cats kill many penguins (more than the penguin's natural predators).

If the fox becomes established in Tasmania then penguins will have to try to cope with yet another predator.

The effects of human habitation, such as road kills, direct harassment, vegetation burn-off and housing development continue to threaten little penguin colonies.

Viewing guidelines

These guidelines are intended to both protect the penguins and to allow you to see them under natural conditions. Please be sure you are familiar with them before visiting a penguin colony.

Penguins will leave the water at last light so that they are under the cover of darkness, which helps to protect them from predators. At this time they are very vulnerable (remember they regard you as a potential predator) and hence are wary. If they sense a threat or are disturbed by torchlight or loud noise they stay at sea longer. This is stressful for them and can interfere with breeding, or may prevent them reaching their hungry young in the burrow. If they stay at sea, you may not see them at all.

It is important

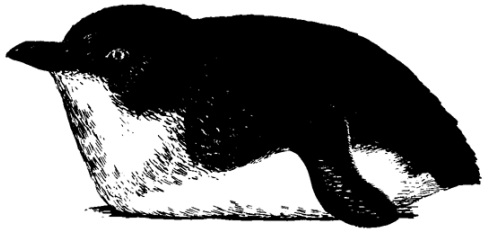
Please read and observe any information signs which may be placed at the penguin colony.

Wear dark clothing for camouflage and dress to keep warm.

Approach your observation point from the land, preferably not by walking along the beach as this blocks the penguins, access to their burrows. Use existing tracks. Do not walk through the colony as it destroys burrows. Please do not damage vegetation.

Choose a viewing position which is at least 3 m from, and does not block, the penguins' access to their burrows. Choose a site which has a dark background to camouflage yourself.

Settle yourself comfortably before last light. If there are experienced personnel available, please take their advice. Remain quiet and keep movement to a minimum. Penguins have excellent vision and easily spot movement, especially if they see you outlined against the sky.



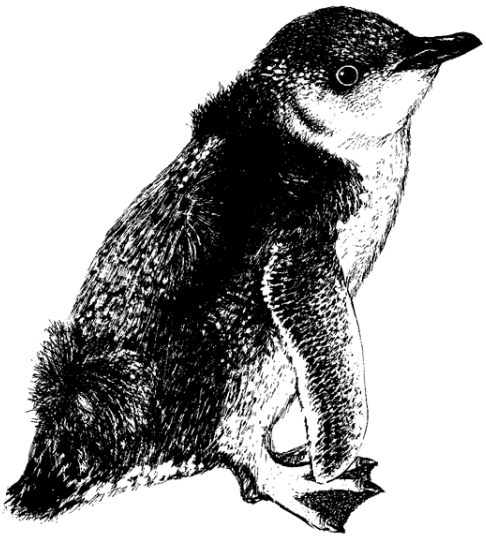
Only dim torches emitting a red light (red cellophane over the lens is OK) should be used and then never toward the water or directly at the penguins. Flash cameras should not be used on the beach. Video cameras **without spotlights** can be used and produce better results at dusk than conventional cameras.

Often the best places to view penguins are behind the beach where they feel more secure. Again, only use red light. To aid viewing, binoculars are useful, even at night.

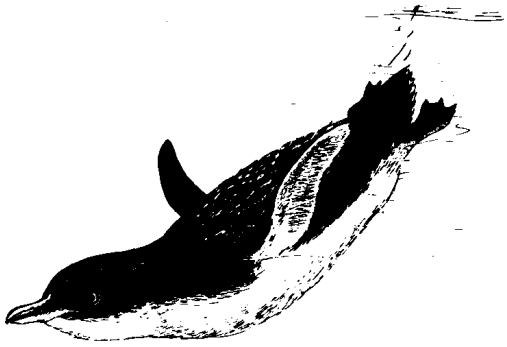
Do not under any circumstances visit a colony with dogs (or cats). Even if dogs are on a leas, their smell remains to attract others afterwards. Take your food scraps away as these also attract dogs and cats.

Penguins are protected wildlife. It is illegal to catch, attempt to catch or otherwise harass penguins. If this type of behaviour is observed, please report it to the nearest ranger. Offences are taken seriously.

If you are interested or concerned about your local penguin population please contact the nearest Parks and Wildlife Service office.



juvenile with down



Further information

Stahel, C. & Gales, R. (1987). *Little Penguins - Little Penguins in Australia.* Uni Press, Kensington, NSW.

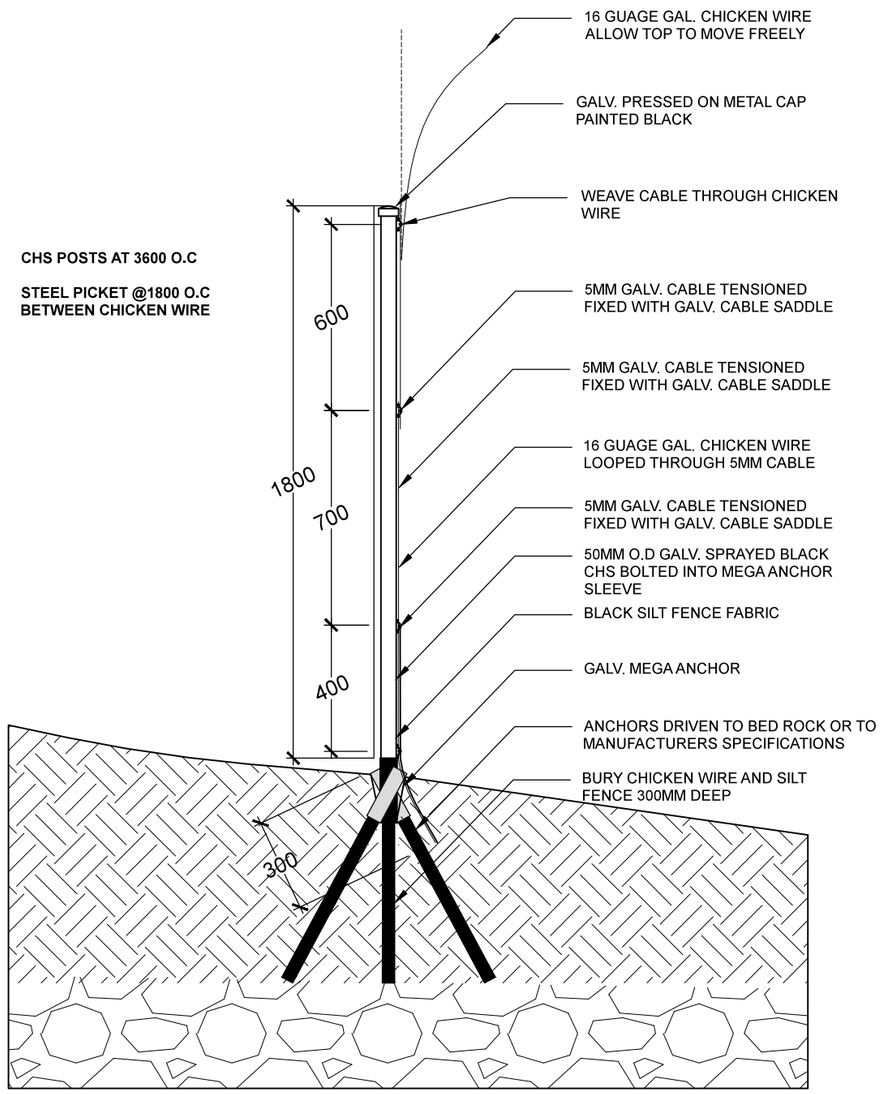
Contact

Biodiversity Conservation Branch: DPIW
134 Macquarie Street, Hobart. 7000
Phone: (03) 6233 6556
Fax: (03) 6233 3477

Internet: www.parks.tas.gov.au

Wildlife – Fairy Penguin

Tasmania



PENGUIN/SILT FENCE DETAIL 1
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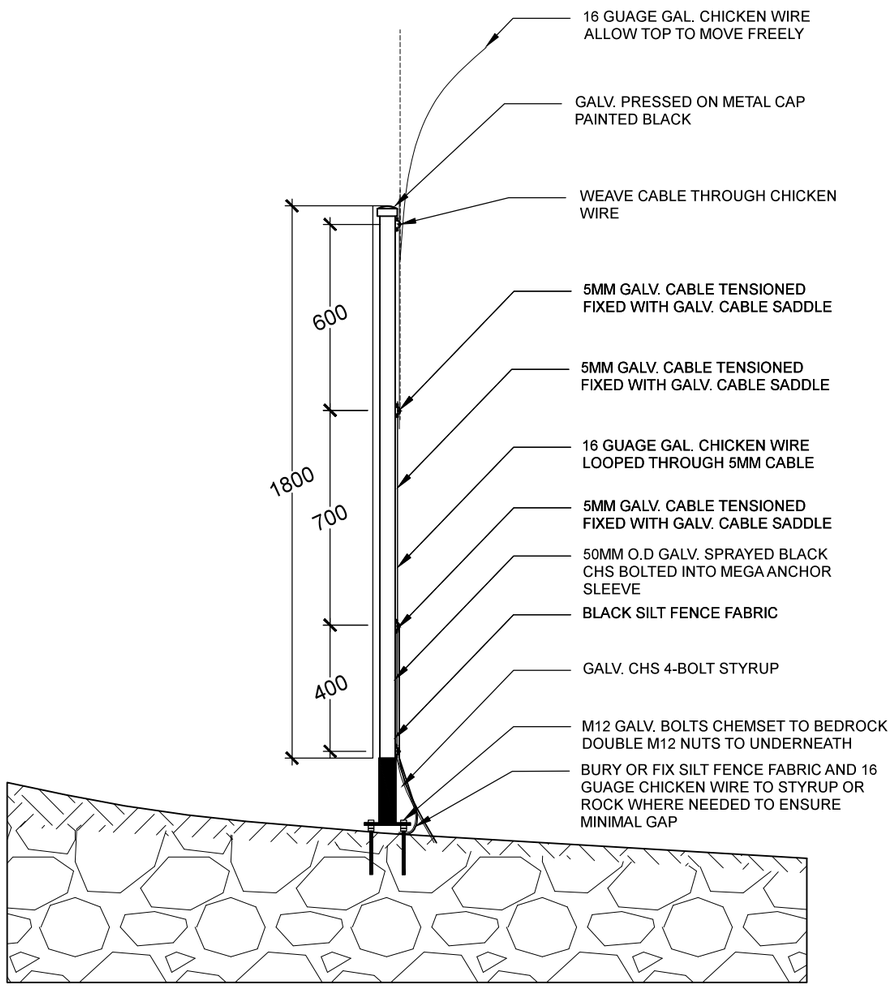

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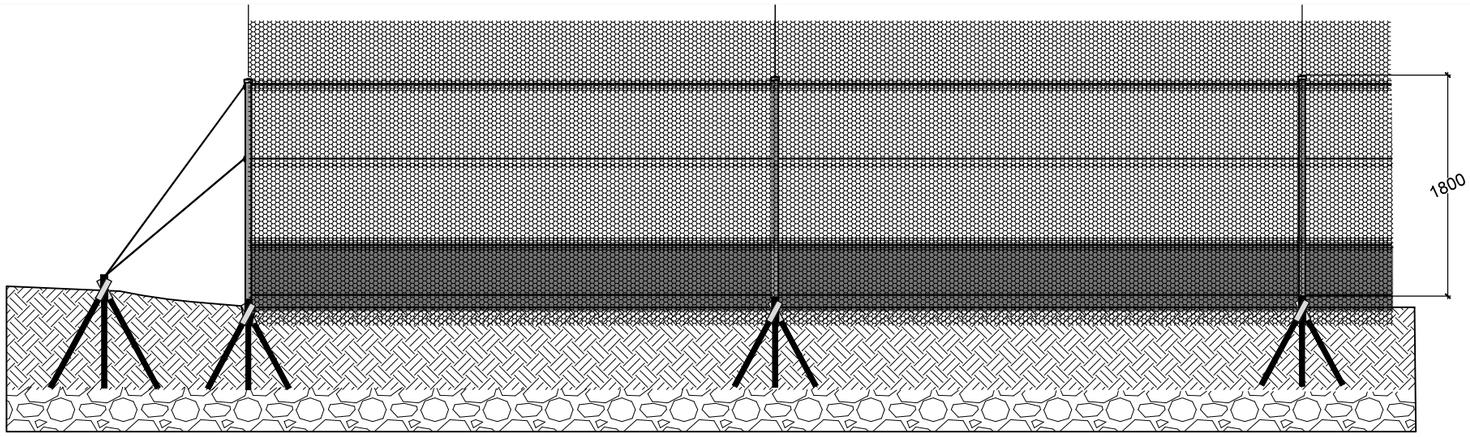

PENGUIN/SILT FENCE DETAIL 1
1:20

DATE	AMENDMENTS	REV

This drawing must be read in conjunction with the other contract documents including the project specifications and any instructions issued during the course of the contract.
Contractors must verify all dimensions on site before commencement of works.
Do not scale off drawings.

Inspiring Place
Environmental Planning
Landscape Architecture
Tourism and Recreation
210 Collins Street
Hobart
Tasmania 7000
ph (03) 6231 1818
email: info@inspiringplace.com.au

Project
SILVER SANDS RESORT

Sheet Title
PENGUIN/SILT FENCE DETAIL

ORIGINAL DRG. SIZE - A3

LANDSCAPE PLAN

North	Designed	Drawn	Date
	JD/CS	CS	MAY 11
	Approved	Scale	1:20

Project No.	Drawing No.	Rev
15-11	L-xx	x

Maree Tyrrell

From: Deon Bellingan
Sent: Friday, 4 September 2020 3:48 PM
To: Cameron Wilson-Yapp
Cc: Maree Tyrrell
Subject: FW: RFI letter [DA 2020 /163 (" Silver Sands" 80 Burgess Street, Bicheno)]
Attachments: 80 Burgess St_SK02 RevA_Proposed Site Plan.pdf; 200902 20-23 The Rookery DA V2.pdf; 200902 20-23 The Rookery Landscape Strategy DA V2.pdf; 200902 Silversands Motel Existing Sewer Services Analysis (ET Calcs).pdf; 200902 Silversands Motel Existing Water Services Analysis (ET Calcs).pdf; 200902 Silversands Motel Proposed Sewer Services Analysis (ET Calcs).pdf; 200902 Silversands Motel Proposed Water Services Analysis (ET Calcs).pdf

Hi Cam,

FYA, please

Kind Regards,

Deon Bellingan
Executive Manager - Development
Glamorgan Spring Bay Council

m: 0423 646 742
E: deon.bellingan@freycinet.tas.gov.au

From: Richard Headlam <rheadlam@philplighton.com.au>
Sent: Friday, 4 September 2020 3:42 PM
To: Planning <planning@freycinet.tas.gov.au>
Cc: Deon Bellingan <deon.bellingan@freycinet.tas.gov.au>; Peter Gaggin <pgaggin@philplighton.com.au>; Sandra Lipscombe <pa@tasshacks.com.au>; Christine Proctor <christine@worthandwhile.com.au>; Jan Cameron <whitedogcafe@yahoo.com.au>
Subject: RE: RFI letter [DA 2020 /163 (" Silver Sands" 80 Burgess Street, Bicheno)]

Dear Maree,

Responses below correlate with numbered items within RFI Letter DA 2020/163 dated 01 September 2020:

1.

- Architectural site plan revised to show front fence 1800mm high to match the landscape plan
  - *80 Burgess St_SK02 RevA_Proposed Site Plan*
- Landscape Plan and Report have been revised so that their front fence layout matches the Architectural site plan
  - *200902 20-23 The Rookery DA V2*
  - *200902 20-23 The Rookery Landscape Strategy DA V2*

2.

- The Civil Engineer (Aldanmark Consulting Engineers) confirm the proposed access will comply with standards listed in clause E6.7.2 A1.

3.

- Commercial vehicle parking is now shown on Architectural site plan
    - *80 Burgess St_SK02 RevA_Proposed Site Plan*
- The Civil Engineer (Aldanmark Consulting Engineers) confirm the arrangement will be compliant will Australian Standard for Off-Street Parking, Part 2: Commercial Vehicle Facilities AS 2890.2:2002.

4.

- TasWater requested flow rates and water and sewer calculations attached
    - *200902 Silversands Motel Existing Sewer Services Analysis (ET Calcs)*
    - *200902 Silversands Motel Existing Water Services Analysis (ET Calcs)*
    - *200902 Silversands Motel Proposed Sewer Services Analysis (ET Calcs)*
    - *200902 Silversands Motel Proposed Water Services Analysis (ET Calcs)*

Should you require any further information please do not hesitate to ask.

Regards

Richard Headlam
Architect

PhilpLighton Architects
49 Sandy Bay Road Hobart Tas 7004
T +61 (3) 6223 2333
rheadlam@philplighton.com.au
philplighton.com.au

From: Planning [mailto:planning@freycinet.tas.gov.au]
Sent: Tuesday, 1 September 2020 11:18 AM
To: Peter Gaggin <pgaggin@philplighton.com.au>
Subject: RFI letter [DA 2020 /163 (" Silver Sands" 80 Burgess Street, Bicheno)]

Good morning

Please find documents attached.

Regards

Maree Tyrrell
Development & Compliance Officer

Glamorgan Spring Bay Council
PO Box 6
TRIABUNNA 7190
E: planning@freycinet.tas.gov.au
Tuesday – Friday
8:30am – 3:30pm

ALDANMARK Pty. Ltd. CONSULTING ENGINEERS

Project name: Silversands Hotel
Project code: 20E66-15
Design engineer: Stuart Lamond
Date: 2/09/2020

TASWATER SUPPLEMENT to WSA 02-2014-3.1 FLOW ESTIMATION

1. PDWF = d*ADWF		
Area	hec	1.1
d		7.56

TYPE	COMMENTS	QUANTITY	UNIT	UNIT RATING	SEWERAGE ET'S
Whole of Site					
AS04 - Accomodation	Motel rooms - ensuite	34		0.45	15.3
RM02 - Accomodation	2 bed apartment	1		0.75	0.75
BE04 - Office		1		0.006	0.006
BE12 - Storage	sq m area	20		0.006	0.12
Public Toilets	covered in Café/Bar				0
BE06 - Laundry	laundromat machines	4		0.7	2.8
TW - Commercial Kitchen	trade waste	250	GBFA (m^2)	0.008	2
EF02 - Café/Bar	sq m area	90	GBFA (m^2)	0.048	4.32
MP01 - Restaurant	sq m area	250	GBFA (m^2)	0.008	2
				SUBTOTAL	27.30
Others					
–	–	0	GBFA (m^2)	0.006	0
–	–	0	GBFA (m^2)	0.008	0
–	–	0	per WC (assumed)	0.6	0
				SUBTOTAL	0.00
				GRAND TOTAL	27.30

ET'S	L/ET/day	450		new residences (post 2014)
		540		existing residences (prior to 2014)
		1.15741E-05	1.15741E-05	
ADWF	**L/s**	**0.142**		
PDWF	**L/s**	**1.075**		

2. GWI = 0.025*A*PortionWet		
Area	hec	1.1
PortionWet		0.001
GWI	**L/s**	**2.75E-04**

3. RDI = 0.028*Aeff*C*I		
A	hec	1.1
Portion impervious		0.2
Aeff		**0.935**
Soil Aspect		0.8
Network defects aspect		0.6
C		**1.4**
I1,2		13.90
FactorSize		1.54
FactorContainment		1.30
I		**27.81**
RDI	**L/s**	**1.02**

ALDANMARK Pty. Ltd. CONSULTING ENGINEERS

Project name:	Silversands Hotel Existing
Project Number:	20E66-15
Design Engineer:	Stuart Lamond
Date:	2/09/2020

Water - Taswater Supplement to WSA 02-2014-3.1

Building type	Quantity	Comments	Factor	ET's
AS04 - Accomodation	34	Motel rooms - ensuite	0.3	10.2
RM02 - Accomodation	1	2 bed apartment	0.6	0.6
BE04 - Office	1		0.004	0.004
BE12 - Storage	20	sq m area	0.004	0.08
Public Toilets		covered in Café/Bar		0
BE06 - Laundry	4	laundromat machines	0.45	1.8
TW - Commercial Kitchen	250	trade waste	0.005	1.25
EF02 - Café/Bar	90	sq m area	0.03	2.7
MP01 - Restaurant	250	sq m area	0.005	1.25
Sub Total				16.634
Total ET's				16.634
				Q=0.03*n +0.4554*sqrt(n)
	L/s Domestic Flow Required at Boundary			**2.356359842**

Fire Hydrant Demand

Building Class	1a, 3 , 5, 6, 7b
Floor Area	in excess of 1600 sq m
No. of Hydrants	2 hydrants simultaneously
Flow Required	20L/s @ 350kPa

ALDANMARK Pty. Ltd. CONSULTING ENGINEERS

Project name: Silversands Hotel
Project code: 20E66-15
Design engineer: Stuart Lamond
Date: 2/09/2020

TASWATER SUPPLEMENT to WSA 02-2014-3.1 FLOW ESTIMATION

1. PDWF = d*ADWF		
Area	hec	1.1
d		7.56

TYPE	COMMENTS	QUANTITY	UNIT	UNIT RATING	SEWERAGE ET'S
Whole of Site					
RM02 - Accomodation	Serviced Apartment	10	2 Room	0.75	7.5
RM03 - Accomodation	Serviced Apartment	2	3 Room	1	2
BE04 - Office	Reception, Offices	40	GBFA (m^2)	0.006	0.24
BE12 - Storage	Workshop store	20	GBFA (m^2)	0.006	0.12
–	–	0	GBFA (m^2)	0	0
				SUBTOTAL	9.86
Others					
–	–	0	GBFA (m^2)	0.006	0
–	–	0	GBFA (m^2)	0.008	0
–	–	0	per WC (assumed)	0.6	0
				SUBTOTAL	0.00
				GRAND TOTAL	9.86

ET'S	L/ET/day	450		new residences (post 2014)
		540		existing residences (prior to 2014)
		1.15741E-05	1.15741E-05	
ADWF	**L/s**	**0.051**		
PDWF	**L/s**	**0.388**		

2. GWI = 0.025*A*PortionWet		
Area	hec	1.1
PortionWet		0.001
GWI	**L/s**	**2.75E-04**

3. RDI = 0.028*Aeff*C*I		
A	hec	1.1
Portion impervious		0.2
Aeff		**0.935**
Soil Aspect		0.8
Network defects aspect		0.6
C		**1.4**
I1,2		13.90
FactorSize		1.54
FactorContainment		1.30
I		**27.81**
RDI	**L/s**	**1.02**

ALDANMARK Pty. Ltd. CONSULTING ENGINEERS

Project name:	Silversands Hotel Proposed
Project Number:	20E66-15
Design Engineer:	Stuart Lamond
Date:	2/09/2020

Water - Taswater Supplement to WSA 02-2014-3.1

Building type	Quantity	Comments	Factor	ET's
RM02 - Accomodation	10	self contained unit 2 bed	0.75	7.5
RM03 - Accomodation	2	self contained unit 3 bed	0.8	1.6
BE04 - Office	1		0.004	0.004
BE12 - Storage	1		0.004	0.004
				0
				0
Sub Total				9.108
Total ET's				9.108
				Q=0.03*n +0.4554*sqrt(n)
	L/s Domestic Flow Required at Boundary			**1.647612755**

Fire Hydrant Demand

Building Class	1a, 3 , 5, 6, 7b
Floor Area	1210 sq m
No. of Hydrants	2 hydrants simultaneously
Flow Required	20L/s @ 350kPa

Silver Sands Redevelopment and Denison River Accommodation Development, Bicheno, East Coast of Tasmania,

Aboriginal Heritage Assessment

Zvonka Stanin, Caleb Pedder & Darren Watton

PO Box 263, Sheffield TAS 7306

Zvonka Stanin & Associates

For

Jan Cameron & Taylor and

Hinds Architects

July 2015

FINAL DRAFT

Executive Summary

Account of Aims

Taylor and Hinds Architects, on behalf of Jan Cameron, are proposing two developments on land owned by Ms. Cameron, on the east coast of Tasmania; at Silver Sands Resort land at Peggys Point, Bicheno (80 Burgess Street, Property ID - 2009666; Title Reference - 134465/50) and land located at Denison Rivulet, approximately 7.5 km north of Bicheno (Tasman Highway, Property ID - 7657451 Title Reference - 45006/1).

The proposed developments comprise:

- The redevelopment of the Silver Sands Resort (~1.2 hectare area), including the removal of the current resort buildings and paved car park, and the construction of a new site-sensitive hotel, composed of up to 13 sole-occupancy accommodation units.
- The proposed construction of three accommodation buildings, at the Denison Rivulet. The Rivulet land is currently vacant, and comprises just over 7 hectares in area. It is envisioned that the building footprint will occupy only a small percentage of the allotment fronting Deals Road, on the western side of the Rivulet only.
- The following Aboriginal Heritage Assessment concerns the proposed development of the subdivision, and includes relevant management recommendations.

This Aboriginal cultural heritage assessment aims are:

- Establish the extent of any Aboriginal heritage values within the bounds of the property boundary of the Silver Sands Resort, as shown in Figures 2 and 3;
- Establish the extent of any Aboriginal heritage values within the bounds of the proposed development area for the Denison Rivulet property, as shown in Figures 2 and 4-6;
- Assess the archaeological potential and sensitivity of the study areas;
- Assess the scientific (archaeological) and cultural heritage values of any identified Aboriginal cultural heritage sites within the study area; and
- Develop a set of management recommendations aimed at minimising the impact of the proposed subdivision.

Account of Results

- No Aboriginal cultural heritage places were located within the Silver Sands Resort Redevelopment and the Denison Rivulet Development areas.

No scarred trees, caves or rock shelters were located during this study.

Account of Recommendations

This study has established that the proposed activities - the redevelopment of Silver Sands Resort and the development of the Denison Rivulet - will not directly impact on Aboriginal cultural heritage values and as such specific management, harm minimisation or mitigation strategies are not required, according to the *Aboriginal Relics Act 1975*.

Site Protection Options.

Notwithstanding comments regarding cultural significance in Section 6, no further mitigation or protection measures are appropriate for these sites, with respect to the proposed works. General requirements are listed below.

General Requirements

- It is recommended that information sessions be provided for civil contractors prior to the activity, in order to become familiar with the protection mechanism required for nearby Aboriginal heritage sites, and contingencies in case of discovery of previously unknown Aboriginal cultural heritage materials or human remains (see below). A copy of this report should be kept on site during works.
- If previously unknown Aboriginal cultural heritage sites or items (or human skeletal remains) are discovered during the Activity then the Sponsor should adhere to the Contingency Plans (Contingency 1 and 2) presented in Section 8 below.

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1.0 Introduction

1.1 Preamble

Taylor and Hinds Architects, on behalf of Jan Cameron, are proposing two developments on land owned by Ms. Cameron, on the east coast of Tasmania (Figure 1); on Silver Sands Resort land at Peggys Point, Bicheno (80 Burgess Street, Property ID - 2009666; Title Reference - 134465/50) and land located at Denison Rivulet, approximately 7.5 km north of Bicheno (Tasman Highway, Property ID - 7657451 Title Reference - 45006/1).

Bicheno is located approximately 185 km north east of Hobart, on the Tasman Highway with a population of around 640 people.

The following Aboriginal Heritage Assessment concerns the proposed Silver Sands resort Re/Development and Denison Rivulet Development, and includes relevant management recommendations.

1.2 Location and Ownership

The Silver Sands Resort and Denison Rivulet are both owned by the developer, Jan Cameron. They are located within 10 km of each other, at the lower end of Maclean Bay, on the east coast of Tasmania (Figure 1).

- Denison Rivulet is located on the coastal plain, approximately 7.5 km's north of the township of Bicheno (Plate 1). Douglas River, one of the major watercourses north of the town, enters the ocean approximately 3 km to the north of the rivulet. The Douglas-Apsley Range, a national park, forms a natural boundary to the west.
- The Silver Sands Resort occupies a prominent granite headland known as Peggys Point, within in the township of Bicheno (Plate 2). A public reserve, including a walking track, circumvents the resort, in the west and north. The local football ground borders the allotment to the east. To the east also lies Governors Island. In the west, the allotment overlooks Diamond Island and Waubs,Bay. Waubs Beach is as popular launch for diving trips.

1.3 Activity Description

The proposed developments comprise:

- The redevelopment of the Silver Sands Resort (~1.2 hectare area), including the removal of the current resort buildings and paved car park, and the

construction of a new site-sensitive hotel, composed of up to 13 sole-occupancy accommodation units.

- The proposed construction of three accommodation buildings, at the Denison Rivulet. The Rivulet land is currently vacant, and comprises just over 7 hectares in area. It is envisioned that the building footprint will occupy only a small percentage of the allotment fronting Deals Road, on the western side of the Rivulet only.

1.4 Reasons for Heritage Assessment

As part of the development approval process by the Glamorgan/Spring Bay Shire, the proponent has elected to arrange for an Archaeological assessment to be undertaken by a qualified Archaeologist and Aboriginal Heritage Office in accordance with the standards and guidelines issued by Aboriginal Heritage Tasmania of the proposed site and a written report detailing the survey findings to be submitted.

Plate 1: Denison Rivulet location, from Deals Road facing east towards Tasman Highway and the ocean. Photo by Z. Stanin.

Plate 2: The location of the Silver Sands Resort, facing north-east, from the outlook in Bicheno. Photo by M. Hinds.

1.5 People involved and consultation

Caleb Pedder and Zvonka Stanin were individually engaged by Jan Cameron and Taylor and Hinds Architects to undertake the Aboriginal heritage assessment for both the Silver Sands Resort Redevelopment, Bicheno, and the Denison Rivulet Development, Douglas River. Darren Watton provided geomorphological advice for this project.

The Aboriginal Heritage Officer (AHO) for this project is Caleb Pedder, who has extensive experience in assessing and managing cultural heritage in Tasmania.

- One of the primary roles of the Aboriginal Heritage Officer is to consult with Aboriginal community groups.
- The consultation process is aimed at advising the relevant Aboriginal communities of the details of the project; relating the findings of the Aboriginal heritage assessment; documenting the social/cultural values, according to the views expressed by the Aboriginal community representatives, and seeking discussion and advice regarding management recommendations for Aboriginal heritage sites within the study area.

1.6 Overall Aims

This Aboriginal cultural heritage assessment aims to:

- Establish the extent of any Aboriginal heritage values within the bounds of the proposed development area for the Denison Rivulet property, as shown in Figures 2 and 3;
- Establish the extent of any Aboriginal heritage values within the bounds of the property boundary of the Silver Sands Resort, as shown in Figures 2 and 4-6;
- Assess the archaeological potential and sensitivity of the study areas;
- Assess the scientific (archaeological) and cultural heritage values of any identified Aboriginal cultural heritage sites within the study area; and
- Develop a set of management recommendations aimed at minimising the impact of the proposed subdivision.

1.7 Project timing and stages

The project was completed over a two month period (May-June 2015), and was implemented in three stages.

Stage 1 (Desktop Assessment - Background Research)

A review of the relevant heritage registers (AHR) and the collation of background information pertaining to Aboriginal heritage values located within the general vicinity of the study area. This included a review of:

- Client information, including design plans and any relevant studies;
- Maps of the study area;
- Ethno-historic literature for the study area;
- Geotechnical information relating to the geology, geomorphology and soils present in the study area;
- Archaeological reports documenting previous Aboriginal heritage studies in the vicinity of the study area;
- References to the land use history of the study area.

Consultation with Aboriginal Heritage Tasmania

Aboriginal Heritage Tasmania (AHT) was contacted and informed that a field survey was to be undertaken for the proposed Silver Sands and Denison Rivulet Re/Development Projects.

A search request of the Aboriginal Heritage Register (AHR) was submitted to AHT in April/May 2015 in order to ascertain the presence of any previously registered sites in the vicinity of the study area and allow access to previous archaeological reports on the region (referenced as AHTP2202 and 2235). Darren Watton searched the registers on the 14 May 2015, obtaining the relevant site cards and reports.

Consultation with Aboriginal Stakeholders

The Aboriginal Heritage Officer for this project, Caleb Pedder was consulted throughout, including with regards to potential scope and methodology of the proposed Heritage Assessment and in order to co-ordinate the timeframe for implementing the field work.

Stage 2 (Field Work)

The field work stage involved the pedestrian survey of the proposed activity areas. The survey was implemented by Zvonka Stanin and Caleb Pedder, over a period of one day (14 May 2015).

Consultation with Aboriginal Stakeholders

The results of the field investigation were initially discussed between the field team, querying the archaeological sensitivity of both activity areas and possible management options.

Subsequent to these discussions, Caleb Pedder sought further opinion with regards to the survey and survey results from relevant Aboriginal stakeholders. The process is described in more detail in Section 8.

Stage 3

Stage three of the project involves the production of a Draft and Final Report that includes an analysis of the data obtained from the desktop assessment and field survey, and the assessment of archaeological sensitivity and any management recommendations.

The report has been prepared by Zvonka Stanin, in consultation with Caleb Pedder. Caleb Pedder contributed the statement of cultural significance for the proposed development area. Darren Watton contributed the Geographic and Historic background to this study.

1.8 Constraints

The main constraint to the present investigation was the lack of access to natural ground surfaces at Silver Sands Resort, due to the presence of modern development, including an asphalt car park, decks and buildings. However overall, the GSV was considered sufficient to determine that the area proposed for redevelopment is not archaeologically sensitive.

The issue of surface visibility is further discussed in Section 3 of this report.

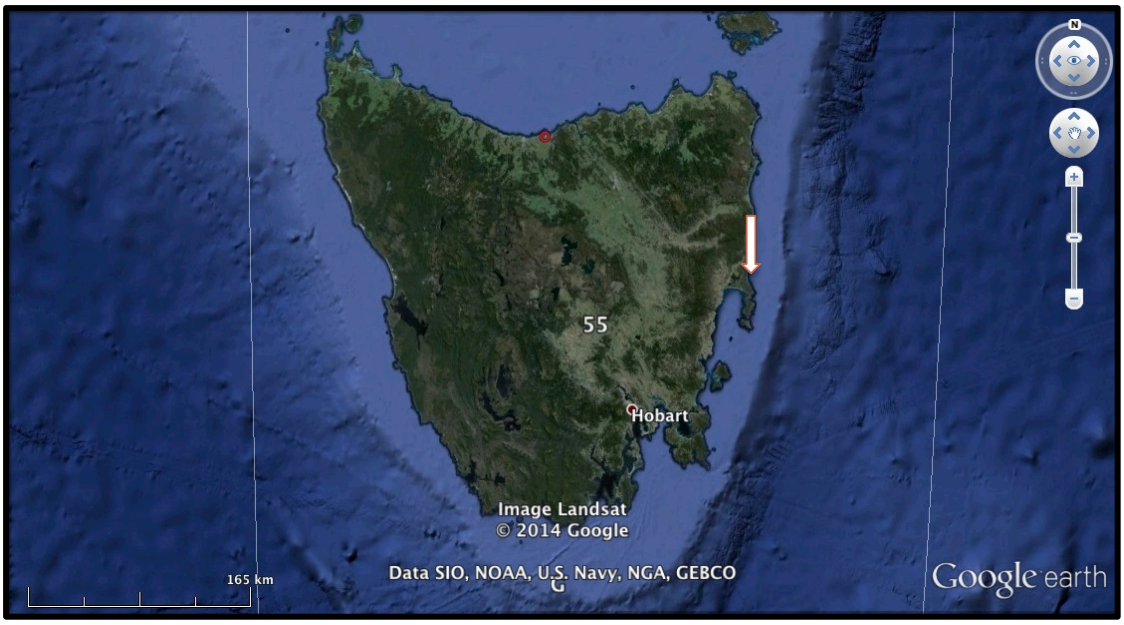


Figure 1: Google Earth image map of Tasmania, arrow is showing the location for the study area

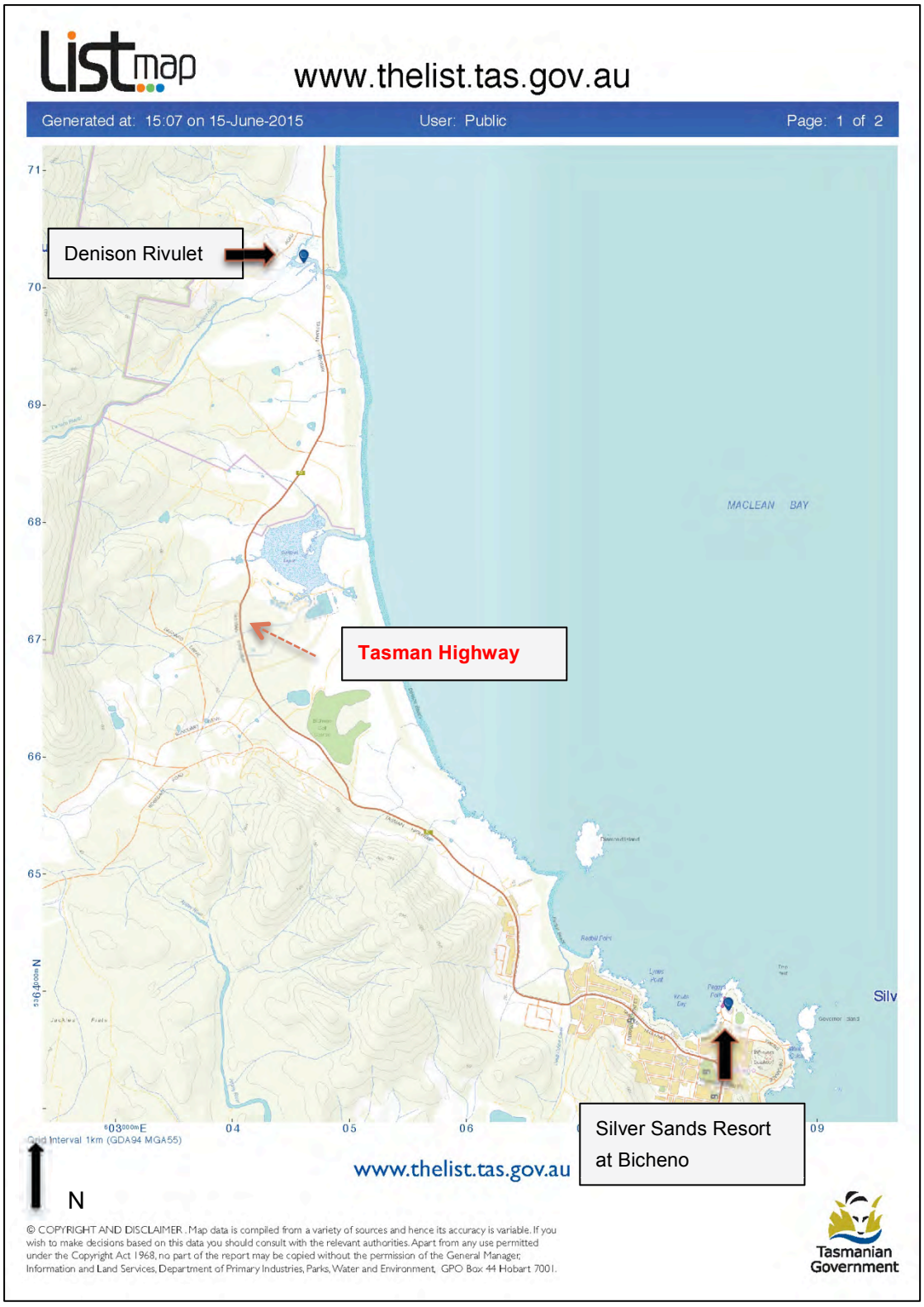


Figure 2: Figure showing proposed activity land within a regional context, TASMAP 1 to 100000 series, scanned to LIST (as referenced above). Original document = A4 size. theLIST (www.thelist.tas.gov.au) © State of Tasmania.

Figure 3: Satellite Image of the poposed Denison Rivulet Development Area

Worldwide Autoroute DEM Basemap,NR

0 50 100 150 200 250 300 350 m

55 G 605117 5370052

Data collected from various sources: please verify for accuracy

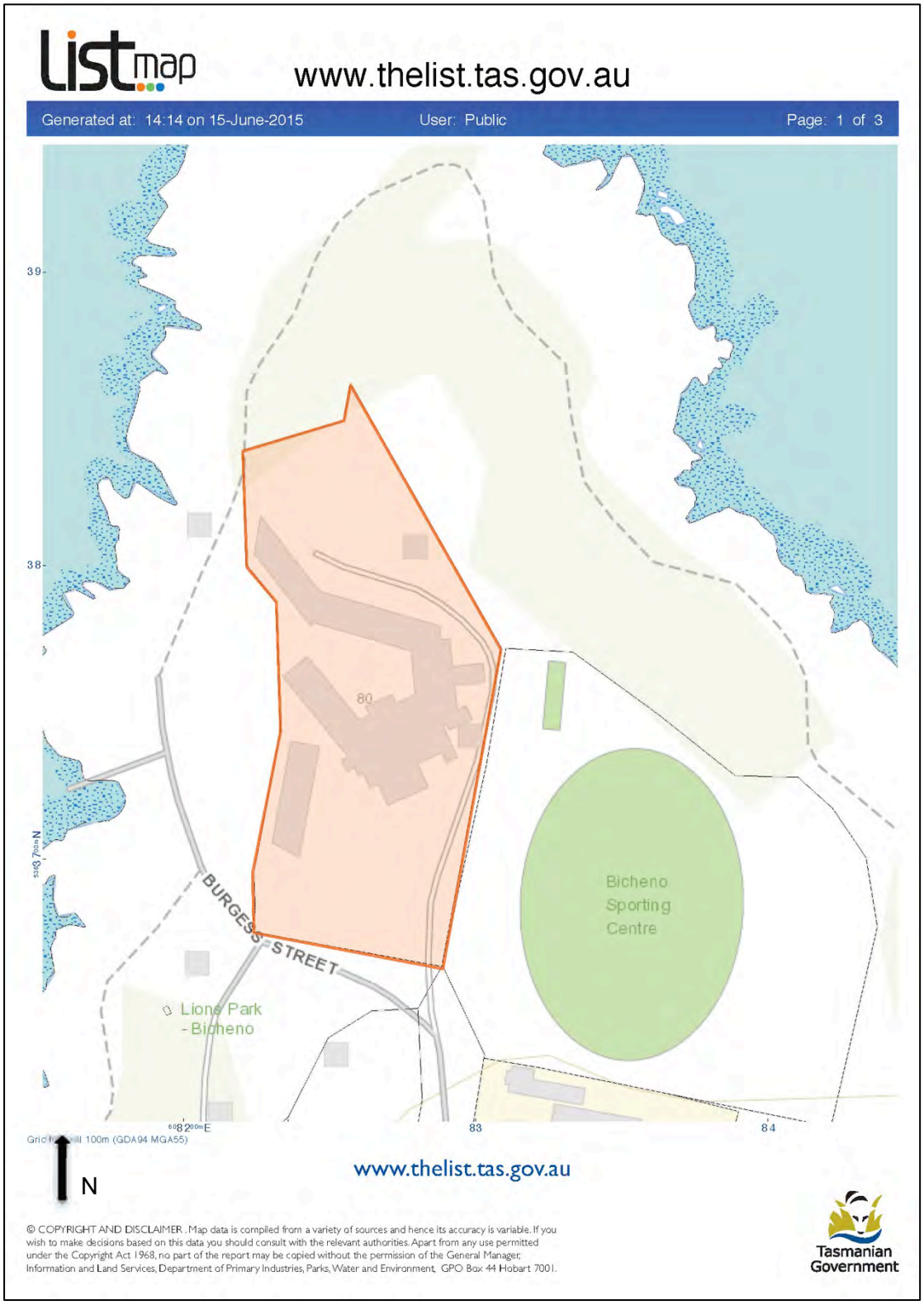
Part of the Denison Rivulet study area, proposed for development

Eastern side of the Denison Rivulet (the area was surveyed but will not be included in development

Drawn Z.Stanin
20 May 2015

Note: Cadastre drawn from theLIST (www.thelist.tas.gov.au)

GARMIN



34: The footprint of the proposed Silver Sands Redevelopment area. theLIST (www.thelist.tas.gov.au) © State of Tasmania.

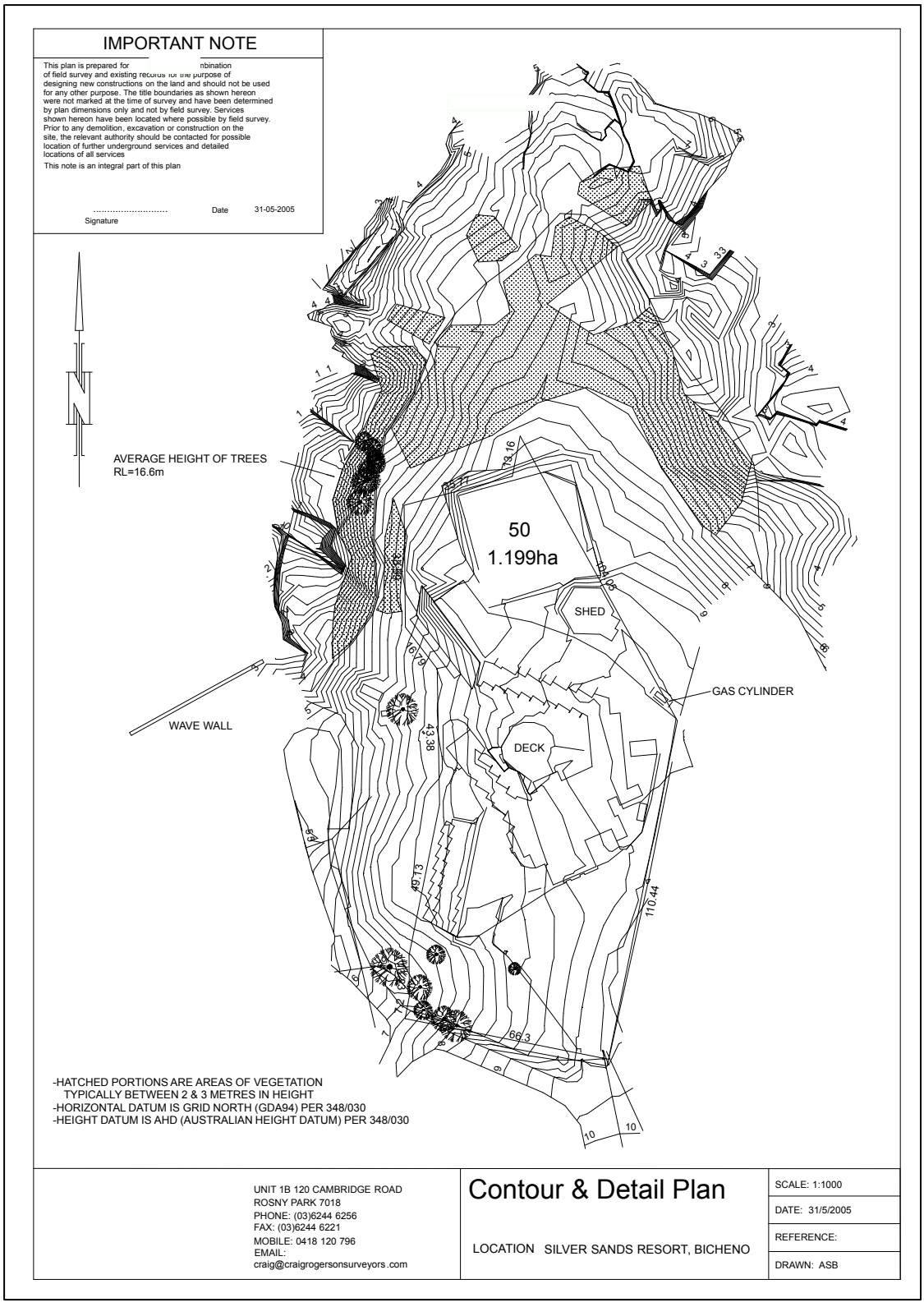


Figure 5: Contour and detail plan for the proposed Silver Sands Redevelopment study area.

Figure 6: Satellite image for the proposed Silver Sands Redevelopment study area.

Silver Sands Resort Redvelopment study area	Drawn Z.Stanin 20 May 2015	Note: Cadastre drawn from theLIST (www.thelist.tas.gov.au) © State of Tasmania.	GARMIN

2.0 Desktop Assessment

In order to understand the location and characteristics of the survey area it is necessary to provide a brief overview of the areas environmental and geographical setting. This includes an assessment of local geomorphology, geography, geology, flora and fauna and climatic factors. Aboriginal sites tend to be placed in areas of optimum environmental and geographical conditions. For example, campsites were often in elevated well-drained positions that afforded good views of the surrounding area and in positions that were close to fresh water. Analysis of the local environmental and geographical features may help to contextualize the location and position of the Aboriginal artefact scatter and isolated artefacts found on the day. It will help with a broader understanding of Aboriginal occupation of the area.

2.1 Geology and geomorphology of the study area

Geologically, the east coast of Tasmania can be broadly divided into “a basement layer of post-Carboniferous rocks essentially consisting of a eroded granite and folded Lower Palaeozoic and older rocks overlain unconformably by flat lying (sub-horizontal) Parameer Super-Group rocks” (Brown, 1986:3). “The Parameer Super-Group includes a widespread sequence of rocks ranging in age from the Late Carboniferous to Late Triassic” and primarily consists of a lower layer of “glacial and glacio-marine rock (pebbly mudstone, pebbly sandstone and limestone) with a minor intercalcated freshwater sequence; and an upper division of essentially freshwater sandstone and mudstone” (Brown, 1985:3). The Parameer Super-Group is intruded by flat-lying dolerite sills, which because they are resistant to erosion often dominate the landscape in Tasmania and form the basis of the plateaus of the inland areas (Brown, 1985:3-4).

Interspersed in these environments are cherty hornfels, with less common quartzite (produced by thermal metamorphism in Jurassic dolerite areas) and silcrete material sources (sub-basalt silicified sandstone, or greybilly [Brown, 1985:4]). These were important sources for Aboriginal people in the making of stone artefacts (Brown, 1985:4).

The dominant exposed rock type in the immediate Bicheno area is strongly fractured alkaline feldspar granite (The LIST, Granite500 map). According to 1:25000 geological mapping of south-east Tasmania, the Denison Rivulet is contained within recent Cenozoic (Pleistocene to Holocene) sands, which dominate most of the coast from the Rivulet to Bicheno (Figure 7).

Soils

According to information compiled by Brown (1991:7):

> *The soils 'of eastern Tasmania reflect the geological and topographical variation over the region. In general, soils derived from dolerite and mudstone have a fine texture whilst coarse sandy soils occur on granite bedrocks. There is an apparent fertility gradient from fertile soils of the river alluvium of dolerite dolerite origin through those derived from mudstone and sandstone to the granites.*

The potential for accumulation of stratified archaeological deposits vary (Sigleo and Colhoun 1982:88), with source-bordering sandsheets (for example in the valleys of the Coal River (Jones and Ferguson 1986) and lunette dunes (for example at Crown Lagoon, Jones and Ferguson 1986; Lourandos 1970, 1977), providing ample evidence for stratification. Brown (1991:7) also notes that stratified archaeological deposits may occur in, for example, sandy loams along the coast (shell middens) and clay loams occurring as river flood plain/alluvial deposits (into which artefact assemblages may become incorporated). Locally, in topographical variables determining soil character, such as slope, aspect and drainage, and levels of disturbance, also play a part.

Landform and geomorphology

The two study areas lie on the coast that is highly exposed to eastern and southern swells, with average wave heights of one to one and a half metres (Short, 2006:79). The Denison Rivulet is usually blocked at its mouth on Denison Beach and there are generally 8 to 10 rips flowing across the bar here (Short, 2006:79). The beach continues to the south to the mouth of Old Mines Lagoon, which has similar geomorphological processes to the rivulet with a generally blocked mouth and 8 to 10 rips across the bar (Short, 2006:79). Further south of here, Denison Beach continues to Diamond Island, an active tombolo, which occasionally has an exposed shallow sand bar attached to the mainland (Short, 2006:79). Diamond Island is just north of the township of Bicheno and is a 5 ha nature reserve, well known for its penguin rookeries (Short, 2006:80). The tidal range on this section of coast is 1.3 metres (Short, 2006:79). Peggys Point is the most eastern of the three granite headlands south in Maclean Bay and is located within the township of Bicheno.

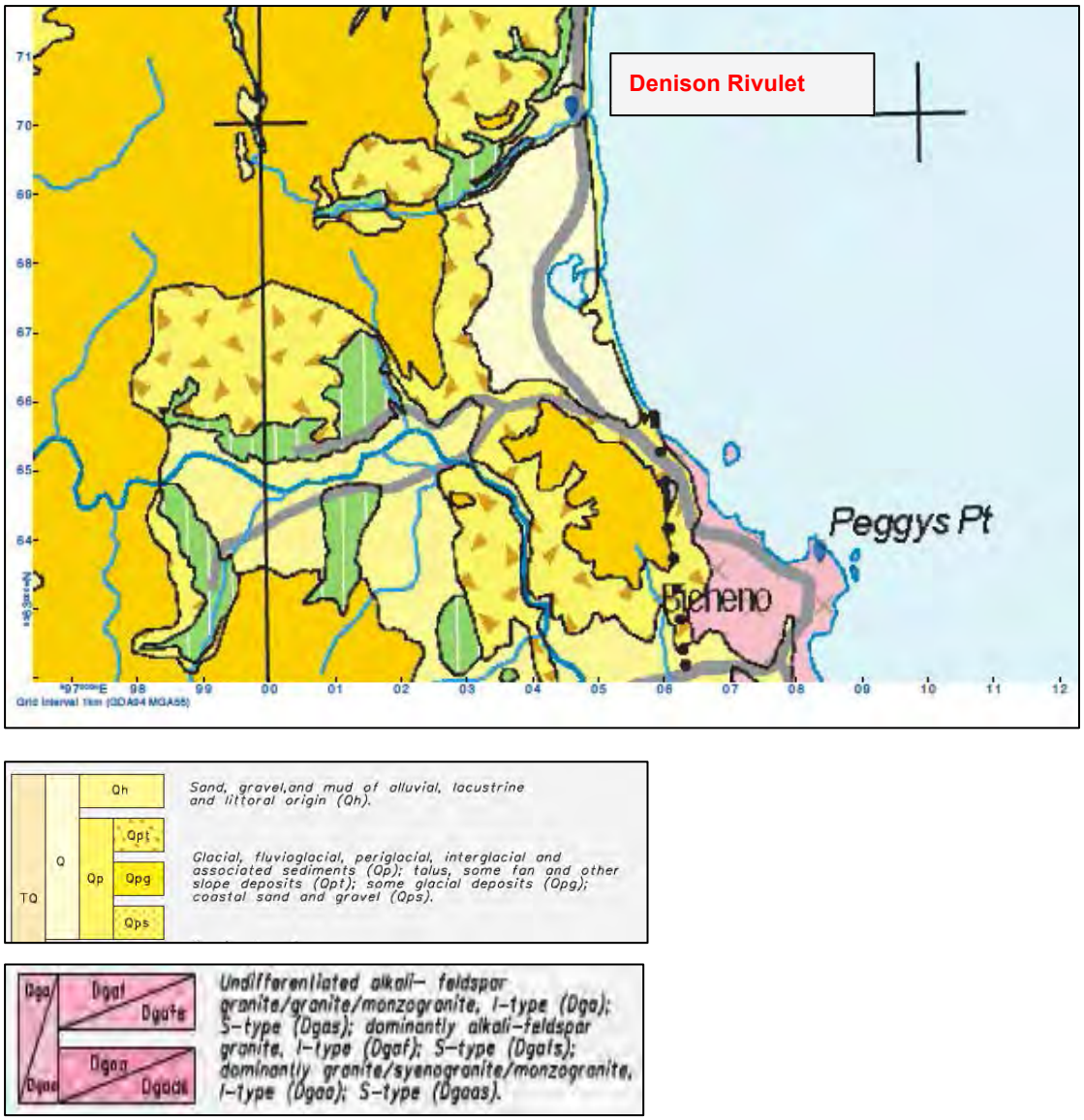


Figure 7: Geological mapping of the study areas, based on The LIST, theLIST (www.thelist.tas.gov.au) © State of Tasmania. Granite500 map, and the 1:25000 Geological Map of Tasmania (Calver et al 2014); Peggys Point marks the location of the Silver Sands Resort.

The Denison Rivulet (Plates 3-4)

The Denison Rivulet is a very small stream that flows intermittently and mainly during winter and times of high rainfall as already discussed. At its mouth “a narrow fore-dune, the highway then sloping farmland back the beach, with a small car park and beach access” (Short, 2006:79). The natural barrier of dunes and onshore waves cause the Denison Rivulet to run behind the dunes for some of its course and the development of a small brackish water body or lagoon close to the mouth. The mouth of the Rivulet would be open only at times of storm surge or particularly rapid flow after high rainfall.

There are also a number of drainage points and tributaries, which flow into the rivulet at this point. The land immediately around the lagoon is marshy, except at the higher points, which consists of highly leached podzolic soils, which are the characteristic Tasmanian soils in this area (Brown, 1985:4-5; Scanlon et al., 1990:28).

During the survey, medium sized water worn cobbles were observed at the mouth of the rivulet, near the Tasman Highway Bridge. Cobbles are commonly reported as being used by Aboriginal people for stone tool manufacture and this is possible in this area (Paton, 1993:3).

Plate 3: Denison Rivulet, showing low lying marshy landform, typical of the majority of the allotment. Approximately (~3.76 ha) of the allotment is covered in water.

Plate 4: Section of stratigraphy seen on the eastern side of the rivulet, closest to where it flows to the beach. Note the river cobbles, at 60 cm in depth, typical of the local stratigraphy. Photo by Zvonka Stanin.

Silver Sands, Bicheno (Plates 5-8)

Bicheno itself is a popular tourist and fishing town, “with a small port that has taken advantage of a natural gutter between Governor Island and Peggys Point”. This is known as Waubs Gulch or the ‘The Gulch’ (Short, 2006:79). On the north side of the

granite headland is a protected beach, which generally receive low refracted waves averaging about a 0.5 metres in height. (Short, 2006:80). This area, known as Waubs Bay, provides a sheltered anchorage for boats with a small beach on the inside of the bay and extensive rocks towards the point of the headland (Peggys Point). The area is also known for the diving and has a small marine reserve around Governors Island. The tidal range on the outside of the bay is 1.3 metres (Short, 2006:80).

The rocky shore extends around the point a long way to the south with small sandy coves, such as Rice Beach, at intervals to the south. Resistant granite headlands dominate the coastal area until Courland Bay, approximately 5 kms south of Bicheno (Short, 2006:80-81, Reid et al., 2005:xvii and 308-309). The Tasman Highway follows this coast running up the east coast from Hobart to St Helens in the north.

In terms of topographical variables determining soil character, such as slope, aspect and drainage, the Silver Sands Resort lies on the highest point of the headland, bordered by a relatively steep slope and associated scrubland to the west and north. The sandy soil is shallow as a result, and while likely to be deeper on top, has been heavily denuded by modern construction. The north-westerly aspect may be equated to poor vegetation cover, resulting in higher rates of erosion and poor soil accumulation.

Plate 5: Photo facing north, showing the resorts northerly aspect and the shallow soils that characterise the slope in this area. Waubs Bay can be seen to the far left of the photo. Photo by Z. Stanin.

Plate 6: Silver Sands Resort, facing north, showing the car park and Waubs Bay in the background. Note the lack of natural ground surface. Photo by Z.Stanin.

Plate 7: Western side of the Silver Sands Resort, facing west, showing the dominant aspect to this site. The pine on the left is

Plate 8: View south east, from the foreshore towards the Silver Sands Resort. Photo by Z. Stanin.

Flora

The east coast of Tasmania is dominated by dry schlerephyll vegetation due to "local physical attributes, notably landform, geology, climate, fire history and land use" (Reid et al., 2005:244-245). Common species include *E. obliqua, E. viminlais, Acacia* spp.*,* peppermints, *Melaleuca* spp. (Paper Bark), *Banksia* spp., *Leptospernum* spp. (Tea Tree) and Native Cherry.

Graham (2004:8-9) has noted that in the past the east coast contained many plant species that would have been useful to Aboriginal people as food, medicine and for craft making. These include Bracken Fern for medicine and eating (roots and stems) and Paper Bark for medicine, craft and eating (nectar from flowers).

Today, original vegetation has been widely denuded from the coastal strip, and at Silver Sands in particular, true to its resort status, no native vegetation remains. 100% of the study area land is covered with lawn, plantings, buildings and a large asphalt car park area.

Fauna:

The east coast of Tasmania also contains a diverse range of fauna including reptiles (such as the Tiger Snake [*Natechis ater*] and the Skink [*Niveoscincus* spp.], birds (such as the Green Rosella [*Platycers caledonicu*] and the Black Swan [*Cygnus heartratus*], marsupials (such as the Brushtail Possum [*marcopus rufogriseus rufogrieus*] and the Pademelon [*Tachyglossus aculeatus*] that would have been used

for craft (e.g. clothing) and would have formed a large part of the diet for Aboriginal people (Brown, 1985:11-12; Graham, 2004:9-10). For example, swan and duck eggs from the Moulting Lagoon were a reliable seasonal food source. Water and sea resources such as shellfish were also used by Aboriginal people and are evidenced by the extensive middens along the east coast of Tasmania. Of particular note are the turbo (*Subninella undulata*), limpets (*Cellana* spp), the mud oyster (*Ostrea* angasi), the mussels (*Mytilus planulatus* and *Brachidontes rostratus*) and the crayfish (*Jasus noveahollandea*) forming the major shellfish food resources. There is also limited evidence for the catching of abalone (*Notohaliotis ruber*) (Brown, 1985:12).

2.2 Climatic condition & climate history

The Tasmanian climate can be described as a “modified marine Mediterranean climate, where heat absorption and storage by the surrounding ocean produces abnormally mild winters and cool summers” by northern hemisphere standards (Brown, 1985:7; Reid et al., 2005:14). The western mountains intercept most of the winds that occur from the west (roaring forties) resulting in wetter conditions on the west coast of Tasmania, while the eastern and midland section of Tasmania tend to experience higher temperatures and less cloud due to the Fohn effect (dry, warm, downslope wind on lee side of mountain or rain shadow wind [Reid et al., 2005:14-15]).

The east coast of Tasmania has a mean minimum temperature in January of 21° and a mean minimum temperature in July of 5° (Reid et al., 2005:15). Temperatures do exceed this in summer and can often get up to over 30°. Temperatures are rarely below 10° in winter on the coast (Reid et al., 2005:14-15). Temperatures further inland are generally reduced by “approximately 1° for every 100m of altitude resulting in some very low temperatures (with snow) for a large percentage of the year in the alpine areas (Brown, 1985:7).

The mountainous nature in the west of the island and westerly bias in wind circulation processes in Tasmania cause most of the rainfall to fall on the west coast (some western mountain regions receive over 3600mm per year [Reid et al., 2005:15]). The mountains in the east also produce a similar rain shadow effect in the east causing the midlands region to be the driest region in Tasmania with some areas receiving less than 500mm per year (Reid et al., 2005: 15-16). Rainfall distribution from year to year is highly variable but most of the east coast receives 700 to 800mm per year (Reid et al., 2005:16-17).

More specifically, Bicheno is classed as a sub-humid zone (Brown, 1985:5-7). A characteristic of the sub-humid zone is that it usually receives less than 750mm of rain per year, which will cause major rivers on the east coast such as the Jordan and Coal rivers to cease to flow in particularly dry times (Brown, 1985:6). Minor streams

such as the Denison Rivulet do not normally flow in summer (i.e. they are non-perrennial [Brown, 1985:6]). This would have had a major impact on the movements of Aboriginal people especially in summer months as fresh flowing water would have been a consideration in selecting campsites or dictating seasonal inland migrations where larger freshwater lakes and rivers are available.

This area is also influenced by aeolian (wind) processes frequently forming landforms including lunettes, low valley dunes and source bordering sand sheets, especially on the south-eastern sides of lakes and rivers (Brown, 1985:6-7). These landforms often contain evidence of Aboriginal occupation because they would have "provided favourable [and sheltered] camping locations" near sources of fresh water (Brown, 1985:7; Paton, 1993:3).

Climate change and sea level rise

Sea level changes have been occurring naturally throughout the earth's history. During the Last Glacial Maximum (LGM – 21000 years Before Present [BP]), sea levels were approximately 120-130 metres below the current level with much of the earth's water trapped in ice sheets. Around 125,000 BP warmer conditions had melted ice and the sea level was probably around 6-8 metres above the current level (Sharples, 2006; Williams, 2013). Holocene sea level is thought to have stabilized to a near static level around 2000 to 3000 years BP (Williams, 2013; Bird, 2009:365). It is these processes, which formed and eventually flooded the land bridge between mainland Australia and Tasmania, isolating the Tasmanian Aborigines from the mainland.

- The LGM is known widely for a variety of environmental changes, less commonly referred to are greater seasonal temperature variations, unstable wind regimes and higher erosion rates, leading to the formation and widespread occurrence of sand dunes (Colhoun 1978:9-10; Sigleo and Colhoun 1982:114) and potentially, seasonal drying of lake beds (in Brown 1991:2). Dry climates also delayed the development of forest in inland eastern Tasmania until after about 9500 years ago (Mcphail 1979:306,337, in Brown 1991:3).

Plate 9 shows the changes that have occurred in sea level in the last 140,000 years.

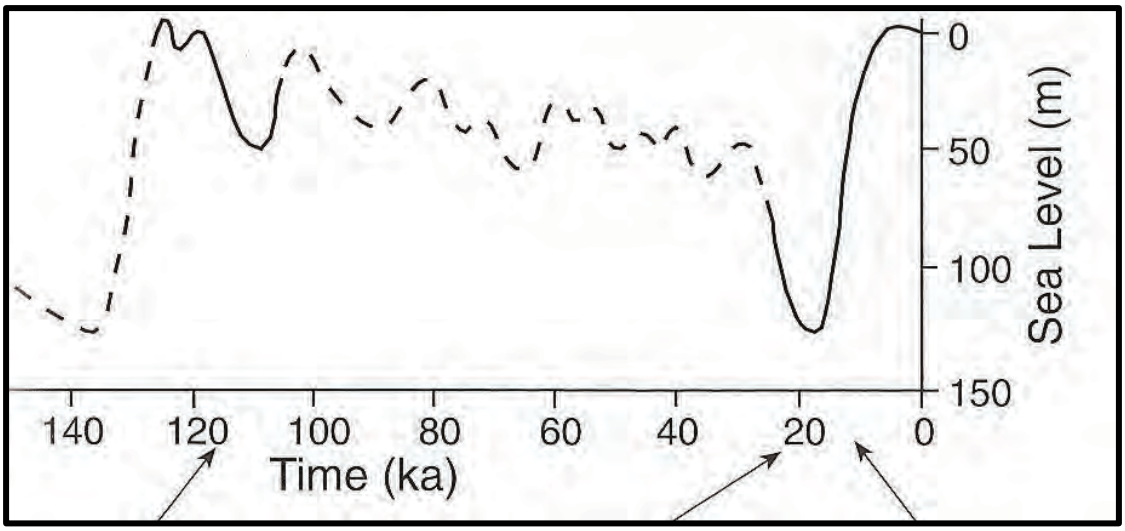


Plate 9: Changes in sea level from 140,000 years before present to modern times. Source: Woodroffe, 2002:209

Analysis of tide-gauge records by Church et al., (2004; 2006; 2011) and Holgate (2007), indicate Global Sea Level (GSL) rise has been around 1.74 to 1.8 mm/year since the 1960's (although studies by Church et al., 2005; 2006 show that average sea level rise in Australia has been lower at around 1.2 mm/year). More recent research by Church and White (2011) using satellite altimeter and in situ data indicate an increase in yearly sea level rise from around 1.7 mm/year in 1900, to around 1.9 mm/ year from 1960 to around 3 mm/year from 1993. This is attributed to a gradual increase in ocean thermal expansion and contributions from ice sheets, ice caps and glaciers (Church and White, 2011; IPCC, 2014).

The most recent Intergovernmental Panel on Climate Change (IPCC, 2014:4) figures (AR5) project a global mean sea level rise (GMSL) of 0.28 to 0.98 metres by 2100, up from the maximum prediction of 0.59 metres in the previous AR4 report (IPCC, 2007). This change in figures has, according to the IPCC (2014:4), been mainly due to an increased knowledge of natural systems and the processes involved. The IPCC (2014:4) also suggests that these figures are for GMSL and that sea level rise may vary greatly at regional and local levels due to such factors as land subsidence, uplift and changes in ocean circulation (see also Church et al., 2004; Williams, 2013, 188). Estimates for Tasmania appear to relatively in line with current GMSL estimates (Church et al., 2004).

The vulnerability of coastal areas is dependent upon basic geomorphic characteristics such as "local climatic, oceanographic, geological, geomorphic and topographic factors or variables", which will influence the ways that coasts behave in response to sea level rise (Sharples, 2006). More study of the "complex inter-relationships between the geomorphological and ecological attributes of the coastal

system and the relevant climate and oceanic processes" at the "regional and local scales" is needed (IPCC 2014:4). Some researchers have indicated that IPCC estimates may be conservative (Davidson-Arnott, 2005; Westley et al., 2011, 358; Williams, 2013:189). However, IPCC projections are the best available source.

What is relevant here is that these areas close to the coast have undergone immense changes in the past and will continue to change as climate change continues to influence local conditions. Climate change is also likely to significantly affect local temperatures and rainfall patterns.

2.3 Ethno-history, historical documents, oral history information

In order to better understand the study area, within its archaeological, cultural and geographical context it is necessary to provide a brief overview of the current understanding of Aboriginal social organization and occupation.

European contact with Tasmania began with a brief visit in 1642 by Abel Tasman, continuing with eleven expeditions between 1772 and 1802, and culminated with the settlement by British colonists in 1803. Until then, and following the flooding of the land bridge across the Bass Strait at ~10000 BP, Tasmanian Aboriginal people had lived in isolation (Reynolds, 2012:5, Ryan, 2012:5, Clements, 2014: ix).

The few pre-settlement observations of the east coast include reports by Abel Tasman (December 1642), Marion du Fresne (March 1772), John Henry Cox (July 1789) and reports of Baudin's 1802 expedition, which anchored off Maria Island between 19th and 26th February of that year (in Brown 1991:12). Later colonial accounts and official records (i.e. accounts written between 1803 and about 1835) are also scarce and it is not until the end of this period, and the journal of George Augustus Robinson, that such observations become more common.

Between 1820 and 1835, Robinson was commissioned by the Colonial Government of Van Diemen's Land (early name for Tasmania) to "gather up" the Aboriginal people and transport them to islands in the Bass Strait. His daily observations are documented in detail in his journal, transcribed as the *Friendly Mission* (Plomley, 1966). Despite being written several years after colonization, these provide unique insights into practices, customs and language of Tasmanian Aboriginal people and continue to provide the background for recent research (Reynolds, 2012: 5, Ryan 2012). Later second hand sources, including those Backhouse (1843), Roth (1899), Calder (1875), Bonwick (1870) and Noetling (1911 are rarely used since they often contain very generalised information and often they uncritically use unreliable sources of information.

Based in part on Robinson's observations, recent studies of Aboriginal social organisation by Ryan (2012:11-12, also see Jones, 1974), suggest that at the time of

contact, Tasmanian Aborigines "appear to have operated in a complex social system of three units":

- The domestic unit, or family group – consisting of the husband, wife, children, relatives and sometimes friends and other relations. These groups consisted of around two to eleven people (Ryan, 2012:11-15).
- The basic social unit, or clan, consisted of a number of family groups, who called themselves by a particular name. Each clan was usually led by an older man ("Chief"), reputed to be a formidable hunter and fighter. Well-known "Chiefs" included Mannalargenna, Umarrah and, possibly, a woman, Walyer (Plomley, 1966). Chiefs were usually highly respected and had power possibly through "legal sanction and through force of personality and martial prowess". Each clan had their own territory with well-marked geographical boundaries but these boundaries were commonly infringed upon by other clans - with or without permission.
- Important resources such as ochre (for example, at the Gog Range near Sheffield in northern Tasmania) or swan eggs (for example at Moulting Lagoon on the east coast of Tasmania), were frequently shared by clans. Sharing often incorporated major seasonal events (see also Plomley, 1966). Interaction was based on spiritual and political obligations, arranging exchange of women for marriage, settling feuds or making war. At the time of European contact there may have been up to 100 clans in Tasmania (Ryan, 2012:11-15).
- Clans had territory (often delineated by the mountains, rivers or other water bodies such as lagoons) that they foraged within but were not necessarily restricted too. Movements were largely seasonal but also determined by spiritual and political obligations such as ceremonies, collecting ochre, marriages or settling feuds.
- The wider political unit, or Nation, which consisted of a group of clans that spoke the same language, occupied a region, intermarried, had the same cultural traits, meet together for economic and other reasons and shared similar seasonal movements. The Nation's territory consisted of the land occupied by all the Clans within it together. Nations often had agreements regarding crossing their sharply defined boundaries. For example, the North Nation controlled many of the ochre mines in the north but allowed some of the Big River Nation clans to visit them in return for access to the high plateau and the rich hunting grounds. It has been suggested by Ryan (2012) and others, that there were nine Nations at the time of European colonization in1803. These were the Oyster Bay, North East, North, Big River, North Midlands, Ben Lomond, North West, South West and South East Nations (Ryan, 2012:11-15).

While there has been some focus upon how Aboriginal people interacted, Tasmanian Aboriginal people prefer to be referred to as clans and nations rather than tribes, bands or other terms (Ryan, 2012). This will therefore be the reference system used within this report.

Eastern Tasmania and Oyster Bay Nation

It is generally believed that there were nine Nations, around 48 clans and approximately 6,000-10,000 Aborigines in Tasmania at the time of European occupation in 1803 (Ryan, 2012: 14-17). The Nations, clans and their location are shown in Figure 8.

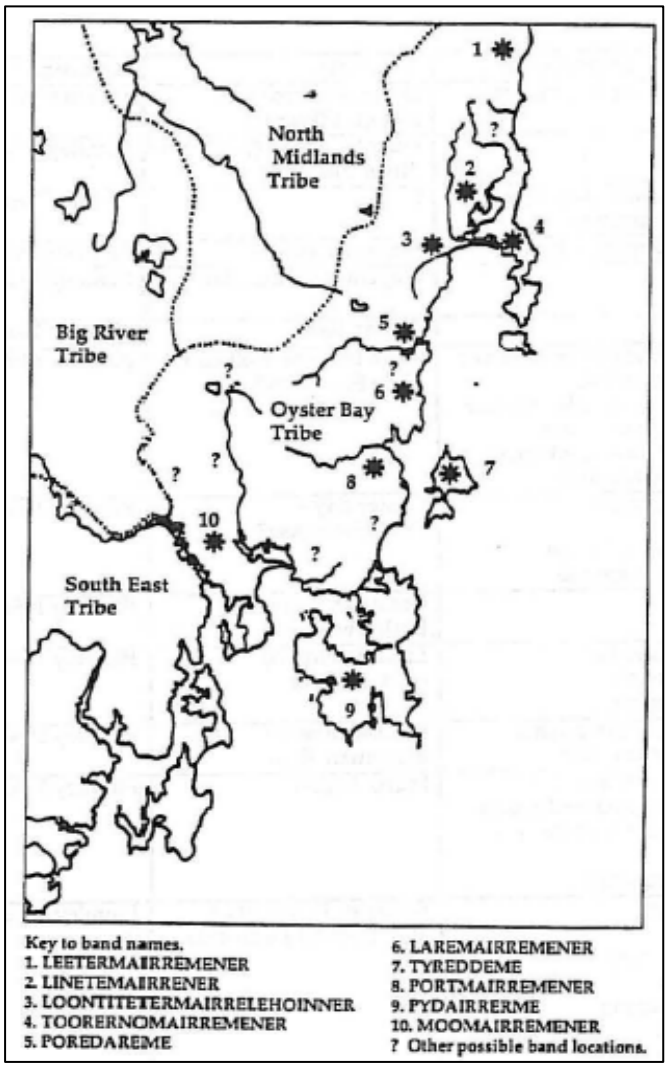


Figure 8: Eastern Tasmania, Aboriginal band and tribal boundaries (after Plomley 1966, Jones 1974 and Ryan 1981).

The area around Bicheno was the territory of the Oyster Bay Nation, which comprised 10 clans including the *Leetermairremener* (St Patricks Head), *Linetemairrener* (North Moulting Lagoon), *Loontitetermairrelehoinner* (North Oyster Bay), *Toorernomairremener* (Schouten Island), *Poredareme* (Little Swanport),

Laremairremener (Grindstone Bay), *Tyreddeme* (Maria Island), *Portmairremener* (Prosser River), *Pydairrerme* (Forestier and Tasman Peninsulas and the *Moomairremener* (Pittwater, Risdon [Ryan, 2012: 15]). This clan is thought to be one of the largest in population in Van Diemen's Land in 1803, comprising at least 700-800 people. They probably spoke a dialect common amongst the northeastern people (Ryan, 2012:17-19).

Ryan (2012: 17-19) suggests that the Oyster Bay nation was "divided into three clearly defined groups according to seasonal patterns of movement in search of food and the maintenance of their ceremonial obligations". These are:

1. The four clans from St Patricks Head to Schouten Island (which includes the area around Bicheno).
2. The four clans from Little Swanport to the Tasman Peninsula, and,
3. The two clans from Maria Island and Pitt Water.

The area around Bicheno was likely the territory of the *Linetemairrener* clan (or in the case of Figure 8, the *Toorernomairremener*), who along with the *Leetermairremener*, and the *Loontitetermairrelehoinner* gathered in the resource rich areas like Moulting Lagoon and Schouten Island between August and October to feast on the "seasonally heavy concentrations of bird life" (Ryan, 2012:18). After October these clans moved inland to the Ben Lomond Plateau (the territory of the Ben Lomond nation) or to the Great Western Tiers in the territory of the North Midlands nation, to hunt kangaroo, wallaby and possums (Ryan, 2012:19-20).

In January, those at Ben Lomond returned to the east coast for sealing and mutton-birding before rejoining the Western Tiers group on their way back to the coast. Stockers Bottom on the border of the North Midlands Nation, was another stop for kangaroo, wallaby and possum hunting (Ryan, 2012:20). In June, the clans returned together to the coast to eat shellfish and marine vegetables and feast on swan and duck eggs in July (Ryan, 2012:20; For an example from Robinson's journal see 7th January 1831 in Plomley, 1966:342). These clans travelled on well-defined routes designed for "maximum access and minimum trespass", often firing the landscape as they went and also often visited quarries or ceremonial areas in the midlands where many clans from other territories would congregate each year (Ryan, 2012:20). Firing of the Tasmanian landscape (including the east coast) to open areas for hunting and promote new growth is well testified in Robinson's journal (Plomley, 1966) and its effect on the Tasmanian landscape is indicated by "the presence of eucalypts that are short and low-branched with a spreading crown (Brown, 1985:10-11; See also Gammage, 2011).

Several clans from the Oyster Bay nation played a critical role in the "Black War" during the 1820's and the well-known Chiefs – Mannalargenna and Tongerlongter –

were from this nation (Ryan, 2012:20). Mannlargenna also features prominently as a guide to George Augustus Robinson who was commissioned to gather all the clans in Tasmania from 1829 to 1834 and transport them to Flinders Island (For an example see Plomley, 1966: 519-522). Robinson was on the East Coast from October 1830 to October 1831 and crossed the Denison Rivulet on the 9th January, 1831, describing it as a "barred river", on his way to Waterloo Point (Swansea [Plomley, 1966:344 and 477, n. 99 and 100])

History of Bicheno and surrounds:

Bicheno is a township named after James Ebenezer Bicheno, who was the British Colonial Secretary for Van Diemen's Land from 1843 to 1851 (Thomas, 2013:98). He is known for "instructing Surveyor General Robert Power to survey the Furneaux Islands in 1848, with the intention of regulating the inhabitants by extracting rents based on the estimated value of their landholdings" (Johnson and McFarlane, 2015:305). Power visited the exiled Aboriginal people at Flinders Island, describing them as excellent small boatmen and a "peaceful and friendly people who lived in harmony with each other" (Johnson and McFarlane, 2015:305).

The early history of Bicheno is sketchy. The first reference to the land that was to the land that was to become Bicheno, was by probably by James Kelly who, while circumnavigating Van Diemen's Land in 1803, stopped there to dry provisions (Thomas, 2013:98). Kelly may have been there in his capacity as a sealer, and sealing and whaling activities in the area were likely to have been early. However, it was not until 1834 that the "first whaling station, run by a Mr. Beck", was officially reported to be in operation (Nash, 2003: 108-109; Thomas, 2013:98). "*Between 1839 and 1842 there were thirteen requests for whaling allotments in the area, including petitions from a number of well-known whalers such as William Young, Askin Morrison, Thomas Lucas and Charles Seal*" but it is not known exactly how many of these were granted or taken up at this time (Nash, 2003:108). However, Nash (2003:158) suggests that there were probably at least four around Waubs Bay with two attributed to William Bennett possibly on the landward side of 'The Gulch' or on the adjacent Governors Island.

Early references to whaling at Waubs Bay and Warbs Harbour also come from another source. The names were most likely taken up on account of an Aboriginal woman, known as Wauba Debar (1792–1832), whose marked grave and headstone is located near the tennis courts south of the Silver Sands Resort, overlooking the Bay. Her headstone memorializes her rescue of "two sealers, one of them her husband, when their ship was wrecked about 1 km from shore during a storm" (Z. Stanin pers.comm., see Huett 2011).

Little more is known of her life other than what is recorded on the headstone. Like may Aboriginal woman of the early colonial period, was probably kidnapped and enslaved by the sealers and whalers, the very type of people that she later rescued. She died in 1832, while travelling to the Furneaux group, and her body was brought ashore and buried. In 1855, local settlers added the commemorative headstone. Tragically, and in part due to the rise of pseudo scientific interest in human anatomy that followed Truganini's death in the 1880s, Wauba's body was disinterred or 'stolen', resulting in public outcry (The Mercury, 28 Sept 1893, page 3, in Mulvaney 198). Her body is still missing.

It is assumed that by the mid 1830s, farming was also being established in the hinterland. This is known because the establishment of whaling at "Waubs Bay" was sufficient to cause security concerns from residents, who worried about bushrangers and whalers (for example, there is a request from landowner John Allen for police protection [Nash, 2003:108 and Thomas, 2013:98).

Whaling was likely to be seasonal only:

> *This little harbour of refuge being the only shelter in a stretch of many miles of rocky coast, it is often occupied during the winter as the station of a whaling establishment, although at the period of our visit all was silent and deserted. Skeletons of huts and skeletons of whales stood side by side, and with greasy barrels in long and black array, and remains of putrid carcasses steaming in the sunshine, formed one scene of dirt, desolation and disgust, contrasting powerfully with the clean bright crags, snow-white beach, and the pure brilliant character of the surrounding scenery (Nash, 2003: 108-109).*

By the mid to late 1840's, the whaling industry has permanently failed, largely due declining catches. Waubs Bay had also become focused upon the transport of the newly discovered coal (1848) found at Douglas River, north of Bicheno (Nash, 2003:108). The coal was transported via a 5km horse-drawn tramway to the port at Bicheno and would have crossed the Denison Rivulet (Thomas, 2013:98).

Despite the foray into the coal industry, the discovery of gold in Victoria in the early 1850's saw many of the residents leave the area, and the township did not recover somewhat until the mid to late 1900's. This was the time when fishing for crayfish, abalone, scallops and fish, and the development of the tourism industry revitalized the sleepy village (Thomas, 2003:98-99).

20th century Aerial Photography and the Silver Sands Resort

The period Bicheno's revitalization, after the 1940s, is clearly demonstrated by a series of aerial photographs. Aerial photography of Bicheno, dating to 1949 (Figure 9), shows that much of the township remained undeveloped, with farmland extending

almost as far as Peggys Point. Despite this, there were several tracks, and perhaps even buildings, in the location of the Silver Sands Resort prior to its construction; particularly in the south west of the allotment. Visible also, is the presence of granite bedrock throughout, supporting the poor accumulation of soil.

An aerial photo image of the headland in 1963 (Figure 10) shows a relatively new Resort at Peggys Point, with most of the buildings recognizable from today's satellite images, already present (see Figure 6). The aerial photo shows a round swimming pool at the centre of the Resort (Figure 11), which today appears to be covered by decking (Plate 10). Exposed granite is seen just to its west. A large square area, still visible today and assumed to be an original 'bowling' green is also observable at the northern end of the allotment (Plate 11).

Overall there is little difference to the Silver Sands landscape in comparison to what it is today, An additional aerial photograph, dated to 1979 (0801-180.jpg) shows one of the final buildings to be added to the allotment, in its northwest. By the 21st century, a smaller round pergola style wooden building was added to the north east of the bowling green, but outside of this, most of the buildings seen today had been fully established by this time.

Current Land Use

On observation, and mapping of remnant vegetation, the study area/s and their surrounds have been modified in its distribution and form since European settlement. This includes wide scale clearing of vegetation, construction of roadways, tracks and buildings:

- At Denison Rivulet, aside from vegetation clearance, and the construction of narrow isolated drainage lines running off Deals Road, there is little evidence of development. The construction of Deals Road itself, and that of the Tasman Highway Bridge, over the rivulet to the east of the study area, may have also contribute to changes in water regimes in the area, but this remains untested.
- The Silver Sands Resort is at the centre of an increasingly busy township of Bicheno. Impacts to land surfaces in the area are characterised by a full range of improvements to public reserves and private land, including construction of roads, tracks and buildings, and traffic due to fishing, poaching and continuing tourism. Erosion is abundant on lower slopes where historical activity in the form of construction is obvious (i.e. existing tracks, sewerage lines).

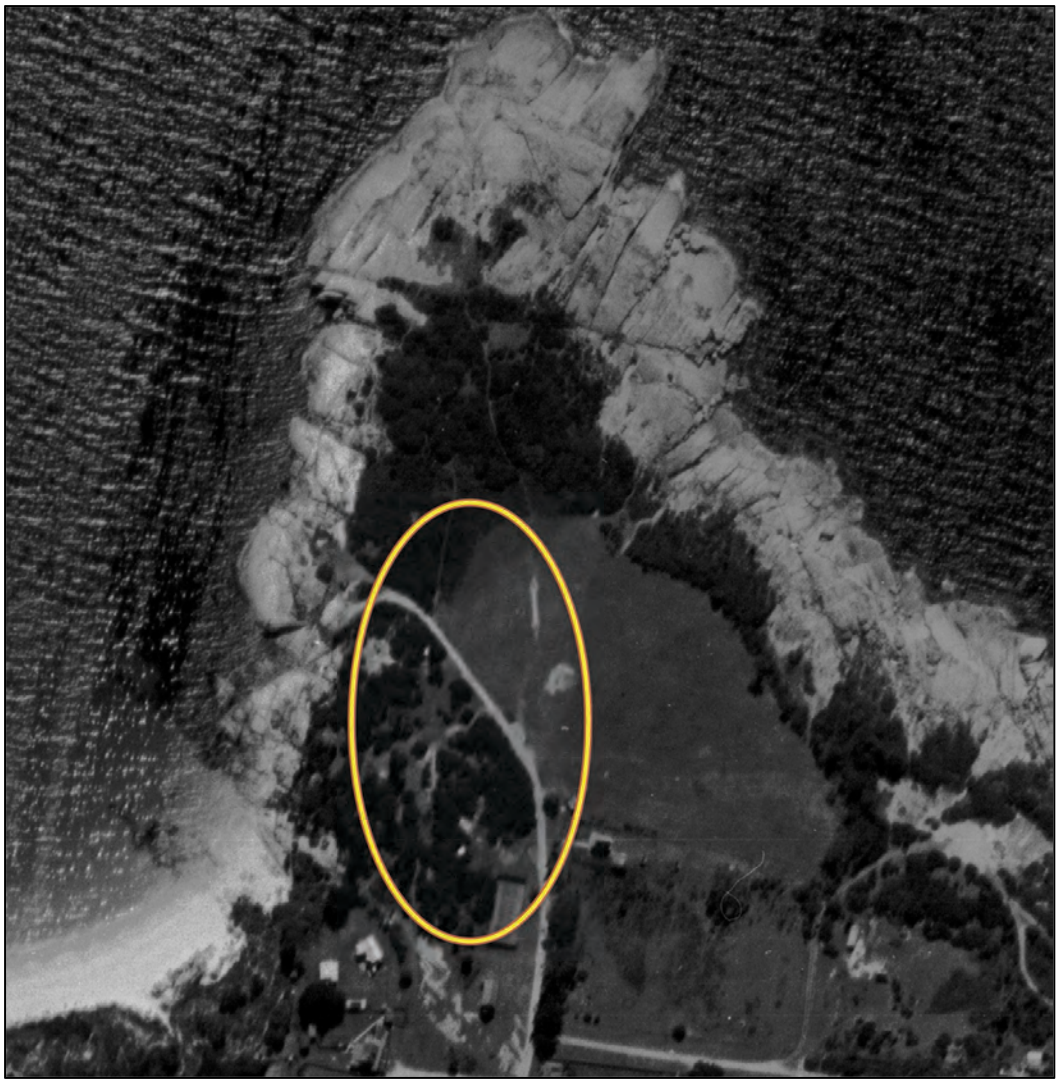


Figure 9: Silver Sands Resort Location in 1949 (0192_663.jpg. Base image from TasMap (www.tasmap.tas.gov.au) © State of Tasmania).

Figure 10: Aerial photograph close up of the Silver Sands Resort Area, from the ??. Note that apart from the missing building in the north east and a round pool at the centre of the resort - most features are the same as now. 0411-085 jpg. Base image from

TasMap (www.tasmap.tas.gov.au) © State of Tasmania).

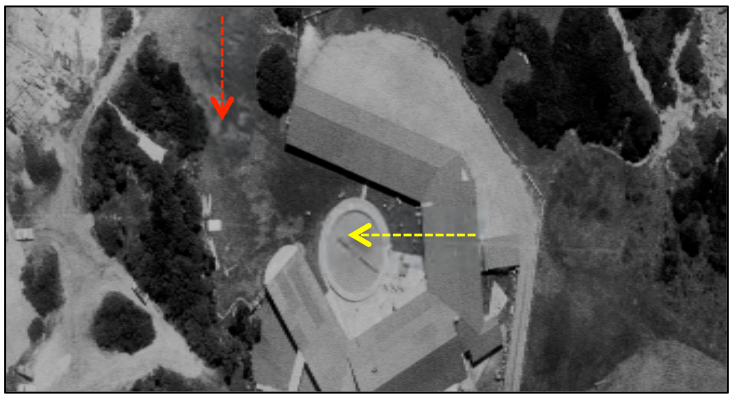


Figure 11: A close up of the round pool at the centre of the resort, (close up of 0411-085.jpg. see above). This is now covered by a deck. Granite is also visible throughout the rest of the allotment, consistent with shallow soils

Plate 10: Facing northeast, showing the current state of the former swimming pool area. The lawn in the foreground appears to have been raised to the original level of the pool area, and is likely to have been introduced. Photo b Z. Stanin.

Plate 11: Current status of the "bowling" green., which has been completely leveled and landscaped. Photo by Z. Stanin.

2.4 Previous Aboriginal heritage studies

Aboriginal Heritage Studies in Tasmania

In 2011, Stone and Stanton (2011:9) wrote:

> *Tasmania now lays claim to one of the world's richest archaeological sites, a levee deposit on the Jordan River near Brighton, which contains a continuous, stratified cultural sequence dating back ~42,000 years (Stone and Everett, 2009; Cupper, 2010). Unfortunately, preservation of this unique record is in doubt because of construction of the Brighton Bypass. Nonetheless, it is possible to conclude that Tasmania has been occupied continuously by Aboriginal people for a very long period of time.*

The final analysis for this archaeological site is reported on in detail in Robert Paton's team written (Paton 2011) "Draft Final Archaeology Report on the Test Excavations of the Jordan River Levee Site Southern Tasmania". Before this, the limestone cave deposits at *Warreen* cave in the Maxwell Valley of southwest Tasmania provided the earliest dates for Aboriginal occupation in Tasmania at around 35,000 years (Cosgrove, 1995; Brimfield, 2010?:9-12). As Stone and Stanton (2011:9) have noted "*This period of occupation includes the Last Glacial Maximum (LGM) or "Ice Age" of 20,000 years ago (*See also Brimfield, 2010?).

The *Parmerprar Meethenar* rockshelter in the Forth Valley was occupied during the Late Pleistocene period (Cosgrove, 1992; Brimfield, 2010?:11). There is also evidence that Aboriginal people occupied rockshelters on Hunter Island and King Island, which during the LGM, formed part of the land bridge between Tasmania and the mainland of Australia (Bowdler, 1977; Sim, 1994; Dunnett, 1994:12-13).

Significant archaeological sites of the LGM include sites in the valley of the Weld River, the Cracroft Valley and the Ida River karst (Jones *et al.*, 1988; Cosgrove, 1989; McGowan, 1990). Sites of this period are predominately located in the southwest and show evidence of intense occupation and reliance on wallaby as a food source, probably as a result of cooler temperatures and reduced forest cover (Kiernan *et al*, 1983). As Brimfield (2010?:11) points out "*it is not uncommon to excavate from a 1m^3 deposit 200,000 bones and 20,000 stone artefacts*". Cave paintings are also preserved on some cave walls.

Sites such as ORS 7 (in the upper valley of the Shannon River) and Beginners Luck Cave (in the Florentine River Valley) are also significant LGM sites, indicating occupation of the 'ice capped' Tasmanian Highlands. Sediments containing stone artefacts and the remains of butchered animals date back 20,000 years (Murray *et al.*, 1980; Cosgrove, 1995b). In the north of Tasmania, Dunnett (1994:1)

"direct" archaeological evidence such as a site excavated by Cosgrove at the Forth River, indicates active occupation by Aboriginal people for at least 22,000 years.

Most coastal sites in Tasmania (and this is in keeping with evidence from the Australian mainland) date from 6-7,000 years ago when global sea levels and temperatures had risen and stabilized following the melting of the glaciers and ice-caps (Dunnett, 1994:1; Brimfield, 2010?:31; Stanton and Stone, 2011). Shell middens in the Furneaux Group of islands are the oldest dating to 9,000 years ago (Sim, 1994; Brimfield, 2010?:33). The Carlton Bluff midden in the Derwent region is estimated to have begun forming around 8,000 years ago (Brown, 1986; 1991; Mulvaney and Kamminga, 1999; Brimfield, 2010?:35). It consists mainly of Tasmanian Oyster (*Ostrea angasi*).

One of the longest, continuous cultural sequences in Tasmania (of around 8,000 years) has been identiifed at Rocky Cape (approximately 20km east of Smithton), via the excavation of rock-shelters containing stratified midden material (Jones, 1971; Dunnett, 1994:1 and 11; Brimfield, 2010?). The disappearance of fish remains from the excavated sequence, about 3500 years ago, is in contrast to the potential presence of fish traps along the north coast at 1000 years (this debate continues; see Jones, 1971; Dunnett, 1994:11-12 and 14-15; Brimfield, 2010?:46). Equally quartzite flakes and bone points that typify the early assemblage, diasappear around 5,500 years ago, to be replaced by stone artefacts made from a wider range of raw materials (Jones, 1971).

Tentatively, the late changes appear to correspond with more seasonal occupation and exploitation of coastal resources, as noted by Robinson around the time of European settlement (Plomley, 1966; Brimfield, 2010?:43). Changes in stone tool technology, at this time, are also noted more broadly (Brimfield, 2010?:43).

Eastern Tasmania and Bicheno

The broad patterns of occupation and subsistence seen throughout Tasmania, have also been tested by a number of archaeological studies undertaken within the East Coast, starting dating from the late 1960s to the present time (i.e. Ferguson, 1968, Lourandos 1970, Brown 1991, Graham 2011)

Lourandos' (1970) study of Aboriginal subsistence patterns in eastern Tasmania, was originally designed to address Rhys Jones 1960s research efforts in the north-west Tasmania. Focusing on the abundant remains of midden sites, Lourandos argued for two types; low energy coastal (bay estuarine) margin middens, identified by the presence of oyster and mussel shell, and warrener/abalone dominated middens typical of high energy coastlines (open coastal rocky platform types).

His excavations of the oyster midden at estuary at Little Swanport, some 50 km south of Bicheno, identified the following (Lourandos 1970):

- Approximately 2 m of cultural deposits of interleaving shell lenses, including 176 flaked stones and 12 anvil/hammerstones, bone from a variety of land and sea, abraded ochre nodules, and hearths and bone tools. The presence of fish bone in the lower layers of the deposits only (4490=120 (ANU356) to 3660 -95 (ANU 357) allowed him to argue that fish were not eaten, and bone tools were not made after c. 3500Bp, consistent to Jones' Rocky Cape phenomenon (Lourandos 1970: 54-55, Bowdler 1982:27-28). Overall Lourandos interpreted little change over time and focus on oyster fishing.

Lourandos (1970:21) also excavated an inland site of Crown Lagoon (TASI 286), approximately 50 km west of Bicheno, recovering recognisable flaking floors, charcoal concentrated in small hearths and with some animal bone, identified as the remains of one macropod (743 flakes stones, 7000 pounding dolerite fragments?, abraded ochre nodules and hearths). The site was dated between 4170=80 BP (ANU-279) and bottom 4860 =95 BP (ANU-278) in (Lourandos 1970:60-67; 1977; Bowdler 1982:28). He concluded that this was a temporary site for making spears and hunting of animals, based on seasonal subsistence patterns of exploitation of two widely difference resources; the coastal and the dry sclerophyll woodland hinterland.

Lourandos' study delivered an important framework for the comparison and the 'reconaissance' study of eastern Tasmania and was followed by Gaughwin 1985 study of the Tasman Peninsula. The project expanded on the observations of land use patterns identified by Lourandos, and provided comparative data for subsequent study of east coast sites by Steve Brown in 1991. Some of Gaughwin's included:

- A link between low energy coast lines, high density midden sites and low densities of atefact material, reinforcing Lourandos' intepretation of limited activiites.
- Greater diversity inferred from medium energy coasts. Greater variety of shellfish and stone material, suggesting a broader range of activities than Lourandos suggested.
- The presence of large artefact scatters near the coast line and presence of rockshelters up to 4 km near the coast, suggesting more complex patterns than that identiified by Lourandos. Differential offshore island use was also identiifed (Gaughwin 1985:52).

Following on from Lourandos (1970), Gaughwin (1985) and other regional studies of the period (i.e. Kee 1987, 1990), Brown systematically examined over 350 sites as part of his East-Coast Study (Brown 1991:32-33). The sites were identified within

samples of three broad landform units, located between Four Mile Creek in the north and east of Hobart in the south. These units included coastal and estuarine margins, offshore islands and inland hills and plains. One archaeological site, a Freycinet Rockshelter, was also excavated. Seventy seven archaeological sites were located between Farm Point and Bicheno, including coastal midden and artefact sites at Waubs Bay (TASI 3408 and 3409) and particularly relevant to this project, at Peggys Point (TASI 3410).

- TASI 3410 is located in coastal scrub, adjacent to a walking track, between the Silver Sands Resort Area and the granite foreshore. The location is discussed in more detail below.

Consistent with broader archaeological patterns, Brown confirmed that isolated artefacts, artefacts scatters and middens were the dominant archaeological remnants along coast-lines. Localised archaeological sites were found to occur in the hinterland and were small, but the evidence of cultural activity is largely associated with the coastline. The results of surveys of Lourandos' archaeological midden at Crown Lagoon, and of a midden site at Boot Bay (across Maria Island, in Brown 1991:52 to 56), were shown to indicate that coastal sites midden sites represent a broader set of activities than Lourandos had previously suggested (i.e. tool making as well as shell-gathering).

Brown's study also drew attention to the historical record and its contribution to understanding the subsistence patterns of Aboriginal people in the past. This included a review of references related to food capture and food preparation methods, that highlighted the importance of food other than shell-fish, as well as plant resources (i.e. Brown 1991:23). This included references to killing of birds and cooking of macropods, and roasting of birds on open fire (Baudin 1974:341. 342). His study of five midden sites in the Falmouth Chain of Lagoons and test excavations at Fisheries Creek Rockshelter confirmed that the energy values of shellfish contribution to Aboriginal diet was likely to be low. Nor were shellfish always eaten raw. Brown, for example documents that in 1802, Baudin's 1974:341) had observed that some shellfish was not eaten raw but cooked in its shell, on account of burnt shell-remains of oysters and sea-ears.

Constrained by the assumption that sites prior to 8000 years ago would have been destroyed by the drowning of the land bridge over the Bass Strait Based on his results, Brown was able to extrapolate a modified occupation and subsistence pattern:

> • *systematic occupation of the East Coast region took place between about 6,000 and 3,500 years ago.*

• the study area corresponds roughly with the territory of the Oyster Bay tribe, comprising at least 15 bands and a population of between 600 and 800 people at the time of European invasion.

• the major dietary component of prehistoric Aboriginal populations living in eastern Tasmania is likely to have been land mammals, particularly macropods and other marsupial species. Some evidence suggests specialised resource exploitation on occasion - oysters at Little Swanport and swan eggs at Moulting Lagoon for example. Beyond these particular resources a wide range of food resources (maritime and terrestrial animals and plants) was exploited.

• Base camps at which huts were constructed were usually situated on flat, sandy terrain in open forest. These situations maximised proximity to resources, offered protection from wind and, in addition, forest canopy provided warmer temperatures than open situations. On the coast, base camps were situated inland of the shore, and inland they were commonly situated near rivers and creeks, and on the margins of lakes, lagoons and marshes

• No distinct pattern of seasonal movements by bands of people has been recognised, though there may have been a tendency to move away from the mainland coast (inland as well as to Maria, Schouten and other islands) in summer (Brown 1991: iv).

While there has been no further regional studies since Brown's 1991 project, subsequent localised studies – largely completed in the context of cultural resource management (CRM) – continue to support the above modified pattern of high cultural density along the coast and decrease of cultural material towards the hinterland.

These include the following:

Pedder, 1991

Working for the Coast Care Aboriginal Assessment Project in 1991, Caleb Pedder,conducted an Aboriginal Heritage Assessment of four options for a proposed toilet/amenities site at Bicheno, with the option of picking the best of the four sites. A new archaeological site was recorded around the industrial area near the Bicheno Wharf (TASI 8410). The recommendation was that the one suitable area for the ameneties was a quarry site to the southeast of the Silver Sands Resort.

Paton, 1993

In 1993, Rob Paton conducted an archaeological investigation of Bellerive Optical Fibre Cable Route, alignment. The fieldwork involved the inspection of over 200 km

of proposed telecom line, combining a foot and vehicle survey. Found a range of 15 archaeological sites, including artefact scatters and middens. Recommendations was that no further archaeological investigation is warranted and that each site should be avoided.

Stanton, 1998

In 1998, Steve Stanton surveyed a dune system in the course of a Waste Water Treatment Plant, 5 kms north of Bicheno (~4 km south of the Denison Rivulet), between Maclean Bay and the Tasman Highway. The survey extended along the Old Mines Lagoon, in the north, to the Bicheno Golf Club holding dam in the south. The environment was a low-lying coastal march environment. Eight sites were found to occur between the proposed activity area and the Bicheno township, with the closest sites being a shell midden and artefact scatter at Mines Lagoon (TAS 5937) and an artefact scatter recorded in the 1970s (TAS 243). No archaeological sites were identified within the activity area.

Because nothing was found there were no objections to the upgrade but it was recommended that:

- There was no alteration to the dune system
- Any sites found during works should be reported and cease works.

Hughes, 2001

In 2001, Colin Hughes, surveyed a tourism and or residential type development on the dunes, at Red Bill Point, with the provision for foot access track located north east of Bicheno. One site was recorded, an artefact scatter, containing banded chert, quartzite, black chert and brown chert (TASI 9745). Previously recorded sites in the vicinity comprised a TASI 184 midden at Diamond Beach (TASI 184) originally recorded by Burke, with isolated artefact (TASI 244) at Red Bill Point and midden site (TASI 245).

Based on the results, the recommendations were to:

- Avoid impact to TASI 9745
- Record all other sites found during works
- Monitoring by AHO if boardwalk constructed
- Monitoring by AHO if permit granted

Graham, 2001

The 2002 project comprised the Aboriginal heritage survey and impact assessment on Aboriginal Values at Douglas River, on the removal of willows (north of Denison Rivulet). Five new archaeological sites were recorded; an isolated artefact (TASI

8859), a deflated midden (TASI 8860), a midden and unoccupied rock shelter (TASI 8861), midden (TASI 8862) and artefact scatter (TASI 8863).

The recommendations were funding, for the following purposes:

- Camping on river reserve closed to fenced 20 m in from Aboriginal site TASI 8860 – AHO present – rehabilitate naturally.
- Access track to beach closed
- Access track to swimming hole closed & foot access only
- TASI 8861 to be fenced off and AHO present & rehabilitate naturally

Graham, 2002 a

In 2002, Vernon Graham investigated a 1 ha area at a proposed Water Treatment Plant, north of Bicheno, via a foot survey. No Aboriginal cultural material was found, with the recommendation that a second survey after vegetation removal was warranted due to lack of visibility.

Graham, 2002 b

This was a visual survey of two proposed house development sites, with an associated access road at the Old Mine Lagoon. Sub soil testing with auger, was also conducted.

Three sites were located during the survey, including a midden and artefact scatter (TASI 9155), a midden (TASI 9156) and midden (TASI 9157). The recommendations were to protect from disturbance and the dwelling to be located, north of TASI 9155. The proposed road was recommended to ‘go ahead’.

Stanton, 2004

Steve Stanton also surveyed a 250 - 225 metre subdivision alignment at the Tasman Highway at Bicheno, in 2004. No sites were recorded in the study area. The closest sites were the (TASI 245) artefact scatter, midden (TASI 6124) near Red Bill Beach 450 m to the north of the highway, midden near DIiamond Island (TASI 5939,1 km north of the current study area) and isolated artefact (TASI 7994) 2 km to the south south. One new archaeological site – comprising 2 artefacts – was recorded outside the activity area (TASI 9365), in Seymour Street, 5 m outside the proposed subdivision.

Graham, 2004

The localised survey focused on the proposed holiday villa accommodation and private conservation area at RA 18482 Tasman Highway, Bicheno. The survey identified a range of sites in the vicinity of the proposed development, including a

midden/artefact (TASI 9155), a midden (TASI 9156), a midden (TASI 9157) and an artefact scatter (TASI 0243). One archaeological site - an isolated artefact - was found during the survey (TASI 9764) isolated artefact.

The main proposed recommendations was that if development is to proceed, then earthworks should be monitored by an AHO.

Graham, 2008

The Desktop Assessment involved a proposed farm development at Newham Park. It identified one isolated artefact; a cherty hornfels (TSAI 10679) steep edge scraper outside the impact area. The recommendation was to liase further, in case of impact.

Aboriginal heritage sites at the Denison Rivulet

According to the Aboriginal Heritage Register (AHR), no Aboriginal sites have been documented within the bounds of the Denison Rivulet Development allotment area.

Table 1 shows archaeological sites in the vicinity. The nearest archaeological site is an artefact scatter (TASI 1914) recorded by an unknown source in 1983. The site is located approximately 700 m to the north of the Rivulet and close to the coast. A range of shell middens and artefact scatters, recorded by Vernon Graham in 2014 (TASI 10678-10680), occur on the coast south of the Douglas River. Two archaeological sites (TASI 8863 and 8862), also appear inland, on the Douglas River. Another group of archaeological sites recorded by Graham in 2002 and 2004, is clustered around the Old Mine Lagoon Area (TASI 9155-58, 9764). The Old Mine Lagoon area also contains and early recording (TASI 245, recorded in 1978).

No sites are located more than 1 km inland. Warrener are a dominant midden shell, typical of rocky coastal outcrops. Cherty hornfels, and to a lesser extent, banded chert, quartz and quartzite are the main artefact material types.

Table 1: Archaeological sites in the vicinity of the

AH (TASI) Number	Source	Site Types	Place Name	Locality	Easting	Northing
9764	Graham V. 2004	Isolated Artefact Cherty hornfels steep edge scraper	Bicheno	Douglas River	604820	5368523
9157	Graham V. 2002	Shell Midden Warrener	Old Mine Lagoon	Douglas River	605067	5368548
9156	Graham V. 2002	Shell Midden Warrener & Perriwinkle	Old Mine Lagoon	Bicheno	605086	5367832
9155	Graham V. 2002	Shell Midden Warrener, mussel. big whelk, periwinkle and mud oyster; balck chert,	Old Mine Lagoon	Douglas River	605034	5368017

AH (TASI) Number	Source	Site Types	Place Name	Locality	Easting	Northing
		hammerstone, cherty hornfels flakes				
8863	Graham, V. 2001	Artefact Scatter Quartzite flakes	Douglas River	Douglas River	605091	5373702
8862	Graham, V. 2001	Shell Midden, Artefact Scatter Midden unid./cherty hornfels flakes and core; mudstone flakes		Douglas River	605020	5373617
1914	1983? unknown	Artefact Scatter Unidentified – inc. dolerite pieces	NA	Douglas River	604812	5370683
10680	V. Graham 2008	Shell Midden, Artefact Scatter Warrener, brown and black mussel, big whelk; black chert, white quartz and quartzite (range of forms)		Douglas River	605403	5372978
10679	V. Graham 2008	Artefact Scatter Warrener, brown and black mussel, big whelk; black chert, white quartz and quartzite (range of forms)	NA	Douglas River	605323	5372705
10678	V. Graham 2008	Artefact Scatter Warrener, big whelk: black chert, cherty hornfels, white quartz and quartzite (range of forms)	NA	Douglas River	605419	5373062
243	Corbett, K. Pers. comm. 1978	Artefact Scatter Worked cherty hornfels pebbles	Old Mines Lagoon	Douglas River	605112	5368183

Aboriginal heritage sites at the Silver Sands Resort (Figures 12-13)

According to the Aboriginal Heritage Register (AHR), no Aboriginal sites have been located previously in the area proposed for the Silver Sands Redevelopment.

There is one known Aboriginal site within 10 to 50 m of the proposed activity area (Table 2). This site is a shell midden/artefact scatter (TASI 3410) originally recorded by Steve Brown during his 1991 broad regional East-Coast Survey.

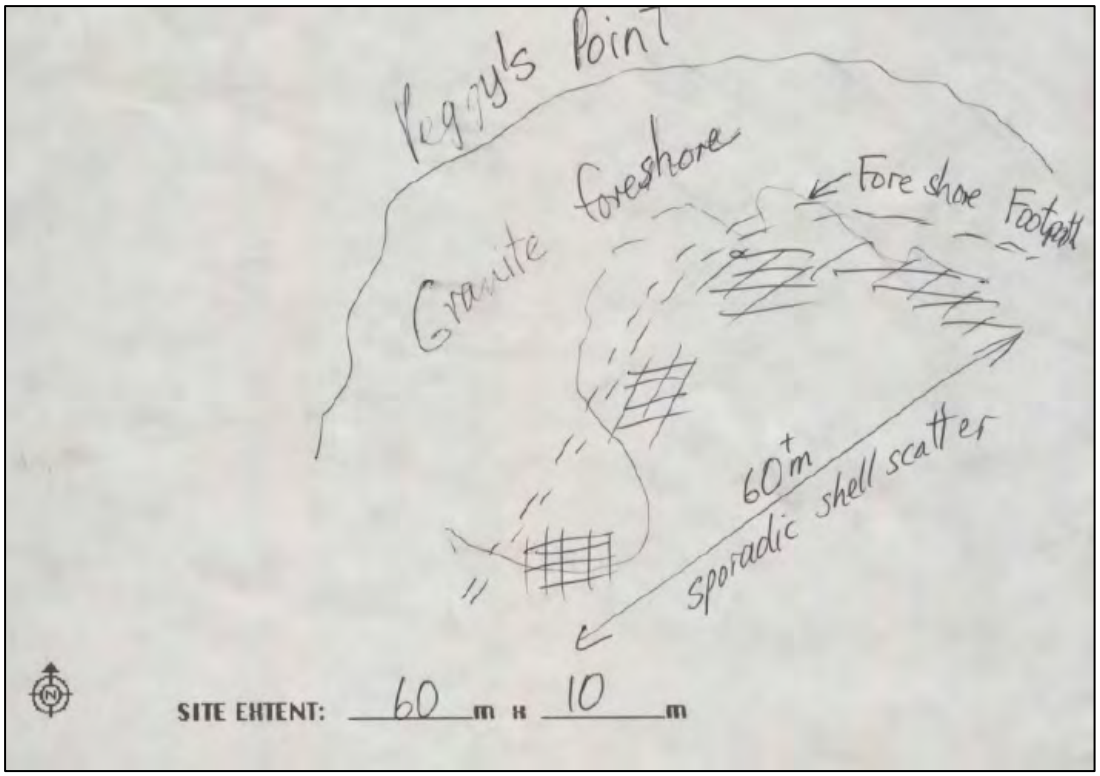


Figure 12: Sketch map of TASI 3410 drawn by Steve Brown during his 1991 survey. The sporadic midden and artefact scatter, extending approximately 10 x 60 m, is located in the scrub between the granite foreshore and the Silver Sands Resort.

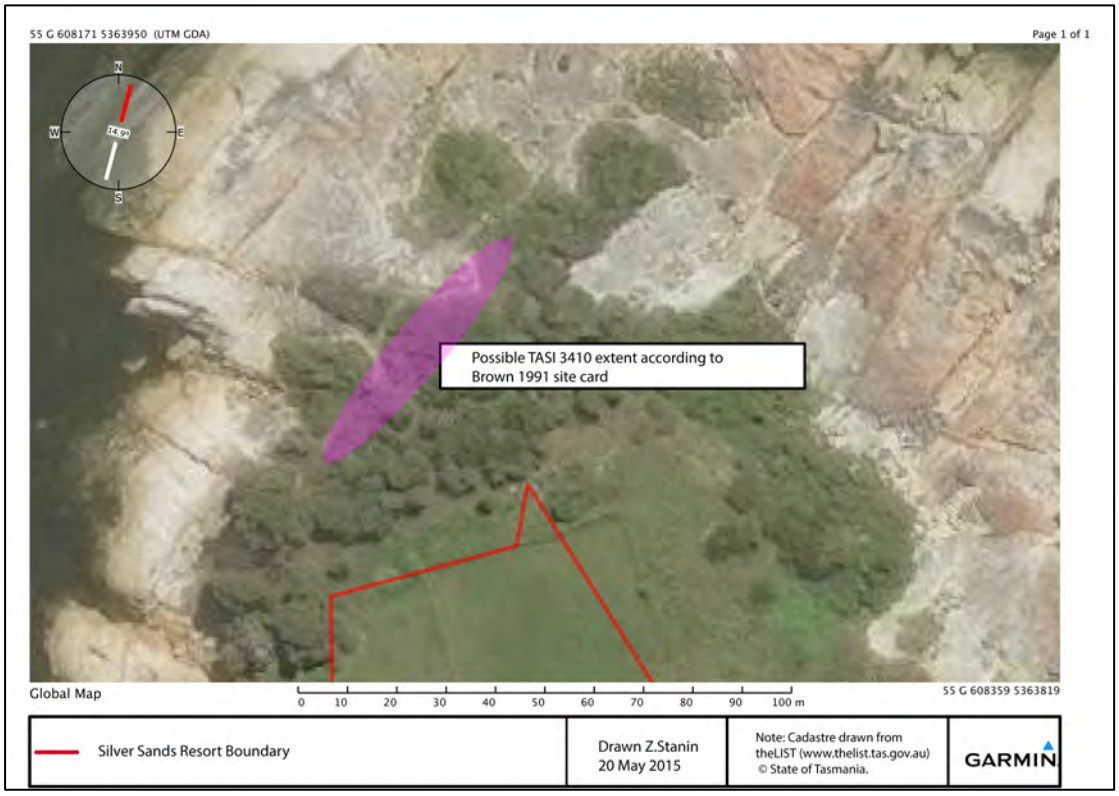


Figure 13: The location of TASI 3410 with respect to the Silver Sands Resort area, based on Brown's sketch of the archaeological site. It is likely that the

As discussed above, the midden is described as comprising a sporadic shell scatter, located within the Public Reserve, adjacent to a foreshore footpath, and in between resort land and the granite foreshore. A laminated chert artefact was also recorded.

While the midden extends over 60 x 10 m, there is no reference to the scatter extending through the resort area. The current plan of the site (Figure 5) also shows a steep slope on the edge of the Resort land, suggesting a natural division between it and the footpath area.

Middens are the dominant archaeological site in the vicinity of the Resort. Other nearby middens comprise TASI 5942 at Waubs Bay and TASI 5943 at the Gulch side of the headland, as recorded by C. Burke in 1992. Although information is limited, one artefact scatter was located at Red Bill Point in 1978, as TASI 245.

As expected the majority of sites are located on the coast, with one site only, an artefact shell midden (TASI 9745) recorded somewhat inland (Hughes 2001, < 1 km from shore).

No sites are located more than 1 km inland. Warrener are a dominant midden shell, typical of rocky coastal outcrops. Cherty hornfels, and to a lesser extent, banded chert, quartz and quartzite are the main artefact material types.

Table 2: Sites in the vicinity of the Silver Sands Resort Area. NA means no additional information.

AH (TASI) Number	Source	Site Types Site Recorded Date	Place Name	Locality	Easting	Northing
245	1978 (W.D. Jackson)	Artefact Scatter Worked cherty hornfels pebbles	Red Bill Point	Bicheno	607112	5364183
3408	S. Brown 1987	Isolated Artefact Chery hornfels flake	Waubs Bay	Bicheno	607712	5363783
3409	S. Brown 1987	Shell Midden, Artefact Scatter Sparse scatter of turbo (warrener); and cherty hornfels retouched flakes	Waubs Bay	Bicheno	607812	5363683
3410	S. Brown 1987	Artefact Scatter, Shell Midden Warrener and mussel; banded chert flake	Peggys Point shell midden	Bicheno	608312	5363983
5940	C. Burke 1992	Shell Midden NA	Bicheno		607012	5364283
5941	C. Burke 1992	Shell Midden NA	Bicheno	Bicheno	607612	5363683
5942	C. Burke 1992	Shell Midden NA	Bicheno	Bicheno	608112	5363583
5943	C. Burke 1992	Shell Midden NA	Bicheno		608758	5363400
5944	C. Burke 1992	Shell Midden NA	Bicheno	Bicheno	608612	5363083

AH (TASI) Number	Source	Site Types Site Recorded Date	Place Name	Locality	Easting	Northing
6124	C. Burke 1992	Shell Midden NA	Redbill Beach		607012	5364283
8410	V.Graham 1999	Shell Midden Warrener and big and small whelk	Bicheno	Bicheno	608212	5363083
9745	C. Hughes 2001	Artefact Scatter, Shell Midden Warrener; banded chert, quartzite, black chert and brown chert	Bicheno	Bicheno	606655	5364199

2.5 Archaeological Site Modelling

The purpose of predictive modeling is to produce a model or a series of testable statements about the nature and distribution of evidence of Aboriginal cultural occupation. Based on the information collated via the Desktop Assessment so far, it is possible to conclude that the following types of Aboriginal heritage sites, are most likely to occur within the area proposed redevelopment/development areas:

Artefact scatters and isolated artefacts

Stone artefacts are the durable remains of Aboriginal activities and are found commonly around the Australian landscape (Mulvaney and Kamminga, 1999:19; Holdaway and Stern, 2004, xvii). They can be the tools themselves such as scrapers or the by-products from the making of tools such as cores (Mulvaney and Kamminga, 1999:19; For a very good overview see Holdaway and Stern, 2004:1-43). Stone artefacts can be found together as scatters, alone as isolated artefacts or in association with other archaeological evidence such as middens or campsites. landscape and around water sources.

Some may represent base camps, that were used more consistently, possibly from season to season and often had erected huts and windbreaks, or short-term transitory stopping places (Brown, 1991:18). These appear to be determined by topography (and are often on elevated ground with good drainage), vegetation cover, availability of resources and proximity to fresh water (Brown, 1991: 18-20).

These sites are usually represented by artefact scatters lying on the ground, sometimes with associated fire hearths and on rare occasions may become stratified if there are several layers buried on top of one another if occupation has occurred over a long period of time.

Based on the above review of previous archaeological research in the area, artefact material in the locality is likely to comprise isolated artefacts or scatters, in association with midden material, and/or occasionally further inland than midden sites. A variety of forms, representing a fairly broad set of activities - is expected. Cheryt hornfels is a common material.

Shell middens

Aboriginal shell middens "contain considerable archaeological evidence" and, are, typically, "located on headlands, coastal estuaries, and sand dunes along the coastal fringe, and inland on former riverbanks and lake margins" (Lourandos, Field Survey, 1967; Frankel, 1995:41-54; Flood, 1996:312; Mulvaney and Kamminga, 1999:19-23). Aboriginal middens are usually characterized by the presence of identifiable edible, mature shell species that are often representative of only one or two species (Frankel, 1995, 41; Mulvaney and Kamminga, 1999:22). There is often also a presence of other evidence of a cultural rather than natural nature such as stone or bone artefacts, or bones from other animals such as mammals (Frankel, 1999:41; Mulvaney and Kamminga, 1999:22).

Shell middens can range from thin scatters to stratified deposits of shell and sediment up to many metres thick (Stanton and Stone, 2011. Middens are especially common on the east coast and the township of Bicheno. Most are likely to have been disturbed or even destroyed by urban development. On the east coast of Tasmania the shellfish most likely to be found in middens are the Blue Sea Mussel (*Mytilus edulis planulatis*), Whelks, the Turbo or Warrener (*Subinella spp.*). These species - warrener in particular - are consistent with local medium to high energy coastlines. Brown's 1991:74 study suggests that the abalone (*Notohaliotis ruber*) is relatively uncommon (for elsewhere, see Wilson, 2002; Stanton and Stone, 2011).

The following sites are found throughout Tasmania, but are less common in the Bicheno coastal region, and therefore less likely to be identified in the current study area:

Rockshelter sites

Caves or shelters in cliffs or overhangs occur where suitable geological features exist (such as sandstone overhangs, openings below granite tors and limestone caves) and these were often utilized by Aboriginal people as campsites (Stanton and Stone, 2011). These can be rich in archaeological deposits due to repeated and confined occupation (Stanton and Stone, 2011). While no known examples exist around the Bicheno area proper, good

examples exist further west and in the south of Tasmania (Mulvaney and Kamminga, 1999: 180-189).

Rock art sites

Rock art consists of paintings, drawings and/or engravings on rock surfaces. In most instances rock art is related to the distribution of rockshelters but it may also be found on free-standing rocks (Stanton and Stone, 2011). Some good examples occur on the coast of western Tasmania (Mulvaney and Kamminga, 1999:13). These are less known on the east coast including at the sheets of bark used in the construction of one of two burial structures are Point Mauge, Maria Island, observed by the Baudin expedition. The motifs were circles and lines similar to that observed by Aboriginal people on their body(i.e. Leschenault in Plomley 1983:140-141) and Peron in Plomley 1983:60).

Quarry and ochre sites

These are locations where Aboriginal people obtained raw material for stone artefacts and ochre. Stone tools were used in every day life and ochre formed the basis for decoration and ceremonial purposes. These materials were obtained from exposed sedimentary rock formations, picked up as cobbles on the surface of the ground or associated with volcanic or metamorphic rock outcrops (Stanton and Stone, 2011). Artefacts found during the survey were predominately quartz and quartzite, which was consistent with water worn gravel and cobbles seen onsite. While there are no ochre sources in the immediate hinterland near Bicheno, sources such as those at Bloodstone Point (Brown 1991:84) made for a desirable location and given local clans a significant bargaining tool for trade (Plomley, 1966:614, note 74; Ryan, 2012: 25).

Burial grounds/locations

Aboriginal burial grounds may be a single interment or a group of burials in the one place (Mulvaney and Kamminga, 1999: 35-39; Stanton and Stone, 2011). Cremation was also practiced by Tasmanian Aborigines, particularly in the west of the state and there are numerous references to cremation in Robinson's journal (for example, Plomley, 1966: 335; see also Mulvaney and Kamminga, 1999: 35-39). Stone (2011) points out that along the Tasmanian coast skeletal material is regularly found eroding from calcareous sand deposits, but in the mountainous hinterland burial sites are rarely found because conditions for the preservation of bone are usually poor. Burial sites

are extremely important to Tasmanian Aboriginal people and "under coronial legislation the officials must be contacted immediately a suspected Aboriginal burial is located" (Stanton and Stone, 2011).

Waubar Debar's 19th century headstone is another example of a heritage site important to Tasmania's Aboriginal people.

Stone arrangements and special places

Stone arrangements made by Tasmanian Aboriginal people may be stones aligned along the surface or excavated hollows in cobble beaches (Stanton and Stone, 2011). Some stone arrangements were probably used for ceremonial purposes, while others were constructed in the intertidal zone and probably functioned as traps for marine animals such as fish or seals (Mulvaney and Kamminga, 1999: 34; Stanton and Stone, 2011). Special places significant to Tasmanian Aboriginal people are also present in the landscape and these do not necessarily show any archaeological traces (Stanton and Stone, 2011).

2.6 Desktop Discussion and Summary

The following is a summary of collated information regarding the study areas, bot of which are located in part of the former area occupied by Aboriginal peoples belonging to the Oyster Bay Nation.

Denison Rivulet

- The study area comprises a single landform; a very small stream that flows intermittently and mainly during winter and times of high rainfall. The natural barrier of dunes and onshore waves cause the Denison Rivulet to run behind the dunes for some of its course and the development of a small brackish water body or lagoon close to the mouth. The land immediately around the lagoon is marshy, however, in terms of resources such as fowl and other bird life, the Rivulet competes with the Old Mines Lagoon to the south, which is considerably larger. Freshwater is more reliable at Douglas River to the north.
- Geomorphological assessment of the area suggests that the extant landform comprises most recent (Holocene) sands, including unconsolidated creek gravel.
- Broad archaeological modeling suggests that the most likely sites to occur in the proposed development area are isolated artefacts or scatters, and/or warrener dominated midden sites. Pleistocene age sites are not expected.
- A search of the Aboriginal Heritage Register (AHR) indicates there are no Aboriginal cultural heritage places, within 500 m of the site. A range of

middens and artefacts sites are located around the coast,, with the nearest site being an artefact scatter (TASI 1914) recorded by an unknown source in 1983.

Silver Sands Resort

- The study area comprises a single landform; the top of a relatively flat and prominent granite headland, sloping to a rocky foreshore in the north and west.
- Geomorphological assessment of the area suggests that the extant landform comprises coarse sandy soils over Jurassic strongly alkaline feldspar granites.
- A search of the Aboriginal Heritage Register (AHR) indicates there is one Aboriginal cultural heritage places, within 50 m of the site. This is a sporadic (deflated?) midden/artefact scatter (TASI 3410) recorded by Brown 1991, located on scrubland between the resort and the granite foreshore.
- The proximity of the midden, as well as broader archaeological modeling suggests that the most likely sites to occur in the proposed redevelopment area are isolated artefacts or scatters, and/or midden sites. Pleistocene age sites are not expected.
- However, the large proportion of the natural landform in the study area (and its underlying sediments) has been modified in their distribution and form since European settlement. This includes large scale clearance of native vegetation, drainage and recreational developments; including the mechanical shaping of the headland for Resort purposes. As has been demonstrated elsewhere in the northern region (and more generally in Tasmania and Australia), such activities tend to destroy the integrity of Aboriginal archaeological deposits. It has been noted in these studies that the components of formerly discrete *in situ* archaeological sites can become dispersed over wide areas, muddying their boundaries and the sensitivity of landforms and sediments.

3.0 Survey Research Design & Field Methods

3.1 Research Aims

The project incorporates the following field research goals and objectives:

- Identify any previously undocumented Aboriginal heritage sites; and
- Assess the content and extent of each site (horizontally and stratigraphically), against the data model compiled in Section 4; and
- Record any changes to known Aboriginal heritage sites in the vicinity; and
- Test the predictive model collated via the Desktop assessment; and
- Utilise the above information to assist in order to determine the "nature, extent and significance" of Aboriginal cultural heritage within the proposed dam and inundation area, and prepare a set of appropriate management recommendations for each site.

3.2 Survey Strategy

The main goal of this survey was to provide maximum coverage for each present landform.

- At Denison Rivulet, the whole of the allotment, including land available for development, was surveyed. The field survey did not include marshy areas and any land under water (totalling ~3.76 ha or ~50%).
- At Silver Sands, 100% of the surface area available for survey (0.35 ha or 25%) was to be inspected (Burke and Smith 2004: 67 and 68).

Personnel and Survey Conditions

Zvonka Stanin (archaeologist) and Caleb Pedder (Aboriginal Heritage Officer) undertook the pedestrian survey of the two stud areas on 5 May 2014.

3.3 Field Methodology

Survey Coverage

Pedestrian survey coverage typically estimates the extent of the study area that has been visually inspected during a field survey.

Figures 15 and 16 show the survey coverage accomplished for the two study areas.

Denison Rivulet

A total of ~ 5000 m of survey transects were walked by two people (one to two metres apart, see Burke and Smith 2004: 67-68 [note: not all participants walked the same transects]). Very conservatively therefore, it is estimated that each person walking a single transect achieved a two metre wide survey inspection coverage, totaling approximately 10000 m² (~33 % of the total ground surface available for survey).

Silver Sands Resort

Overall, a total of over ~3400 m of survey transects were walked by two people (one to two metres apart, see Burke and Smith 2004: 67-68 [note: not all participants walked the same transects]). Very conservatively therefore, it is estimated that each person walking a single transect achieved a two metre wide survey inspection coverage, totaling approximately 6800 m² (~195 % of the total ground surface available for inspection in the resort area). Note that the result is naturally skewered as the survey includes walking between areas where visibility was sufficient (across the car park etc.) and hence coverage is overestimated. At best it represent 100% survey coverage.

Data Collection

The following information was collected during the survey;

- information regarding transects walked, surface exposure and ground surface visibility, in order to assess effectiveness of the survey;
- notes, GPS (UTM GDA 94) coordinates and photographs were taken in order to illustrate prior ground disturbance, as well as changes in aspect or landform; and
- record the presence of Aboriginal heritage sites (see stone artefact analysis). Artefacts were recorded as individual items or as part of clusters (scatter), when encountered within a radius of fifty metres or less. The contents, GPS location and approximate extent was recorded. The artefacts were also analysed in the field, as described below.

Aboriginal Flaked Stone/Ground Stone Analysis

The methodology adopted for the recording of stone artefacts included a technological and morphological analysis (after Holdaway and Stern, 2004) and involved the following;

- Artefact type (e.g. complete flakes/tools or broken flakes/tools, flaking debris and cores);

- Artefact form (e.g. technological features noted, including retouch and any general morphology type – e.g. blade, irregular or point);
- Raw material type (e.g. silcrete or quartz);
- Artefact dimensions (length, width and thickness in millimetres); and,
- Cortex type and amount (*i.e.* the type and amount of the stone's weathered outer surface which can provide information as to where the stone was sourced from; and to determine the stage of artefact manufacture).

Photographs were also taken, as far as possible.

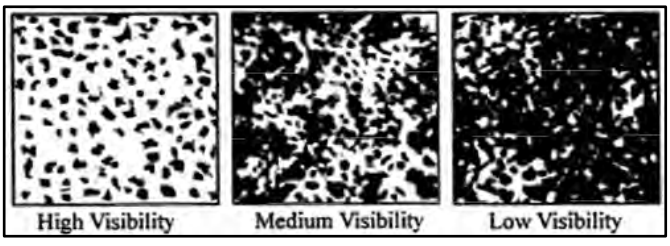
Ground Surface Visibility (GSV), Surface Exposure and Effective Survey Coverage

Ground surface visibility typically estimates the extent to which the ground surface is available for inspection. Factors that hinder surface visibility include vegetation cover and the presence of introduced or machine fragmented gravels or other materials (such as a concreted parking, Burke and Smith 2004: 70-77).

- Figure 14 provides the AHT guidelines for the estimation of surface visibility.

Surface exposure refers to the 'detectability' of artefacts within the landscape. GSV is often calculated against surface exposure in order to determine the overall effectiveness of the survey (Burke and Smith 2004: 74-80). The calculation assesses the level of average GSV across the study area in each landform, the extent of isolated exposures with higher or lower GSV than the average, and a calculation of the area within each landform that was surveyed. (http://www.environment.nsw.gov.au/resources/cultureheritage/10783FinalArchCoP.pdf, 16-19, and NPWS 1999).

This calculation is challenged by many archaeologists due to its subjective nature. The low percentage of the Silver Sands Resort area (~ 25) that was accessible to survey, for example, serves to reiterate that the team walked mostly parts of the proposed development area that had high GSV and surface exposure. As such, the following provides a calculation of the GSV only, according to Figure 8.



☐Full (100%) ☐High (75%) ☒Medium (50%) ☐Low (24%) ☐None (0%)

Figure 14: Guidelines for the estimation of surface visibility (AHT site cards)

Summary of GSV at the Denison Rivulet Development Area

At the proposed Denison Rivulet Development site, approximately 50% of the surveyed ground surface on the western side, exhibited low visibility (GSV < 24%). The remaining 50% of the surface of the surface area was exposed due to drainage works and the road verges. In these exposed areas visibility was high (75-100%, Plate 12), providing effective survey coverage.

GSV was medium to high (GSV ~ 75%-100%, Plate 13) throughout the eastern side of the block, due to the presence of abundant localised areas of disturbance, via the laying of Telstra utilities etc. These comprised about 10% of the whole eastern side of the allotment.

Plate 12: Visibility at the edge of Deals Road, facing south. Photo by Z. Stanin.

Plate 13: Visibility on rivulet margins and typical of the easten side of the allotment (GSV 75-100%). Photo by Z. Stanin

Summary of GSV at the Silver Sands Redevelopment Area (Plates 14-17)

GSV was high (75-100%) at the proposed Silver Sands Redevelopment area, where all areas available for survey (~25% of the total area) had short grass, and rabbit burrows. Exposures of granite bedrock, adjacent to the western side of the allotment also provided excellent visibility. The effective survey coverage for exposed areas was therefore high.

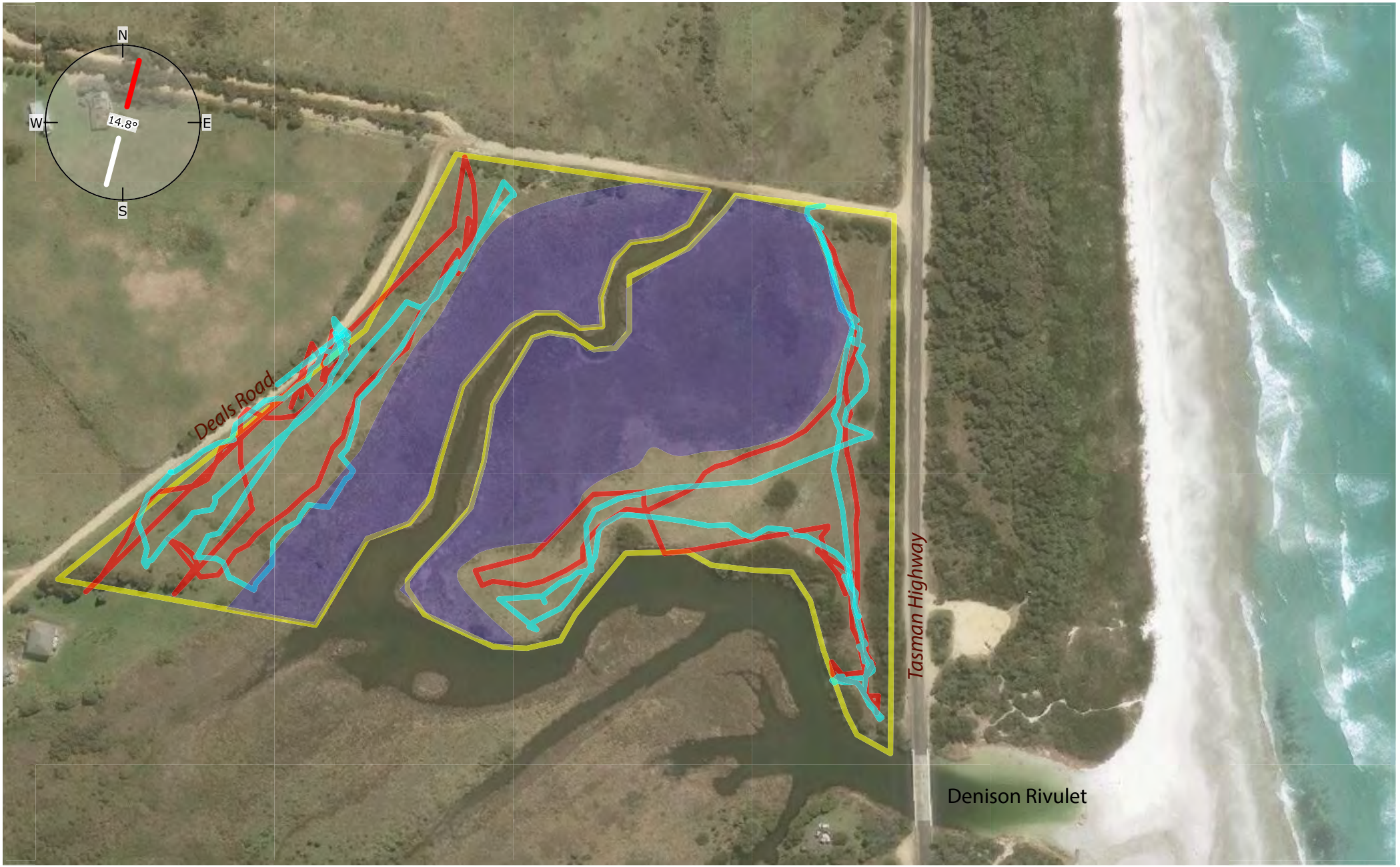
Plate 14: Caleb Pedder at the northern end of the Silver Sands allotment, showing the edge of the "bowling" green area and the disturbance to the land surface; the areas are at very different levels and the bowling green ahs been completely leveled. GSV on the edge is medium to high (75%-100%). Photo by Z. Stanin.

Plate 15: GSV 75-100%, typical of all the lawn areas located within the Silver Sands Resort. The photo shows part exposed bedrock.

Plate 16: Cracks in the asphalt provide a very limited increase in visibility. However road base is generally deep. Photo by Z. Stanin.

Plate 17: Cracks in the asphalt provide a very limited increase in visibility. However road base is generally deep. Photo by Z. Stanin.

Figure 15: Labeled & scaled figure showing transects walked at the Denison Rivulet Development Area



Worldwide Autoroute DEM Basemap,NR

0 50 100 150 200 250 300 350 m

55 G 605117 5370052

Data collected from various sources: please verify for accuracy

Denison Rivulet survey

Transects walked (recorded by 2 GPS units)

Rivulet wetland

Drawn Z.Stanin
20 May 2015

Note: Cadastre drawn from theLIST (www.thelist.tas.gov.au)

GARMIN

Global Map

0 50 100 150 m

55 G 608450 5363551

Data collected from various sources: please verify for accuracy

Figure 16: Labeled & scaled figure showing transects walked at the Silver Sands Redevelopment Area

Silver Sands Resort Redevelopment study area

Transects walked (2 GPS units)

Drawn Z.Stanin

20 May 2015

Note: Cadastre drawn from theLIST (www.thelist.tas.gov.au) © State of Tasmania.

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4.0 Results

4.1 Summary of all new sites found and sites relocated

No Aboriginal heritage sites were located within the bounds of the Proposed Silver Sands Redevelopment area and the Denison Rivulet Development area, during the course of this field assessment.

4.2 Other Observations

Denison Rivulet Development Area

- The field survey confirmed the extent of marshland and the limited land available for development on the western side of the allotment.

Silver Sands Resort Redevelopment Area (Plates 16-19)

- The field survey confirmed the extent of landscaping and other disturbance visible in aerial photography and satellite imagery, described in Section 1. The former location of the “bowling” green, for example, has been clearly excavated and leveled, and lies approximately 25 cm below the rest of the landform.
- As a matter of interest, a shell scatter was observed outside the bounds of the Silver Sands Property, but within 50 m of the proposed activity area. It was located on reserve land and close to the tourist track that circumvents Peggys Point. While the area was not systematically surveyed, as it lies outside the proposed redevelopment location, the midden contents – comprising highly fragmented *Subninella Sp*. and mussel, are consistent with the midden recorded at the point, in 1991, by Steve Brown (TASI 3410). The midden was limited to coastal scrub located on the lower northwest slopes of the headland.
- Scallop shell concentrations were also observed within modern rubbish dumped in the coastal scrub, ~10m of the northern boundary of the property. As Brown noted in 1991, these are likely to be modern products of illegal poaching perhaps.

Plate 18: Midden material located on the footpath, within coastal scrub northwest of the study area, consistent with the location of TASI 3410. Photo by Z. Stanin.

Plate 19: Foreshore waking path, west of the study area, showing the southern most extent of shell material noted during this study. (TASI 3410). Facing north. Photo by Z.Stanin

Plate 20: Footpath area to the north of the study area and location of shell midden/scatter recorded by Brown 1991 (TASI 3410). Facing southwest. Photo by Z. Stanin.

Plate 21: Scallop material located northeast of the study area. Photo by Z. Stanin.

5.0 Description of Aboriginal heritage sites and potential, analysis and interpretation

5.1 Denison Rivulet Development Area

No Aboriginal heritage sites or objects were identified within the bounds of the proposed Denison Rivulet development area, during the course of the field survey.

As discussed in Section 3, sufficient survey transects were walked within the study area to achieve good survey coverage throughout the Denison Rivulet allotment, including any areas targeted for current development (the western bank, adjacent to Deals Road). Ground surface visibility varied, depending on the location, but the effective coverage is considered good. Localised disturbance of the sub-soil also allowed some access to the types of sediments that may be contained below surface.

As a result, it is possible to confidently state that further potential for the most likely archaeological site types to be recovered in the area - artefact and midden deposits according to a review in Section 2 - is low.

The potential for previously undocumented sites to occur in the area, is therefore, also low. Due to the absence of relevant environmental features, less common Aboriginal cultural heritage sites, such as rockshelters and scarred trees, are also unlikely.

The landform itself is marginal, and while close to the coast, it is less suitable for occupation and/or acquisition of resources such as shellfish (unlike nearby beaches). Hunting for bird life may have been important in the vicinity, but it perhaps less so here than near the Old Mine Lagoon. The close proximity of freshwater at Douglas River, ~ 2 km to the north, is also more reliable than here.

5.2 Silver Sands Resort Redevelopment Area

No Aboriginal archaeological sites were located within the bounds of the proposed Silver Sands Redevelopment study area.

The lack of findings at Silver Sands may be in part attributable to a very large area of little or no GSV - in association with extant buildings and car parks - reducing the ability to identify archaeological site types most likely to occur in the allotment; isolated artefacts and middens (see Section 2 of this report). At the same time, due to the extent of modern development, landscaping and the construction of services and footings, all these areas are likely to be highly disturbed.

Despite of the proximity of a nearby midden (TASI 3410), no artefacts or shell remnants were detected in the remainder of the Resort area, where GSV was high (75-100%) and where survey coverage was 100%.

- No Aboriginal cultural heritage material was identified in areas of shallow soil, and where there was some limited access to deeper sub-surface sediments, in the form of rabbit burrowing.

As a result, it can be confidently stated that while the original landform is likely to have been sensitive in terms of Aboriginal occupation, in particular on the lower granite slopes (i.e. as evident by TASI 3140), disturbance to the soil has managed to remove any traces of these activities. A greater distance and steeper slope may have influenced lesser activity in the area in the first place as well.

Overall, given the combination of effective survey coverage, shallow soils and a history of high levels of disturbance, the potential for previously undocumented sites to occur within the Silver Sands Redevelopment Area is low.

General

It is also important to note that Aboriginal site types such as rockshelters and stone quarries are definitely not represented in the area proposed for the dam works as the allotment does not contain suitable rock outcrops. Further, vegetation regrowth in the area is relatively recent, and scarred trees were not expected

5.3 Discussion of any threats to Aboriginal heritage sites

There are no threats to Aboriginal heritage sites within the proposed footprint of Denison Rivulet Development area and the Silver Sands Redevelopment area.

The field study shows that there are no Aboriginal heritage sites located within the bounds of the two allotments, and no sites will be therefore impacted on by the proposed activities.

Recommendations with regards to the discovery of undocumented sites, including human burials, are included in Section 8.

5.4 Discussion relating to Aboriginal community consultation undertaken & findings of the assessment

The results of the field investigation were discussed between Zvonka Stanin and the Aboriginal Heritage Officer, Caleb Pedder. The discussion encompassed the significance of any finds, potential cultural and archaeological sensitivity of the proposed development areas, the significance and possible management options for these areas.

Subsequent to these discussions, Caleb Pedder sought further opinion with regards to the survey and survey results from relevant Aboriginal stakeholders, including the Tasmanian Aboriginal Council (TAC).

- There has been no response with regards to the project from any of the relevant groups, but Caleb Pedder has contributed a statement of significance regarding the findings and commented on the cultural values of the block (Section 7).

Caleb Pedder has provided a range of Aboriginal groups with a copy of this report for review and comment.

6.0 Significance Assessment of Cultural Resource

The following section outlines significance criteria and discusses Aboriginal significance and archaeological or scientific significance. From this an overall evaluation of site significance may be assessed and cultural heritage management recommendations formulated.

6.1 Assessment of significance for each site (as per *Burra Charter*, The Australia ICOMOS Charter for Places of Cultural Significance, 2013)

According to the Practice Note for Understanding and Assessing Cultural Significance (expanding on the Burra Charter 2013, *http://australia.icomos.org/wp-content/uploads/Practice-Note_Understanding-and-assessing-cultural-significance.pdf*):

> *Cultural significance is embodied in the place itself, its fabric, setting, use, associations, meanings, records, related places and related objects.*
>
> *What places does the Charter apply to?*
>
> *The Charter can be applied to all types of places of cultural significance including natural, Indigenous and historic places with cultural values. The standards of other organisations may also be relevant. These include the Australian Natural Heritage Charter, Ask First: a guide to respecting Indigenous heritage places and values and Significance 2.0: a guide to assessing the significance of collections. National and international charters and other doctrine may be relevant. See australia.icomos.org.*

Under the guidelines of the Burra Charter 'cultural significance' refers to '*aesthetic, historic, scientific, social or spiritual value for past, present or future generations*".

The Cultural Significance Practice Note (Burra Charter 2013) defines these values according to the following:

> *These five terms, which are listed alphabetically in the Burra Charter, are often included in Australian heritage legislation, though some jurisdictions include extra terms such as 'architectural' or 'archaeological' value. Criteria are also used to help define cultural and natural significance, and there is now a nationally agreed set of heritage assessment criteria.*
>
> *Each of these criteria may have tangible and intangible aspects and it is essential that both are acknowledged.*

It is important to recognise and acknowledge that these values are frequently interdependent. In some cases they may be in conflict.

The Practice Note (Burra Charter 2013) defines these individually as:

Aesthetic value: *refers to the sensory and perceptual experience of a place—that is, how we respond to visual and non-visual aspects such as sounds, smells and other factors having a strong impact on human thoughts, feelings and attitudes. Aesthetic qualities may include the concept of beauty and formal aesthetic ideals. Expressions of aesthetics are culturally influenced.*

Historic value*: is intended to encompass all aspects of history—for example, the history of aesthetics, art and architecture, science, spirituality and society. It therefore often underlies other values. A place may have historic value because it has influenced, or has been influenced by, an historic event, phase, movement or activity, person or group of people. It may be the site of an important event. For any place the significance will be greater where the evidence of the association or event survives at the place, or where the setting is substantially intact, than where it has been changed or evidence does not survive. However, some events or associations may be so important that the place retains significance regardless of such change or absence of evidence.*

Scientific value: *refers to the information content of a place and its ability to reveal more about an aspect of the past through examination or investigation of the place, including the use of archaeological techniques. The relative scientific value of a place is likely to depend on the importance of the information or data involved, on its rarity, quality or representativeness, and its potential to contribute further important information about the place itself or a type or class of place or to address important research questions. To establish potential, it may be necessary to carry out some form of testing or sampling. For example in the case of an archaeological site, this could be established by a test excavation.*

Social value*: refers to the associations that a place has for a particular community or cultural group and the social or cultural meanings that it holds for them.*

Spiritual value: *refers to the intangible values and meanings embodied in or evoked by a place which give it importance in the spiritual identity, or the traditional knowledge, art and practices of a cultural group. Spiritual value may also be reflected in the intensity of aesthetic and emotional responses or*

community associations, and be expressed through cultural practices and related places.

The qualities of the place may inspire a strong and/or spontaneous emotional or metaphysical response in people, expanding their understanding of their place, purpose and obligations in the world, particularly in relation to the spiritual realm.

The term spiritual value was recognised as a separate value in the Burra Charter, 1999. It is still included in the definition of social value in the Commonwealth and most state jurisdictions. Spiritual values may be interdependent on the social values and physical properties of a place.

6.2 Scientific (archaeological) site significance assessment for Aboriginal cultural heritage in the vicinity of the study area and statements of significance

Johnston (1994:3, in CHMA) writes that when trying to understand significance a 'variety of concepts [are] used from a geographical comparison ('national', 'state', 'local') to terms such as 'early', 'rare', or 'seminal'. The Burra Charter also acknowledges that context and integrity are crucial part of the significance assessment:

'any given place the significance will be greater where evidence of the association or event survives in situ, or where the setting is substantially intact, than where it has been changed or evidence does not survive' (ICOMOS 1988:29).

Table 5 provides an assessment of significance for each of the sites identified in the vicinity of the study area, assessed against the criteria defined by the "Burra Chapter 2103" above and accorded five distinctive levels (degrees) of significance. These are as follows:

Low	The site type and contents are well represented in the archaeological record for the area
Low – Moderate	The site type and contents has limited archaeological value
Moderate	The site type and contents are important to the archaeological record of the area, with some scope for archaeological research
Moderate – High	The site type and contents are of relatively high archaeological research potential and/or are somewhat under represented in the archaeological record

High	The site type and contents are rare in the archaeological record and are of high research potential

Note that this study has established that no Aboriginal heritage sites are located within the proposed Silver Sands Redevelopment and Denison Rivulet Development Areas. Overall, both areas are of low archaeological - and therefore of low research – potential.

The proposed Silver Sands Redevelopment and Denison Rivulet Development have therefore been assessed as being of low archaeological significance.

6.3 Assessment of cultural landscape values in study area

The following discussion of the consultation process, statement of significance and comments on the cultural landscape value of the study area have been completed the Aboriginal Heritage Officer for this project, Caleb Pedder. The statement reflects the value placed upon a site or group of sites by the local or regional Aboriginal community. This is widely considered to be a matter for Aboriginal people and one that can only be made by the appropriate Aboriginal representatives. Caleb Pedder writes:

The Australian Government provides a guide to consulting with Aboriginal people entitled Ask First: a guide to respecting Indigenous heritage places and values.

A copy of this guide can be obtained from the Department of Sustainability, Environment, Water, Population and Communities in Canberra or from the following web page:

http://www.environment.gov.au/heritage/ahc/publications/commission/books/ask-first.html

By using this guide and working together, we can ensure that the rights and interests of Indigenous people in maintaining their heritage is accepted and respected.

By consulting we acknowledge and facilitate Aboriginal participation in the management of their heritage. It also minimizes misunderstandings about the nature of the development and its possible impact on Aboriginal heritage.

In Tasmania, Aboriginal cultural heritage values are determined by consultation with relevant Aboriginal organizations, these include the state-wide Tasmanian Aboriginal Center (TAC) and local Aboriginal organisations.

The complexity of the consultation process will depend on the size and scope of the development project and its potential to impact on Aboriginal heritage values and country. If the project is large and has the potential to impact broadly on Aboriginal heritage then organisations may need to seek wider Aboriginal community involvement before they can advise on Aboriginal heritage values.

A discussion was held with a relevant TAC staff member, responsible for heritage in the organisation, about the project, while interested the staff member did not yet provide feedback on the project at Bicheno. The TAC is aware of the project and that there was no Aboriginal heritage identified within the footprint of the development. Since no Aboriginal heritage was identified within the development footprint it is unlikely that a response will be provided by the TAC on the development.

The TAC is currently establishing their position regarding consultation for developments. They are still implementing the moratorium on heritage assessments established at the start of 2011. The TAC are working on a code of conduct for heritage workers that if implemented might lift the moratorium.

A copy of this report will be provided to the TAC for their information and comment if they wish to do so.

6.4 Statement of Aboriginal Significance

Aboriginal sites are non-renewable and reinforce Aboriginal connections with country; hence they have high cultural significance for the Aboriginal community. Sites provide a direct link to a range of landscapes and facilitate cultural connections with the activities undertaken by the ancestors of the modern community. Aboriginal sites, in any condition, have high significance and form an integral part of Aboriginal culture and its relationship with country.

It should be noted that all land has high cultural significance, both for individual Aboriginal people and for the Aboriginal community collectively. The presence of Aboriginal sites, or other values, contributes to the cultural significance of land.

As a general principle, any development upon, or other disturbance of land, is contrary to Aboriginal beliefs regarding the land, its values, and its inherent cultural

significance. This applies to all land irrespective of its tenure, the degree of landscape modification or the levels of existing disturbance.

7.0 Statutory requirements

All registered and unregistered Aboriginal sites are protected by the State *Aboriginal Relics Act 1975* and the Commonwealth *Aboriginal and Torres Strait Islander Heritage Protection Act 1984*. These Acts prohibit the willful destruction or disturbance of any cultural heritage site, place or object, whether on private or public land.

The Department of Primary Industries, Parks, Water and the Environment (DPIPWE) is the Tasmanian State Government instrumentality that administers the *Aboriginal Relics Act 1975*, through Aboriginal Heritage Tasmania (AHT).

7.1 *Aboriginal Relics Act 1975* Requirements

In Tasmania, the *Aboriginal Relics Act 1975* provides legislative protection for all Aboriginal cultural heritage sites, places and objects. Section 14 (1) of this Act states:

a) (no person shall, otherwise than in accordance with the terms of a permit granted by the Minister on the recommendation of the Director
b) destroy, damage, deface, conceal or otherwise interfere with a relic.

Section 20 of this Act states:

> *A person who is guilty of an offence against this Act for which no other penalty is provided elsewhere in this Act is liable to a fine not exceeding 10 penalty units or imprisonment for a term not exceeding 6 months.*

Site protection provisions are also included in this Act. Section 7 provides that subject to the written consent of the owner or occupier of the land, the Minister may, on the recommendation of the Director, declare an area of land containing an Aboriginal relic to be a protected site.

Section 8 of this Act provides that the landowner is entitled to any compensation arising from the establishment of the protected site.

The Tasmanian government has been planning to introduce new legislation to protect Aboriginal sites for many years. If this new legislation ever happens, it is expected to provide for greater enforcement and stronger penalties.

7.2 Other statutory or planning requirements

All legislation relevant to the discovery of human remains is subordinate to the *Coroners Act 1995.*

Aboriginal and Torres Strait Islander Heritage Protection Act 1984

This Commonwealth Act provides for the blanket protection of all Australian Aboriginal and Torres Strait Islander Aboriginal sites, places and objects whether privately or publicly owned. Whereas the State provides legislative protection for all physical evidence of past Aboriginal occupation, the Commonwealth Act also protects Aboriginal cultural property in the wider sense so as to include contemporary and ancient traditions and folklore.

This Commonwealth Act was passed to protect Aboriginal heritage in circumstances where such protection was not available at State level, or where State provisions were not enforced (Pearson and Sullivan, 1999:53). It may be used to override State legislation but this is rarely done because the threat of Commonwealth intervention usually has the effect of facilitating a negotiated settlement. In any case, the Act does not have a strong administrative or operational framework to support its provisions. It is effective in preventing or mitigating short-term dramatic damage or destruction but it does not provide for the ongoing, on-the-ground management of heritage places since it is difficult for the Commonwealth to exercise such ongoing jurisdiction in the States and Territories (Pearson and Sullivan, 1999:55).

8.0 Management Recommendations

This study has established that the proposed Silver Sands Redevelopment and the Denison Rivulet Development, will not directly impact on Aboriginal cultural heritage values and as such specific site protection, management, harm minimisation or mitigation strategies are not required, according to the *Aboriginal Relics Act 1975*.

Given the proximity of nearby Aboriginal cultural heritage sites, general recommendations are listed below. Contingencies with regards to the discovery of previously

8.1 General Recommendations

- It is recommended that information sessions be provided for civil contractors prior to the activity, in order to become familiar with the protection mechanism required for nearby Aboriginal heritage sites, and contingencies in case of discovery of previously undocumented Aboriginal cultural heritage materials or human remains (see below). A copy of this report should be kept on site during works.
- If previously undocumented Aboriginal cultural heritage sites or items (or human skeletal remains) are discovered during the Activity then the Sponsor should adhere to the Contingency Plans (Contingency 1 and 2) presented in Section 10.3 below.

8.2 Contingencies with regards to the discovery of previously unknown Aboriginal heritage

The following section describes contingencies in case of unanticipated discoveries of Aboriginal sites and objects, with respect to the *Aboriginal Relics Act 197*5 and the *Coroners Act 1995*.

Contingency 1 refers to the unprecedented discovery of all Aboriginal cultural heritage sites or features (referred to as 'items' in a recent note by AHT, but not including human burials) and Contingency 2 refers the unprecedented discovery of human skeletal remains.

Please note that this report does not refer to the discovery of historical or European heritage items. European or historical heritage is protected under a separate Historic *Cultural Heritage Act 1995*. Unless specified in an alternative management plan, in case of discovery of such items, a similar process to Contingency 1 and 2 should be followed (however refer to Heritage Tasmania, and not AHT).

Contingency 1: Discovery of previously unknown Aboriginal cultural heritage items

The following processes should be implemented if a suspected Aboriginal cultural heritage item is encountered.

1) If any person believes that they have discovered or uncovered previously unknown Aboriginal heritage site or item, the individual is to notify any machinery operators that are working in the vicinity of the area, that earth disturbance works should stop immediately.
2) A buffer protection zone (~ 10 x 10m) is to be established around the suspected Aboriginal cultural heritage site or items, and the person responsible for the work program is to be notified of the discovery.
3) Aboriginal Heritage Tasmania (AHT) in Hobart (phone 6233 6613) is to be contacted immediately and informed of the discovery.
4) The proponent, in consultation with AHT, will make appropriate arrangements for the further assessment of the discovery and the development of management recommendations for the Aboriginal cultural heritage find. This is likely to entail the advice of a qualified archaeological consultant.
5) No earth disturbance or unauthorized entry is to be allowed within the buffer protection zone, until these management recommendations have been developed and implemented.

Contingency 2: Discovery of Human Skeletal Material

1) If any person believes that they have discovered or uncovered human skeletal material, the individual is to notify any machinery operators that are working in the vicinity of the area, that earth disturbance works should stop immediately.
2) Under no circumstances should the suspected skeletal remains be touched or disturbed. Tampering with a potential crime scene is a criminal offence.
3) A buffer protection zone (50 x 50m) is to be established around the suspected human skeletal remains.
4) The relevant authorities, including the police, will be contacted and informed of the discovery.
5) Should the human skeletal remains be suspected to be of Aboriginal origin, then Section 23 of the *Coroners Act* 1*995* will apply, as follows:
    1. The Attorney General may approve an Aboriginal organisation for the purposes of this section.
    2. If, at any stage after a death is reported under section 19(1), a coroner suspects that any human remains relating to that death may be

Aboriginal remains, the coroner must refer the matter to an Aboriginal organisation approved by the Attorney General

3. If a coroner refers a matter to an Aboriginal organisation approved by the Attorney-General –
    a. The coroner must not carry out any investigations or perform any duties or functions under this Act in respect of the remains; and
    b. The Aboriginal organisation must, as soon as practicable after the matter is referred to it, investigate the remains and prepare a report for the coroner.
4. If the Aboriginal organisation in its report to the coroner advises that the remains are Aboriginal remains, the jurisdiction of the coroner under this Act in respect of the remains ceases and this Act does not apply to the remains. In this instance the *Aboriginal Relics Act 1975* will apply, and relevant Permits will need to be obtained before any further actions can be taken.
5. If the Aboriginal organisation in its report to the coroner advises that the remains are not Aboriginal remains, the coroner may resume the investigation in respect of the remains.

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Aerial Photography

Base image from Base image from TasMap (www.tasmap.tas.gov.au) © State of Tasmania), sourced from DPIPWE directly, GeoData Services Branch, Information and Land Service. June 2015.

Film Number	Frame Number(s)	Run	Project Number	Date flown	Lens	Scale
192	663	4	P1248	02 Apr 1949	153mm	1:23,760
0411	085	2	P1451	03 Dec 1963		1:11,088
0801	180	4	M56	30 Nov 1979	152mm	1:40,000

10.0 APPENDIX A – Aboriginal Heritage Assessment Review Form

Archaeological Report Review Form
and Consultant Check List

This Archaeological Report Review Form is designed to work in conjunction with the ***Guide to the Aboriginal Heritage Assessment process***. Consultants are required to return this form with their completed report to AHT for review. To assist in the review process, consultants are encouraged to provide references to page numbers in the report against each criteria. Should a section be omitted from the report, please provide an explanation in the space provided.

[Silver Sands Resort redevelopment and Denison Rivulet Development Heritage Assessment]

1 Title Page to Include:	**Consultant/ AHT Comments**	**Consultant Check List**	**AHT use only**
1.1 Title of the report.	Title page	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
1.2 Author.	Title page	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
1.3 Postal Address.	Title page	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
1.4 Name of the entity producing report.	Title page	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
1.5 Name of the Client.	Title page	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
1.6 Year & month drafted.	Title page	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
1.7 Status (Draft or Final).	Title page	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
2 Contents to Include:			
2.1 List page # for sections.		**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
2.2 List page # for tables.		**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
2.3 List page # for plates.		**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
2.4 List page # for figures.		**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
2.5 List page # for appendices.		**Y:** ☒ **N:** ☐ **N/A** ☐	**Y:** ☐ **N:** ☐ **N/A** ☐
3 Abstract/Executive Summary to Include:			
3.1 Account of aims.	page i	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
3.2 Account of results.	page i-ii	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
3.3 Account of recommendations.	page i-ii	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
4 Introduction to include:			
4.1 Reasons for the study	pg 8	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
4.2 Description of where the study was conducted.	pg 8	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
4.3 Discussion of who	pg 8-10	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐

commissioned & funded the study.			
4.4 Discussion of the timing of project & its stages.	pg 11	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
4.5 Discussion of the people involved in the project & those consulted.	pg 10	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
4.6 Discussion of project constraints.	pg 10	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
4.7 Map of Tasmania showing the location of the study.	figure 1	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
4.8 The aims of the study.	pg 10	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐

5 Background Information to Include:

5.1 Description of geology/geomorphology provided.	section 2.1	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
5.2 Description of vegetation structures, habitat & food resources provided.	section 2, see also section 3 Brown 1991	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
5.3 Description of climatic condition & climate history provided.	section 2.2	**Y:** ☒ **N:** ☐ **NA:** ☐	**Y:** ☐ **N:** ☐ **N/A** ☐
5.4 Landscape assessment & characterisation information provided.	section 2.1 and conclusion section 2	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
5.5 Ethno-history, historical documents, oral history information provided.	section 2.3	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
5.6 Previous Aboriginal heritage work provided.	section 2.4	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐

6 Research Design & Field Methods to Include:

6.1 Outline the research aims.	section 3	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
6.2 Outline of the survey/sampling strategy.	section 3	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐
6.3 Description of the field methods.	section 3	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐

7 Results to Include:

7.1 Summary of all new sites found and sites relocated.	no sites	**Y:** ☐ **N:** ☐ **N/A** ☒	**Y:** ☐ **N:** ☐ **N/A** ☐
7.2 AH Item numbers utilised.		**Y:** ☐ **N:** ☐ **N/A** ☒	**Y:** ☐ **N:** ☐ **N/A** ☐
7.3 **Surveys Only**: Labelled & scaled figure showing GPS track plan of surveyor coverage of survey area.	section 4	**Y:** ☒ **N:** ☐	**Y:** ☐ **N:** ☐

7.4 **Sampling Only**: Labelled & scaled figure showing location of all sampling sites indicating accuracy of the survey (i.e. Dif. GPS, Hand GPS etc.).		**Y:** ☐ **N:**☐ **NA:** ☒	**Y:** ☐ **N:**☐ **N/A** ☐
7.5 Labelled & scaled map showing location of all sites found, relocated and those not able to be relocated on a map of the footprint of the development.		**Y:** ☐ **N:**☐ **N/A** ☒	**Y:** ☐ **N:**☐ **N/A** ☐
7.6 Description of each site (i.e.; type, size, content & condition), including those relocated		**Y:** ☐ **N:**☐ **N/A** ☒	**Y:** ☐ **N:**☐ **N/A** ☐
7.7 Labelled plate of each site.		**Y:** ☐ **N:**☐ **N/A** ☒	**Y:** ☐ **N:**☐ **N/A** ☐
7.8 Figures showing details of the more complex sites (medium to large scatters or middens etc).		**Y:** ☐ **N:**☐ **N/A** ☒	**Y:** ☐ **N:**☐ **N/A** ☐
7.9 **Sampling Only**: Labelled & scaled section drawings of pits discussed (note all pit sections and plans to be in appendicis).		**Y:** ☐ **N:**☐ **NA:** ☒	**Y:** ☐ **N:**☐ **N/A** ☐
7.10 **Sampling Only**: Tables showing excavation or collection findings for each pit or sample area (note pit results should be reported at spit level).		**Y:** ☐ **N:**☐ **NA:** ☒	**Y:** ☐ **N:**☐ **N/A** ☐

8 Analysis to Include:

8.1 Interpretation of site types and numbers found relative to the geology, geomorphology, vegetation type and cover, and post depositional transforms.	Reasons for the lack of sites stated etc. in section 5.	**Y:** ☐ **N:**☐ **N/A** ☒	**Y:** ☐ **N:**☐ **N/A** ☐
8.2 **Sampling Only**: Tables showing excavation or collection findings for each pit or sample area (note pit results should be reported at spit level).		**Y:** ☐ **N:**☐ **NA:** ☒	**Y:** ☐ **N:**☐ **N/A** ☐
8.3 **Sampling Only**: Stratigraphic analysis.		**Y:** ☐ **N:**☐ **NA:** ☒	**Y:** ☐ **N:**☐ **N/A** ☐
8.4 **Sampling Only**:		**Y:** ☐ **N:**☐	**Y:** ☐ **N:**☐

Artefact analysis (including faunal evidence where applicable).		**NA:** ☒	**N/A** ☐
8.4 **Sampling Only**: Dating analysis (where applicable).		**Y:** ☐ **N:**☐ **NA:** ☒	**Y:** ☐ **N:**☐ **N/A** ☐

9 Interpretation & Discussion to Include:

9.1 Interpretation of assessment findings in terms of Aboriginal use of study area.	Section 5 and section 6 provides a statement for	**Y:** ☒ **N:**☐	**Y:** ☐ **N:**☐
9.2 Relevant comparisons to previous studies.	section 5 provides reasons fro negative result in light of earlier review	**Y:** ☒ **N:**☐	**Y:** ☐ **N:**☐
9.3 Discussion relating to Aboriginal community consultation undertaken & findings of the assessment.	section 5.4	**Y:** ☒ **N:**☐	**Y:** ☐ **N:**☐
9.4 Discussion relating to the likelihood of undocumented sites being in the study area.	section 5.1 and 5.2	**Y:** ☒ **N:**☐	**Y:** ☐ **N:**☐
9.5 Discussion of any threats to Aboriginal sites.	section 5.3	**Y:** ☒ **N:**☐ **N/A** ☐	**Y:** ☐ **N:**☐ **N/A** ☐

10 Assessment of Cultural Resource to Include:

10.1 Assessment of significance for each site (as per *Burra Charter*).	notes the low significance of both allotments	**Y:** ☐ **N:**☐ **N/A** ☒	**Y:** ☐ **N:**☐ **N/A** ☐
10.2 Statement of significance for each site, including those relocated.		**Y:** ☐ **N:**☐ **N/A** ☒	**Y:** ☐ **N:**☐ **N/A** ☐
10.3 Assessment of cultural landscape values in study area.	A broad statement provided by Caleb Pedder.	**Y:** ☒ **N:**☐	**Y:** ☐ **N:**☐

11 Recommendations to Include:

11.1 Site protection options.	section 8	**Y:** ☐ **N:**☐ **N/A** ☒	**Y:** ☐ **N:**☐ **N/A** ☐
11.2 Management requirements.	section 8	**Y:** ☐ **N:**☐ **N/A** ☒	**Y:** ☐ **N:**☐ **N/A** ☐
11.3 *Aboriginal Relics Act* requirements.	section 7 – contingencies	**Y:** ☒ **N:**☐	**Y:** ☐ **N:**☐
11.4 Other statutory or planning requirements.	section 8	**Y:** ☒ **N:**☐	**Y:** ☐ **N:**☐

12 Bibliography to Include:

12.1 Full list of references.		**Y:** ☒ **N:**☐	**Y:** ☐ **N:**☐
12.2 In-text references.		**Y:** ☒ **N:**☐	**Y:** ☐ **N:**☐

13 Appendices to Include:

13.1 Project brief.	Project brief has been described verbally and confidentially in email form	**Y:** ☐ **N:**☒	**Y:** ☐ **N:**☐
13.2 Gazetteer of sites discovered and re-recorded.	Note there are no sites; so standard note	**Y:** ☒ **N:**☐ **N/A** ☐	**Y:** ☐ **N:**☐ **N/A** ☐
13.3 **Sampling Only**: Tables showing excavation or collection findings for each pit or sample area (note pit results should be reported at spit level).		**Y:** ☐ **N:**☐ **NA:** ☒	**Y:** ☐ **N:**☐ **N/A** ☐
13.4 **Sampling Only**: Labelled & scaled section drawings and plans of all pits excavated.		**Y:** ☐ **N:**☐ **NA:** ☒	**Y:** ☐ **N:**☐ **N/A** ☐
13.5 **Sampling Only**: Labelled & scaled section photographs of pits excavated.		**Y:** ☐ **N:**☐ **NA:** ☒	**Y:** ☐ **N:**☐ **N/A** ☐
13.6 Copies of any consultation documents provided by Aboriginal community groups.		**Y:** ☐ **N:**☐ **N/A** ☒	**Y:** ☐ **N:**☐ **N/A** ☐

14 Plates must:

14.1 Be correctly labelled.		**Y:** ☒ **N:**☐	**Y:** ☐ **N:**☐
14.2 In focus, appropriately lit and of an appropriate size.		**Y:** ☒ **N:**☐	**Y:** ☐ **N:**☐
14.3 Those used in the body of the report must be referenced in the report.		**Y:** ☒ **N:**☐	**Y:** ☐ **N:**☐

15 Figures must:

15.1 Be correctly labelled.		**Y:** ☒ **N:**☐	**Y:** ☐ **N:**☐
15.2 Appropriately scaled.		**Y:** ☒ **N:**☐	**Y:** ☐ **N:**☐
15.3 Show north arrow.		**Y:** ☒ **N:**☐	**Y:** ☐ **N:**☐
15.4 Detail projection & datum where applicable.		**Y:** ☒ **N:**☐	**Y:** ☐ **N:**☐
15.5 Detail accuracy.	The report uses a variety of data and not always possible.	**Y:** ☒ **N:**☐	**Y:** ☐ **N:**☐

Consultant Comments

AHT Office Use Only:

AHT Assessment Officer		
Date Report Reviewed		
Has Report Been Previously Reviewed?		
Review Status	**Accepted:** ☐	**Rejected:** ☐

AHT Comment

Notes:

- AHT will not accept incomplete reports. Reports which fail to contain relevant information as defined by this review form will be returned to the proponent with a request for the document to be completed.
- AHT will not process permit applications where assessment reports remain incomplete.
- AHT will not support the issuing of planning and other statutory permit applications where assessment reports remain incomplete.

Please return completed forms to: Aboriginal Heritage Tasmania
Department of Primary Industries, Parks, Water and Environment
Aboriginal@heritage.tas.gov.au

For enquiries Phone: 03 6165 3152

Tasmania
Explore the possibilities

11.0 APPENDIX B – Gazetteer of Aboriginal cultural heritage sites at the Silver Sands ReDevelopment Area and the Denison Rivulet Development Area.

There are no Aboriginal heritage sites in the footprint for the proposed projects named above.

The Rookery

Landscape Strategy

Prepared for Bicheno Investments Pty Ltd
DA Issue V2

inspiring place

SEPTEMBER 2020

inspiring place

For enquiries regarding this report please contact:

Inspiring Place

P 03 6231 1818
E info@inspiringplace.com.au

20-23 The Rookery

Version 01 - DA Issue 14.08.20

Version 02 - DA Issue 02.09.20

TABLE OF CONTENTS

1. BACKGROUND

Bicheno Investments Pty Ltd (the Proponent) proposes to develop a world-class tourism accommodation complex on their property at 80 Burgess Street, Bicheno, Tasmania, the site of the former Silver Sands Hotel.

The Property, ~1.2 hectares in size, is bounded on all sides by Crown Reserve. On the south (and across Burgess Street), the Glamorgan Spring Bay Council (the Council) manage Lions Park. On the west is a boat ramp and foreshore reserve. On the north foreshore is nature reserve and on the east the Bicheno Sportsground. Access to the site is via Burgess Street from the Tasman Highway (A3). A small car park will be located immediately inside the boundary with only maintenance vehicles allowed past the entry portal of the building.

The Proponent seeks to build:

> 12 freestanding self-contained accommodation units on the Property.

The foreshore reserve retains remnant native coastal vegetation in varying states of intactness.

Lions Park is well developed and includes a boat ramp, beach access, picnic shelters with tables and barbeques, a public toilet, children's playground and parking. Lions Park and the sportsground are maintained as parkland settings predominantly planted to grass, but with the former retaining several large eucalypts and immediately on the northern boundary a semi-mature Norfolk Island pine (*Araucaria heterophylla*) of good form and substantial size.

The current report provides information regarding the landscape planning for the Property.

2. THE SITE

The climate of the area is generally milder and drier than other regions of the State, experiencing warm summers and cool winters with few extremes in temperatures. Mean rainfall is relatively low being measured at 674mm per annum, falling on an average of 111 days of rainfall each year[1]. As for the

[1] http://www.bom.gov.au/climate/averages/tables/cw_092003_All.shtml Accessed 14.04.2106.

rest of the East Coast, the prevailing winds are from the northwest during October to March with regular on-shore sea breezes, and winds from the northeast during April to September.

The property is part of a low headland and consists of the ridgeline and relatively gently sloping terrain falling to the west. The ridgeline is relatively flat (~1:80), the slopes to the west range in steepness from ~1.5% to 5%. The highest elevation on the site is 9.5 AHD and the lowest is 6.5.

Soils at the site are shallow loam (<0.5m) over bedrock and are subject to wind erosion and salting[2].

The vegetation on the property has been ostensibly cleared and replaced with exotic grasses and or ornamental garden beds. A few remnant *Eucalyptus globulus* remain in the southwest corner of the site.

The vegetation in the Crown Reserve varies in type and condition (see Map 1.2). Much of the area to the west and a portion of the Reserve to the northeast is mapped as 'urban area' (i.e. cleared of native vegetation). *Allocasuarina verticillata forest* (NAV) abuts the property on the northwest corner and for a short length on the eastern boundary.

The tip of the peninsula to the north is mapped as Coastal Scrub (SSC)[3]._The Coastal Scrub supports *Zieria littoralis*, a listed shrub under the *Tasmanian Threatened Species Protection Act 1995* (TSPA).

The condition of the native vegetation on the Crown Reserve is variable. For the most part the canopy structure is intact but there are weeds throughout[4]. Nonetheless, the vegetation provides habitat for a diversity of native fauna including foraging habitat for white-bellied sea eagles (*Haliaeetus leucogaster*). White-bellied sea eagles are listed as vulnerable under the TSPA. The large blue gums (*Eucalyptus globuls*) on the site are considered important as foraging habitat for swift parrot (*Lathamus discolor*). Swift parrots are listed as endangered on the TSPA. Eucalypt hollows may provide nesting habitat for other native birds.

The site also provides nesting habitat for little penguins (*Eucyptula minor*) including burrows in lawn and garden areas and under timber decks.

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2 Davies, J. 1988. **Land Systems of Tasmania: Region 6 – Sout, East and Midlands** Department of Agriculture, Tasmania.

3 **"Bicheno Coastal Reserves Native Flora and Fauna Management Plan 2014-2019" Glamorgan Spring Bay Council.**

4 Weed species in the Crown Reserve are noted in the Flora and Fauna Management Plan (above).

The site is also like to host a number of other more ubiquitous native species adapted to the conditions of the site and its surrounds.

Rabbits (*Oryctolagus cuniculus*) are prevalent on the site. Rabbits are an invasive species and a threat to the environment, agriculture and ornamental gardening.

The site is within the favoured climatic zone for *Phytophthora cinnamomi*, a root rot fungus. *Phytophthora* is widespread in the region. No obvious evidence of *Phytopthora* has been found in the area and none of the vegetation communities abutting the site are susceptible to it.

3 THE LANDSCAPE PLAN

The landscaping plan (see Landscape Concept Plan next page) for the development is based on the assumption that native vegetation occurring within and/or adjacent to the site will be retained and that where native vegetation has been disturbed or removed it will be reinstated as far as practical. All other vegetation is to be stripped from the site and a native vegetation character reestablished using locally indigenous species. Some small areas of ornamental landscaping (hard and soft) will be concentrated at the arrival area. Soft landscaping in these areas will also use locally indigenous species in keeping with the adjacent natural bushland.

Ornamental Landscaping

Areas to be ornamentally landscape are generally located in the area of the main entrance, carpark and arrival walkway.

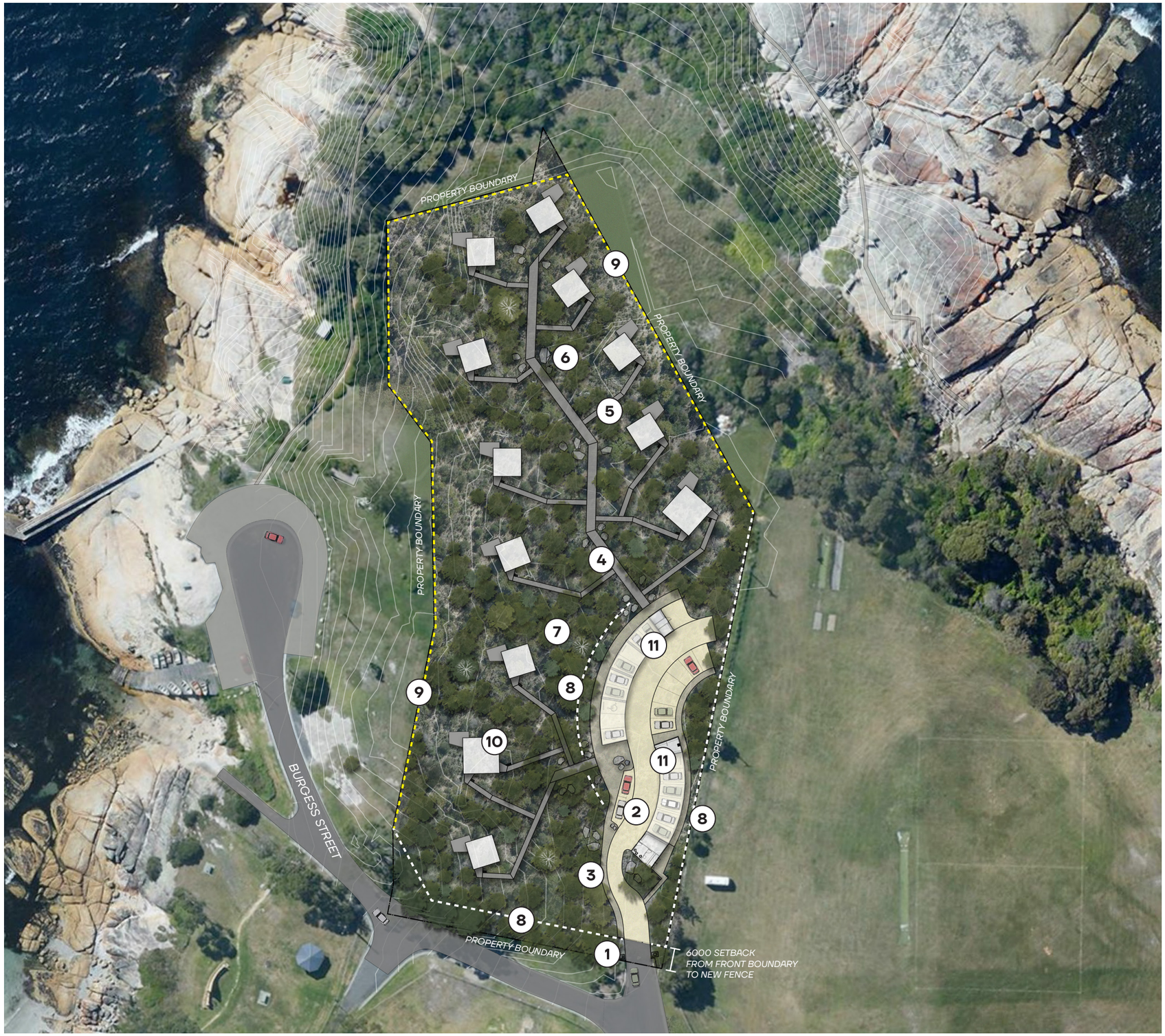
Ornamental landscape treatments will use varying combinations of:

native species (grasses, other monocots and some flowering shrubs and some limited trees) combined in alternative ways to create differing arrangements of materials for aesthetic (e.g. line, form, colour, texture, etc.) and functional effect (e.g. screening, movement control, etc.);

feature rocks and gravel mulches;

hard pavements; and

garden furniture and limited night-lighting.



Key:

1. NEW SITE ENTRANCE GATE, EXISTING GRANITE COLUMNS RETAINED
2. COARSE GRANITE GRAVEL WITH STRUCTURAL HONEYCOMB REINFORCEMENT GRID TO ROAD AND CAR PARKING BAYS
3. EXPOSED AGGREGATE CONCRETE PATH WITH SHELL GRIT AND GRANITE AGGREGATE
4. 2200MM WIDE ACCESSIBLE TIMBER BOARD WALK WITH INTEGRATED PENGUIN NESTING BOXES
5. 1200MM WIDE ACCESSIBLE TIMBER BOARD WALK WITH INTEGRATED PENGUIN NESTING BOXES
6. LARGE GRANITE BOULDERS
7. SITE HABITAT RESTORATION WITH ENDEMIC COASTAL GRASSES, SHRUBS AND TREES (REFER TO ATTACHED LANDSCAPE STRATEGY REPORT AND PLANTING LIST)
8. 1800MM HIGH TIMBER BATTEN SCREENING FENCE (WHITE DASHED LINE)
9. 1200MM HIGH TIMBER BATTEN SCREENING FENCE (YELLOW DASHED LINE)
10. ACCOMMODATION SUITES WITH TIMBER DECK (REFER ARCHITECTURAL DRAWINGS)

L100 The Rookery - Landscape Concept Plan

80 Burgess Street, Bicheno, Tasmania | Planning Approval V2

PREPARED FOR BICHENO INVESTMENTS PTY LTD

inspiring place

NORTH

Date 02/09/2020
Scale 1:500 @ A1
1:1000 @ A3

All species used in ornamental landscaping will be indigenous to the local area. Seed is presently being collected from the surrounding area to support this aim (see Attachment A). Cuttings will also be collected (by permit if required) to propagate selected species for areas of intensive planting out.

All landscape areas will be hand irrigated until such time as plantings are established after which natural rainfall will suffice.

Areas of ornamental planting will be temporarily fenced to protect against native animal browsing.

Landscape Rehabilitation

Apart from the building footprints and their immediate perimeter, the balance of the Property will be rehabilitated to locally indigenous species. The intent is to generally mimic the character of the adjacent *Allocasuarina verticillata forest* and Coastal Scrub in terms of species diversity and distributions.[5].

Landscape rehabilitation will be based on the following guidelines:

site preparation –

spray exotic weeds, strip topsoil (100mm) and vegetation and dispose at an approved location;

import quality, weed free topsoil (sandy peat);

rip subgrade to 150mm (or as deep as possible);

cultivate imported soil into subgrade;

create a micro-relief of mounds and troughs (150-300mm high) to retain water and reduce wind erosion;

temporary rabbit and wallaby proof fencing

sow seed and plant as per below;

install rabbit, wallaby-proof fencing with wind cloth at the boundaries to the site;

[5] But with some caveats in response to reducing bushfire risk.

sowing of seed – seed is presently being collected for use in rehabilitation of the site (see Attachment A) and will be sown at a rate of 3-4 kg/ha;

planting – a growing contract is to be let to provide 5000 container grown plants (140-300mm pots) for distribution across key areas of the site;

plant species - all rehabilitation is to be based solely on the use of locally indigenous plant species, no introduced Australian or exotic species will form any part of the landscape plan, plant stock where used will be propagated from local provenance materials;

planting layout – planting/seeding, etc. will, as far as possible, mimic natural distributions per the relevant species;

fertiliser – a low phosphate 8-4-10 fertiliser is to be used at a rate of 240kg/ha;

mulch - organic materials salvaged from the site will be used as mulch, imported mulch, if required, will be well rotted, weed free gum bark; and

staking and bagging – all tree species will be staked and bagged.

A tree surgeon is to inspect the site during the progress of the project to review the condition and health of trees on and adjacent to the site. Removal of trees is to be restricted to those that pose an immediate fire threat to the building (e.g. over-hanging branches or trees that exhibit hollow trunks or a lean such that they could collapse onto the building) or threaten the safety of visitors (i.e. adjacent to outdoor areas). All felled trees logs are to be retained on site as habitat. Branches and brush to be chipped for mulching ornamental landscaped areas. No other standing trees regardless of their health are to be removed.

Detailed planting plans will be prepared for the ornamentally landscaped areas.

Plant/species distribution in the wider site will be determined in the field at the time of the works. Care will be taken to provide sufficient spacing between small-medium trees and large shrubs to ensure no large contiguous massing of vegetation or canopy occurs while at the same time addressing issues of privacy between units.

4. OTHER STRATEGIES

Fire

No *Fire Management Plan* has been prepared for the site. Changes to the Planning Scheme preclude the need for a Bushfire Hazard Management Plan at the development application stage of the process. A bushfire report will be required at the building application stage. A preliminary assessment suggests the site may not be considered bushfire prone given the limited extant vegetation adjacent to it and the fact it is being managed sufficiently to reduce bushfire risk.

Nonetheless, an emergency contingency plan will be prepared in accordance with the Tasmanian Fire Service's *Fire Evacuation Guidelines*[6].

Sediment Control

The site is known to be located on soils that have high potential for erosion. Where vegetation is removed it is necessary to ensure that erosion is controlled so that rehabilitation of disturbed areas can successfully occur. As a result, sediment control mechanisms will be installed and maintained through to the end of the establishment contract (36 months after Practical Completion).

Sediment control mechanisms will include the installation of rabbitproof/wind fencing at the perimeter of the site (as above) and the placement of silt fencing (supported by star picket fencing with wire strands top and bottom) at areas of focused stormwater run off. Silt traps will be installed at all stormwater outfalls (if any). Silt traps will be permanent features constructed of local rock and maintained throughout the contract and thereafter on an as needs basis.

5. IMPLEMENTATION

The landscape plan will be integrated with civil and hydraulic engineering for the site. Particular consideration will be given to the staging and management of earthworks to maximise the potential for the success of the landscape rehabilitation.

6 See http://www.fire.tas.gov.au/userfiles/stuartp/file/Publications/FireEvacuationPlanGuidelines02Jan2011.pdf Accessed 20.0.2016.

Seed collection commenced in August 2020 in anticipation of the project. Collection rates were based on the size of the anticipated area to be rehabilitated and an application rate of 4kg per hectare (see Attachment A) with allowance for 100% failure and a second sowing as required.

Implementation of the landscape/rehabilitation plan is to be by a nominated sub-contractor approved by the Landscape Architect.

A thirty-six month maintenance contract is to be included as part of the landscape construction contract to maximise the success of rehabilitation works.

Maintenance is to include the continuing care of landscaped/rehabilitated areas by accepted horticultural practices as well as making good any defects (including weed invasion) that might become apparent in the works under normal use of the site. On completion all plants are to be healthy and areas of landscaping showing substantial progress towards eventual rehabilitation.

ATTACHMENT A
PLANTING LIST

The Rookery - Landscape Planting List
Prepared for Bicheno Investments Pty Ltd
Draft for Planning Approval
11.0820

Latin name	Comon name	Quantity of Plants	Pot Size	Seed (% of total mix)	Weight (grams)	
Large Trees						
Eucalyptus globuus subsp *globulus*	blue gum	5	300mm		0	
Eucalyptus viminalis	white gum	5	300mm		0	
Small - Medium Trees						
Allocasuarina littoralis	black sheoak	30	300mm	5%	375	
Allocasuarina verticillata	drooping sheoak	50	300mm		0	
Acacia longifolia subsp *sophorae*	coast wattle	100	150 pots		0	
Banksia marginata	silver banksia	30	300mm		0	
Bursaria spinosa subsp. *spinosa*	prickly box	20	300mm		0	
Callitris rhomboidea	oyster bay pine	30	300mm		0	
Dodonea viscosa subsp. *spatulata*	broadleaf hopbush	20	300mm		0	
Shrubs						
Correa alba	white correa	300	150 pots		0	
Kunzea ambigua	white kunzea	400	150 pots	15%	1125	
Leptospermum scoparium	common teatree	50	tubestock	5%	375	
Melaleuca ericifolia	coast paperbark	50	tubestock	5%	375	
Myoporum insulare	common boobialla	300	150 pots		0	
Geranium sp.	cranesbill	50	150 pots		0	
Leucopogon parviflorus	native currant	50	150 pots		0	
Leucopogon ericoides	native current	50	150 pots		0	
Pelargonium australe	southern storksbill	50	150 pots		0	
Pimeila glauca	smooth riceflower	50	150 pots		0	
Rhagodia candooleana subsp. *candolleana*	coastal saltbush	600	150 pots	5%	375	
Solanum laciniatum	kangaroo apple	100	150 pots	5%	375	
Zieria littoralis	downy zieria	200	150 pots		0	threatened species
Grasses and Strap Leaved Plans						
						If available otherwise
Austrodanthonia sp.	wallaby grass			2%	150	substitute with Poa spp.
Austrofestuca littoralis	coast fescue			2%	150	
Austrostipa stipoides	speargrass	100	multicells			
Dianella brevicaulis	shortstem flaxlilly	100				
Dianella revoluta var. *revoluta*	spreading flaxlily	500	tubestock			
Juncus pallidus	pale rush	200	tubestock	2%	150	
Lepidosperma concavum	sand swordsedge			5%	375	
Lepidosperma gladiatum	coast swordsedge			5%	375	
Lomandra longifolia	sagg	1500	tubestock	5%	375	
Poa labillardierei	tussock grass	3000	multi-cells	20%	1500	
Poa poiformis	coastal tussock grass	1500	multicells	10%	750	
Ground Covers						
Caprobrotus rossii	pigface	200	150 pots	5%	375	
Einadia nutans subsp *nutans*	climbing saltbush	300	150 pots	1%	75	
Kennedia prostrata	running postman	20	150 pots		0	
Tetragonia implexicoma	native spinach	300	150 pots		0	
Misc. to make up difference to 7.5kg				3%	225	
Totals		**10260**	**plants**	**100%**	**7500**	**grams seed**
		allows for ~1 plant per .66 square metres		allows for 5kg seed per hectare rehab (minus seed used for		

inspiring place

210 Collins Street Hobart 7000 | 62 311 818 | info@inspiringplace.com.au

Friday, 4th December 2020

[redacted]

Glamorgan Springbay Council
Att: General Manager

Dear General Manager

We wish to put forward our objections and concerns in regards to The Rookery development at 80 Burgess St Bicheno.

We don't object to the site being developed, what concerns us is that if such a unique, visual and prominent parcel of land must be developed, then it should be developed in such a way that enables everyone, tourists, residents and visitors, to enjoy its amazing location.

We feel the proposed development under utilises this site and has no long term benefits for the town of Bicheno and surrounding areas. The current plans will create minimal employment, with most of it being casual.

We also feel the proposed development is very visually challenging for the site and does not suit the landscape.

We would like to see this particular parcel of land, be developed in such a way that can be enjoyed by all and also provide some long term permanent employment opportunities for the residents of Bicheno, now and into the future.

Yours sincerely

[redacted]

Bicheno 4th December 2010

The General Manager

Glamorgan Spring Bay Council

By email: planning@freycinet.tas.gov.au

REPRESENTATION IN SUPPORT OF DA 2020-163 80 BURGESS STREET BICHENO

Dear General Manager,

It was with unalloyed delight that I noticed the advertised DA for the above development and in perusing the extensive and comprehensive documentation that delight only grew.

It is clear that very specific (and dare one say pleasingly unusual) results have been aimed for.

The usual attempts to cram as many accommodation units as possible on a development site have been resisted, the planned units are spaced widely apart for privacy, have a total footprint very much smaller than the current buildings and will undoubtedly attract a whole new class of tourists to Bicheno.

The planned lovely “nests” at the thoughtfully named “Rookery”, when completed will enchant and bewitch guests, as the similar prototypes already built and operating at the Denison Rivulet just North of Bicheno already do, and will add suitable architectural merit to the splendid Peggy’s Point setting.

Low impact, sustainable, sensitive, nature respecting, visually pleasing and unique are regularly used descriptions in development applications but all too often they are just words.

This DA delivers…and in spades!

I congratulate Glamorgan Spring Bay Council and Bicheno on attracting such a quality development to our area and I wish the Developer every success!

Yours sincerely,

[redacted]

[redacted]

4/12/2020

The Manager,
Glenmorgan Spring Bay Council

[redacted]

Dear Council,

While we are all pleased to see some form of development on this important site, I am disappointed that the design appears to ignore the needs of many people who have mobility issues.

Specifically;

1. The ramps to the units are tiered which will automatically prevent anyone with a wheel chair or mobility device from accessing the buildings.
2. There are no rails for others who can walk but may need something to hang onto.
3. The buildings are double story with stairs presumably to the bedrooms.
4. The only bathroom I could see had one of those ridiculous baths designed for Olympic athletes and would certainly be impossible for older and less able people.

I am amazed that in this day and age we should even be talking about fundamental issues such as this. It should be a given. Besides anything else it seems to me to be a very poor business model. Many travellers are in the older age bracket and nature dictates our physical limitations. Thoughtless design such as the one proposed create the disability, not the person. If someone with mobility issues can easily and safely walk to their room, access the facilities and their bedroom then they no longer have a disability. It is contextual.

I do not support having a 'special room' for people but that the whole complex should be friendly and accessible to all of us.

Thankyou for taking the time to read this and I would be happy to talk with the architects if they are interested.

[redacted]

GLAMORGAN SPRING BAY COUNCIL

ASSET MANAGEMENT PLAN

HYDRAULIC INFRASTRUCTURE

DRAFT

Adopted: ****** 2021

Document Control	Asset Management Plan – Hydrauliuc Infrastructure

Document ID :

Rev No	Date	Revision Details	Author	Reviewer	Approver
1	January 2021	Draft	VB	GI	GI

This Asset Management Plan is a supporting document used to inform Council's overarching Strategic Asset Management Plan.

Contents

1.0 EXECUTIVE SUMMARY

1.1 The Purpose of the Plan

This Asset Management Plan details information on how Council manages its hydraulic infrastructure assets. It details actions required to provide an agreed level of service in the most cost-effective manner, while outlining associated risks. The plan defines the services to be provided, how the services are provided and what funds are required to provide over the 20 year planning period. The Asset Management Plan will link to a Long Term Financial Plan which typically considers a 10 year planning period.

1.2 Asset Description

This plan covers all Council owned or maintained hydraulic infrastructure assets.

The hydraulic infrastructure network comprises:

Asset Category	Number of Assets/Length	Replacement Value
Stormwater pipes (including culverts where recorded)	32.11 km	$5,619,260
Stormwater pits (manholes, side entry pits, grated pits, gross pollutant traps etc.)	774	$1,625,400
Stormwater detention and infiltration basins	2	$30,000
Swanwick Sewerage System	1	Refer 2.1
Prosser Plains Raw Water Scheme pipeline (including valves and structures along alignment)	8.2 km	$4,955,357
Prosser Plains Raw Water Scheme pump station	1	$1,513,088
Prosser Plains Raw Water Scheme electrical and control assets	16	$451,042
TOTAL	-	**$14,194,147**

The above hydraulic infrastructure assets have significant total renewal value estimated at **$14,194,147**.

1.3 Levels of Service

The allocation in the planned budget is insufficient to continue providing existing services at current levels over the planning period.

The main service consequences of the Planned Budget are:

- There are a number of capital works projects that require completion to improve the stormwater drainage network, however they can only be undertaken gradually over the planning period with the current planned budget. This means some known stormwater drainage issues (generally lower priority issues) will remain for several years before they are able to be fully resolved.
- The level of service is forecast to reduce over the planning period, due to a constant planned budget projection, but increasing operations costs associated with an increasing number of assets (mostly related to sub-division or other development acquisitions).

1.4 Future Demand

The factors influencing future demand and the impacts they have on service delivery are created by:

- Climate change (and associated increase in frequency of extreme weather events)
- Future development of previously vacant land

These demands will be approached using a combination of managing existing assets, upgrading existing assets and providing new assets to meet demand. Demand management practices may also include a combination of non-asset solutions, insuring against risks and managing failures.

- Refer *Draft Urban Stormwater Management Plan*

1.5 Lifecycle Management Plan

1.5.1 What does it Cost?

The forecast lifecycle costs necessary to provide the services covered by this Asset Management Plan includes operation, maintenance, renewal, acquisition, and disposal of assets. Although the Asset Management Plan may be prepared for a range of time periods, it typically informs a Long Term Financial Planning period of 10 years. Therefore, a summary output from the Asset Management Plan is the forecast of 10 year total outlays, which for hydraulic infrastructure is estimated as **$4,845,529** or **$484,553** on average per year.

1.6 Financial Summary

1.6.1 What we will do

Estimated available funding for the 10 year period is **$4,679,024 or $467,902** on average per year as per the Long Term Financial Plan. This is **96.56%** of the cost to sustain the current level of service at the lowest lifecycle cost.

The infrastructure reality is that only what is funded in the Long Term Financial Plan can be provided. The informed decision making depends on the Asset Management Plan emphasising the consequences of Planned Budgets on the service levels provided and risks.

The anticipated Planned Budget for hydraulic infrastructure leaves a shortfall of **$16,650** on average per year of the forecast lifecycle costs required to provide services in the Asset Management Plan compared with the Planned Budget currently included in the Long Term Financial Plan. This is shown in the figure below.

Forecast Lifecycle Costs and Planned Budgets

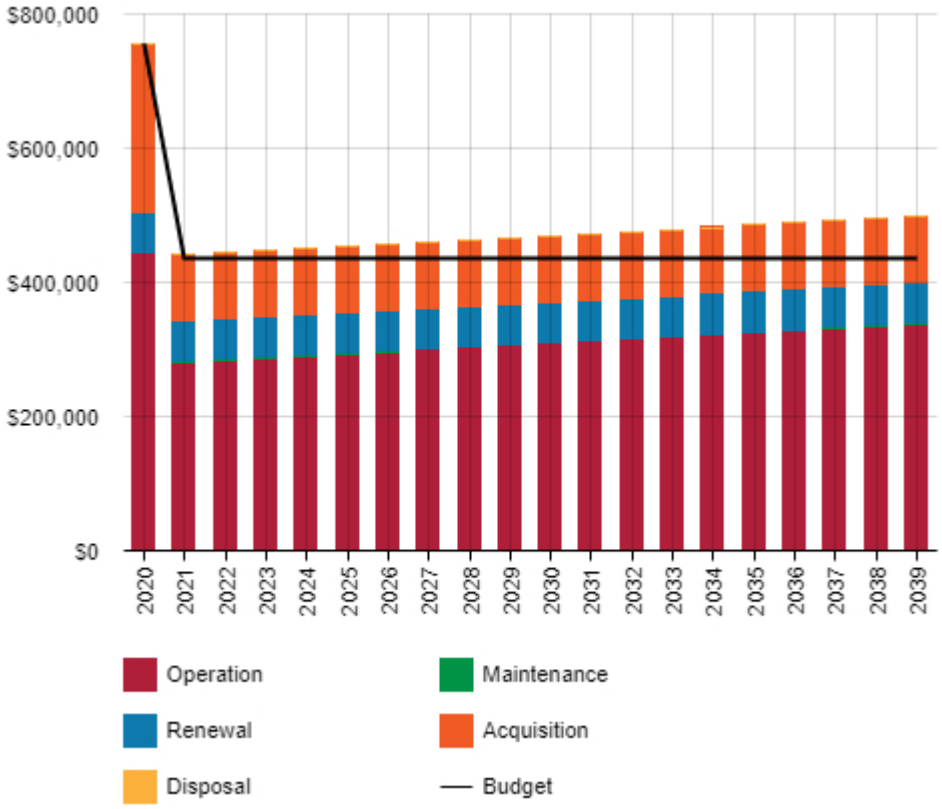


Figure values are in current dollars.

We plan to provide hydraulic infrastructure services for the following:

- Operation, maintenance, renewal and acquisition of hydraulic infrastructure assets to meet service levels set by Council in annual budgets.
- Within the next 5 years the following major capital works (acquisitions or renewals >$40,000) are forecast: Holkham Court (Orford) stormwater system upgrade; North Orford (Prosser River to Alma Street) flooding solution; Spring Bay Boat Club stormwater pit and pipe upgrade; Gamble Crescent (Bicheno) upgrade to stormwater drainage; Freycinet Drive (Coles Bay) upgrade to stormwater drainage; West Shelly Beach upgrade of stormwater drainage; South Orford upgrade to stormwater drainage. Refer also to Appendix A.

1.6.2 What we cannot do

We currently do **not** allocate enough budget to sustain these services at the proposed standard or to provide all new services being sought. Works and services that cannot be provided under present funding levels are:

- Operation (to the existing level of service) of any new assets acquired over the planning period.
- Delivery of all proposed capital works, relating to stormwater drainage assets, within the next five years (as forecast in the draft works plan - refer Appendix A).

1.6.3 Managing the Risks

Our present budget levels are insufficient to successfully manage all identified risks in the medium term.

The main risk consequences are:

- Financial risks associated with the Prosser Plains Raw Water Scheme
- Loss of knowledge
- Underfunding of required stormwater drainage upgrades leading to a poor level of service and flooding to adjacent dwellings/properties
- Potential costs associated with future upgrade and renewal of the Swanwick Sewerage System (if required)

We will endeavour to manage these risks within available funding by:

- Potential disposal of the Prosser Plains Raw Water Scheme
- Succession planning and improved record keeping
- Ensuring the Long Term Financial Plan is informed by the works plan derived from the *Urban Stormwater Management Plan* – (in progress)
- Transfering the Swanwick Sewerage System to TasWater (sewerage authority) – (in progress)

1.7 Asset Management Planning Practices

Key assumptions made in this Asset Management Plan are:

- Expenditure projections are low confidence budget type figures with a range of ± 40%
- Financial data used in the development of this plan was from the end of the 2019-20 financial year.
- It is assumed that no major acquisitions outside of those referenced in this plan are to be undertaken during the planning period without detailed lifecycle costing knowledge and allocation in planned budget to meet these costs.
- That the Swanwick Sewerage System is transferred to TasWater in 2021 without any significant cost to Council.
- Several gross assumptions were required in the derivation of planned budget and lifecycle forecast figures. This is due to the quality of financial information currently available.
- Professional judgement has been applied in the absence of good quality data, however where applied, it has been noted for improvement in Section 8.0.
- All figures are presented in current day dollars.

Assets requiring renewal are identified from either the asset register or an alternative method.

- The timing of capital renewals based on the asset register is applied by adding the useful life to the year of acquisition or year of last renewal,
- Alternatively, an estimate of renewal lifecycle costs is projected from external condition modelling systems and may be supplemented with, or based on, expert knowledge.

A combination of the asset register method and the alternate method was used to forecast the renewal lifecycle costs for this Asset Management Plan.

The estimated confidence level for and reliability of data used in this Asset Management Plan is considered to be **Low** (refer Table 7.5.1).

1.8 Monitoring and Improvement Program

The next steps resulting from this Asset Management Plan to improve asset management practices are:

- Formally dispose of the Swanwick Sewerage System to TasWater.

- Council to take on management of *MyData* asset management software (previously managed by Brighton Council).
- Develop detailed capital works program for upcoming years with project ranking consistent with agreed criteria. Use to inform Asset Management Plan and Long Term Financial Plan updates.
- Establish a formal program for clearing open drains, pipes, culverts and gross pollutant traps etc.
- Increase accuracy of budget breakdown to include acquisitions, maintenance, operations, renewals and disposals.
- Update Geographical Information System (GIS) to include all previously missing stormwater drainage assets (including pipes, headwalls, pits, culverts and open drains) once they have been recorded.
- Completion and adoption of the *Draft Urban Stormwater Management Plan*, including completion of all associated recommendations. This includes completion of catchment modelling to better understand/identify deficiencies (currently underway).
- Improve confidence in financial data used in Long Term Financial Plan and Asset Management Plan.
- Update forecast disposal values within Asset Management Plan for assets where upgrade works are to occur.
- Continue to develop and maintain regular inspection of asset condition, defects and develop maintenance and capital works programs for inclusion in the Asset Management Plan.
- Continually improve correlation between Long Term Financial Plan and Asset Management Plan.
- Increase confidence and maturity of Asset Management Plan.

2.0 Introduction

2.1 Background

This Asset Management Plan communicates the requirements for the sustainable delivery of services through management of assets, compliance with regulations, and required funding to provide the appropriate levels of service over the planning period.

The Asset Management Plan is to be read with Council's Asset Management Policy and Strategic Asset Management Plan, along with other key planning documents:

- Long Term Financial Strategy
- Long Term Financial Management Plan
- Glamorgan Spring Bay Council's 10-year Strategic Plan 2020-2029

Council is in the process of modernising its asset management practices to ensure they adhere to the *Local Government Act 1993*. Part of this process is the development of asset management plans, such as this document, and the above mentioned strategic documents.

This Asset Management Plan covers all Council owned hydraulic infrastructure assets. For a detailed summary of the assets covered, refer to Table 5.1.1 in Section 5 and the lists below.

The hydraulic infrastructure network comprises:

Stormwater assets:

- Pipes
- Culverts
- Pits (manholes, side entry pits, grated pits)
- Detention and infiltration basins
- Gross pollutant traps

Prosser Plains Raw Water Scheme assets:

- Pump station
- Pipeline
- Components

Sewerage assets:

- Swanwick Sewerage System

The Prosser Plains Raw Water Scheme does not fall within Council's core business and it provides no direct value to the community as a Council asset, hence has been identified as a potential disposal (subject to further investigations, reporting and ultimately Council approval), refer Section 5.6. The Swanwick Sewerage System is also in the process of being transferred to TasWater (sewerage authority) and hence for the purposes of this plan, no associated replacement value has been included.

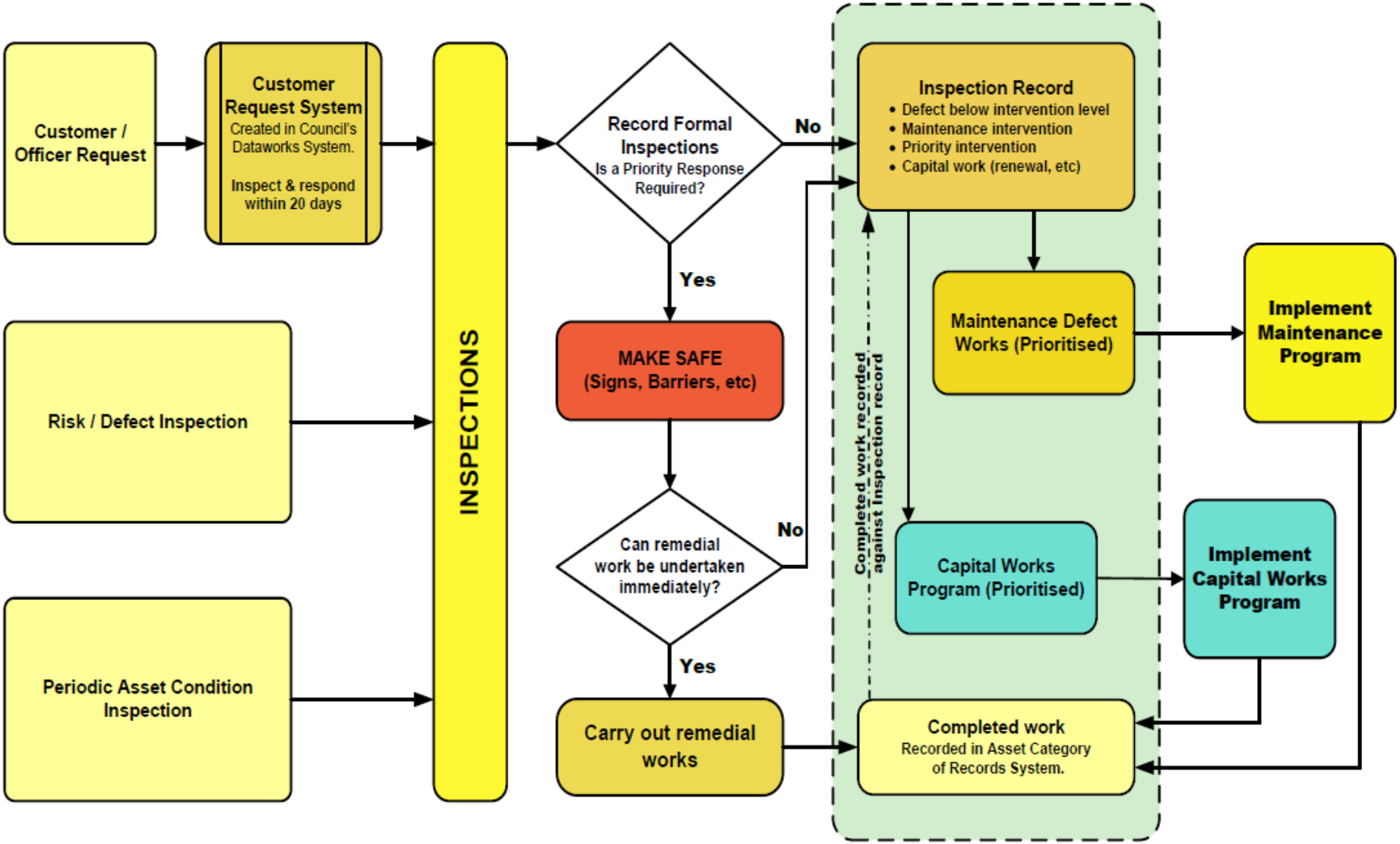
The infrastructure assets included in this plan have a total replacement value of **$14,194,147**.

Key stakeholders in the preparation and implementation of this Asset Management Plan are shown in Table 2.1.

Table 2.1: Key Stakeholders in the Asset Management Plan

Key Stakeholder	Role in Asset Management Plan
Councillors	■ Represent needs of community/shareholders, ■ Allocate resources to meet planning objectives in providing services, while managing risks, ■ Ensure service is sustainable, ■ Make informed decisions, in the best interests of the community.
General Manager	■ Maintain a proactive approach to holistic asset management practices and ensure staff do the same. ■ Inform Councillors to enable educated decisions to be made.
Infrastructure Management Team	■ Maintain a proactive approach to holistic asset management practices. ■ Ensure the Asset Management Plan is used and updated regularly. ■ Inform Councillors to enable educated decisions to be made.
General Public	■ Report shortcomings, damage, safety concerns and other issues with current hydraulic infrastructure assets.

Our organisational structure for service delivery from hydraulic infrastructure assets is detailed below:



2.2 Goals and Objectives of Asset Ownership

Council's core business is to provide services to its community. Some of these services are provided by hydraulic infrastructure assets. We have acquired hydraulic infrastructure assets through purchase, contract, construction by Council staff, and by donation of assets constructed by others to meet increased levels of service.

Our goal for managing infrastructure assets is to meet the defined level of service (as amended from time to time) in the most cost effective manner for present and future consumers. The key elements of infrastructure asset management are:

- Providing a defined level of service and monitoring performance,
- Managing the impact of growth through demand management and infrastructure investment,
- Taking a lifecycle approach to developing cost-effective management strategies for the long-term that meet the defined level of service,
- Identifying, assessing and appropriately controlling risks, and
- Linking to a Long Term Financial Plan which identifies required, affordable forecast costs and how it will be allocated.

Key elements of the planning framework are

- Levels of service – specifies the services and levels of service to be provided,
- Risk Management,
- Future demand – how this will impact on future service delivery and how this is to be met,
- Lifecycle management – how to manage its existing and future assets to provide defined levels of service,
- Financial summary – what funds are required to provide the defined services,
- Asset management practices – how we manage provision of the services,
- Monitoring – how the plan will be monitored to ensure objectives are met,
- Asset management improvement plan – how we increase asset management maturity.

Other references to the benefits, fundamentals principles and objectives of asset management are:

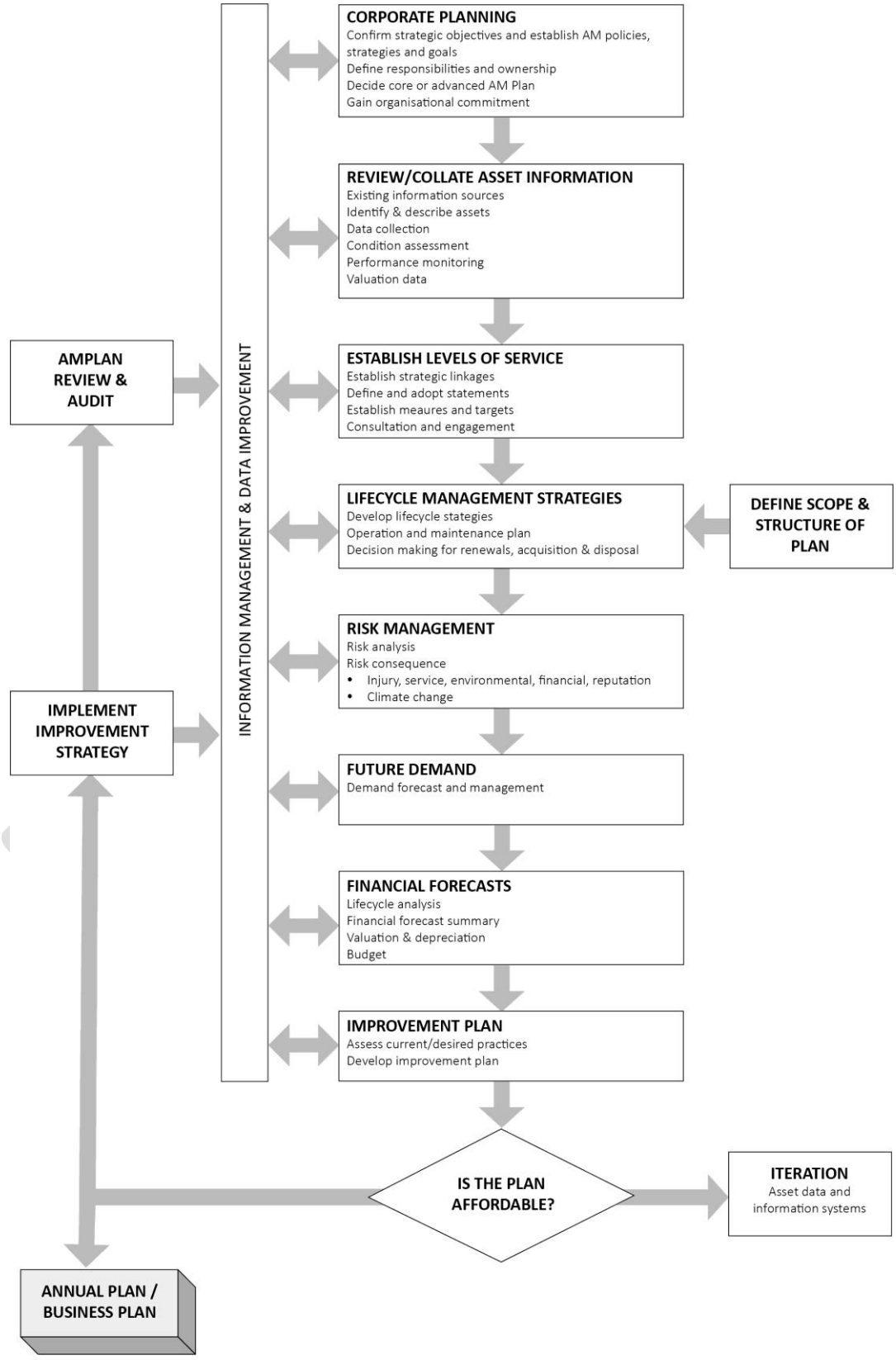
- International Infrastructure Management Manual 2015 [1]
- ISO 55000[2]

A road map for preparing an Asset Management Plan is shown below.

[1] Based on IPWEA 2015 IIMM, Sec 2.1.3, p 2| 13
[2] ISO 55000 Overview, principles and terminology

Road Map for preparing an Asset Management Plan

Source: IPWEA, 2006, IIMM, Fig 1.5.1, p 1.11



3.0 LEVELS OF SERVICE

3.1 Customer Research and Expectations

This Asset Management Plan is prepared to facilitate consultation prior to adoption of levels of service by Council. Future revisions of the Asset Management Plan will incorporate customer consultation on service levels and costs of providing the service. This will assist Council and stakeholders in matching the level of service required, service risks and consequences with the customer's ability and willingness to pay for the service.

Council undertakes community consultation for proposed developments. Council also receives vast community feedback on the services and facilities it provides. Budget submissions are invited from local district committees and community groups for Council consideration. Council's customer request system is used to determine trends in community expectations. This information is used in developing key planning documents and in allocation of budget resources.

3.2 Strategic and Corporate Goals

This Asset Management Plan is prepared under the direction of Council's vision, mission, goals and objectives.

Our vision is:

Glamorgan Spring Bay, a welcoming community which delivers sustainable development, appreciates and protects its natural environment and facilitates a quality lifestyle.

Our mission is:

Represent and promote the interests of the communities in our municipality.

- ***Provide sound community governance, practices and processes.***
- ***Plan, implement and monitor services according to our agreed priorities and available resources.***
- ***Seek and secure additional funds, and grants to augment our finances.***
- ***Manage the finances and administer the Council.***
- ***Establish and maintain mutually beneficial strategic partnerships with State and Federal Government and private businesses and industry.***

Strategic goals have been set by the Council. The relevant goals and objectives and how these are addressed in this Asset Management Plan are summarised in Table 3.2.

Table 3.2: Goals and how these are addressed in this Plan

Goal	Objective	How Goal and Objectives are addressed in the Asset Management Plan
To provide safe and reliable stormwater drainage assets.	Maintain and develop stormwater infrastructure to appropriate standards.	Continue to develop and maintain regular inspection of asset condition, defects and develop maintenance and capital works programs for inclusion in the Asset Management Plan. Refer Section 8.0.
Good Governance	Provide asset management services in a sustainable manner. Deliver services effectively and efficiently.	Completion, adoption and review of asset management plans (this plan)
Appropriate service levels	Identify current service levels and target sustainable levels	An ongoing task that will be monitored and improved. Refer Section 8.

Improved risk management	Identify and address all known high level risks to hydraulic infrastructure assets	Implement a structured approach to identify and manage significant risks. Refer Section 6.
Financial sustainability	Identify financial inefficiencies	Implement a structured approach to identifying financial inefficiencies.

3.3 Legislative Requirements

There are many legislative requirements relating to the management of assets. Legislative requirements that impact the delivery of the hydraulic infrastructure assets are outlined in Table 3.3.

Table 3.3: Legislative Requirements

Legislation	Requirement
Local Government Act 1993	Sets out role, purpose, responsibilities and powers of local governments including the preparation of a long term financial plan supported by asset management plans for sustainable service delivery.
Work Health and Safety Act 2012	Sets out the roles and responsibilities to secure the health, safety and welfare of persons at work.
Urban Drainage Act 2013	Sets out the roles and responsibilities for ensuring the safe and sustainable provision of stormwater services to the community.
Building Act 2016	Details requirements of buildings in riverine and coastal inundation areas.

3.4 Customer Values

Service levels are defined in three ways, customer values, customer levels of service and technical levels of service.

Customer Values indicate:

- what aspects of the service is important to the customer,
- whether they see value in what is currently provided and
- the likely trend over time based on the current budget provision

Table 3.4: Customer Values

Service Objective:			
Customer Values	**Customer Satisfaction Measure**	**Current Feedback**	**Expected Trend Based on Planned Budget**
Adequate condition of hydraulic infrastructure assets	Number of customer service requests	Some stormwater assets and sites require improvement.	Expected to slightly improve over planning period
Stormwater network to prevent flooding and damage to properties and other infrastructure	Number of customer service requests	Improvements required	Gradual improvement over planning period (*Draft Urban Stormwater Management Plan* has been prepared)
A safe stormwater infrastructure network	Number of customer service requests	Minimal	Expected to remain similar to existing or slightly improve over planning period

3.5 Customer Levels of Service

The Customer Levels of Service are considered in terms of:

Condition How good is the service? What is the condition or quality of the service?

Function Is it suitable for its intended purpose? Is it the right service?

Capacity/Use Is the service over or under used? Do we need more or less of these assets?

In Table 3.5 under each of the service measures types (Condition, Function, Capacity/Use) there is a summary of the performance measure being used, the current performance, and the expected performance based on the current budget allocation.

These are measures of fact related to the service delivery outcome (e.g. number of occasions when service is not available or proportion of replacement value by condition %'s) to provide a balance in comparison to the customer perception that may be more subjective.

Table 3.5: Customer Level of Service Measures

Type of Measure	Level of Service	Performance Measure	Current Performance	Expected Trend Based on Planned Budget
Condition	Quality of hydraulic infrastructure assets (Prosser Plains Raw Water Scheme & stormwater drainage network)	Professional judgement	Some stormwater assets require improvement – a condition assessment needs to be undertaken. As the Prosser Plains Raw Water Scheme has recently been commissioned its condition is 'very good'.	Condition of stormwater assets expected to improve over planning period. Expected gradual deterioration of Prosser Plains Raw Water Scheme assets over planning period.
	Confidence levels		Low (professional judgement with no data evidence)	Low (professional judgement with no data evidence)
Function	Appropriate and compliant (with relevant Acts and Standards) hydraulic infrastructure	Staff assessment and number of customer service requests (approximately 40 Council related stormwater customer service requests in 2020)	Improvements required for a number of stormwater assets	Required improvements to be gradually undertaken over the planning period, hence a gradual improvement and reduction in customer service requests.
	Confidence levels		Low (professional judgement with no data evidence)	Low (professional judgement with no data evidence)
Capacity	Appropriate capacity to meet with flows/demand.	Number of customer service requests	Based on customer service requests, existing service level requires some improvements	Expected to improve over the planning period (draft stormwater management plan recently developed)
	Confidence levels		High (Professional Judgement supported by extensive data)	Medium (professional judgement supported by data sampling)

3.6 Technical Levels of Service

Technical Levels of Service – To deliver the customer values, and impact the achieved Customer Levels of Service, are operational or technical measures of performance. These technical measures relate to the activities and allocation of resources to best achieve the desired customer outcomes and demonstrate effective performance.

Technical service measures are linked to the activities and annual budgets covering:

- **Acquisition** – the activities to provide a higher level of service (e.g. widening a road, sealing an unsealed road, replacing a pipeline with a larger size) or a new service that did not exist previously (e.g. a new library).
- **Operation** – the regular activities to provide services (e.g. opening hours, cleansing, mowing grass, energy, inspections, etc.
- **Maintenance** – the activities necessary to retain an asset as near as practicable to an appropriate service condition. Maintenance activities enable an asset to provide service for its planned life (e.g. road patching, unsealed road grading, building and structure repairs),
- **Renewal** – the activities that return the service capability of an asset up to that which it had originally provided (e.g. road resurfacing and pavement reconstruction, pipeline replacement and building component replacement),

Service and asset managers plan, implement and control technical service levels to influence the service outcomes.[3]

Table 3.6 shows the activities expected to be provided under the current 10 year Planned Budget allocation, and the forecast activity requirements being recommended in this Asset Management Plan.

Table 3.6: Technical Levels of Service

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
TECHNICAL LEVELS OF SERVICE				
Acquisition	Acquire assets that align with Council's core purpose	Number of and funds spent on acquisitions	Council acquires stormwater assets generally via developer donation (new subdivision) or through construction of new assets (pipes, drains etc.)	Only acquire assets that align with Council's core purpose and that Council can afford to maintain, operate, renew and/or dispose of (must consider full asset lifecycle costs). Prioritise and budget for completion of works in 5 year capital works program developed by Council's hydraulic engineer – see *Draft Urban Stormwater Management Plan.*
		Budget	**$113,592 per year (10 year average)**	**$113,592 per year (10 year average)**

[3] IPWEA, 2015, IIMM, p 2|28.

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
Operation	Keep hydraulic infrastructure serviceable and safe	Number of customer service requests	User feedback suggests a number of issues with stormwater drainage network	Make improvements where required in order to minimise number of customer service requests
	Regular condition inspections	Percentage of assets inspected, number of customer service requests relating to blocked culverts, pits etc.	No formal inspection program is in place however prior to forecasted significant rain events known problematic areas are inspected to ensure stormwater assets are operational (free of debris).	Adopt a formal condition inspection and cleaning program.
		Budget	**$292,310 per year (10 year average)**	**$308,880 per year (10 year average)**
Maintenance	Keep hydraulic infrastructure safe.	Frequency of maintenance	Reactive minor repairs and minor upgrades are undertaken	Reactive minor repairs, minor upgrades, and a planned preventative maintenance programme
	Keep hydraulic infrastructure serviceable	Frequency of maintenance	Reactive minor repairs and minor upgrades are undertaken	Reactive minor repairs, minor upgrades, and a planned preventative maintenance programme
		Budget	**$2,000 per year**	**$2,080 per year**
Renewal	Ensure hydraulic infrastructure assets are in a good serviceable condition	Frequency of renewal	Renewals have not been regularly undertaken in recent times, but if so they have been completed on a priority basis (generally driven by customer service requests)	Renewal programme to be developed based on condition assessment data and professional judgement by staff, in conjunction with recommendations from the *Draft Urban Stormwater Management Plan*.
	Ensure hydraulic infrastructure assets remain fit for purpose and in-line with current standards	Frequency of renewal (including component renewal)	Not currently monitored in any formal way. Pipe network currently judged to have approximately 1 in 5 year event capacity. Overland flow currently judged to be approximately 1 in 10 year event capacity.	Renewal programme to be developed based on condition assessment data and professional judgement by staff. Pipe network capacity to have a 1 in 10/20 year event capacity and overland flow path to have 1 in 100 year equivalent flow capacity.
		Budget	**$60,000 per year (10 year average)**	**$60,000 per year (10 year average)**

Lifecycle Activity	Purpose of Activity	Activity Measure	Current Performance*	Recommended Performance **
Disposal	Identify assets and activities that do not align with Council's core purpose	Number of assets and activities identified for disposal	Some potential disposals have been identified	Develop a list of potential asset and activity disposals for Council assessment
	Dispose of assets and activities that do not align with Council's core purpose	Number of identified asset and activity disposals undertaken	No disposals are currently planned	Develop a plan for, and dispose of, identified assets following Council approval
		Budget	**$0**	**$0**

Note: * Current activities related to Planned Budget.

** Expected performance related to forecast lifecycle costs.

It is important to monitor the service levels regularly as circumstances can and do change. Current performance is based on existing resource provision and work efficiencies. It is acknowledged changing circumstances such as technology and customer priorities will change over time.

4.0 FUTURE DEMAND

4.1 Demand Drivers

Drivers affecting demand include things such as population change, regulations, changes in demographics, seasonal factors, vehicle ownership rates, consumer preferences and expectations, technological changes, economic factors, agricultural practices, environmental awareness, etc.

4.2 Demand Forecasts

The present position and projections for demand drivers that may impact future service delivery and use of assets have been identified and documented in Table 4.3.

Population of the Glamorgan Spring Bay Local Government Area was last estimated in 2018 to be 4,528. Figure 4.2 below shows the projected population over the planning period. Analysis of this figure shows a slight projected rise in population to approximately 4,600 around 2025 and then a gradual decline to around 4,300 at the end of the planning period (2039). Hence, it is anticipated that there will be little need for change to the adopted 'Levels of Service' relating to population growth.

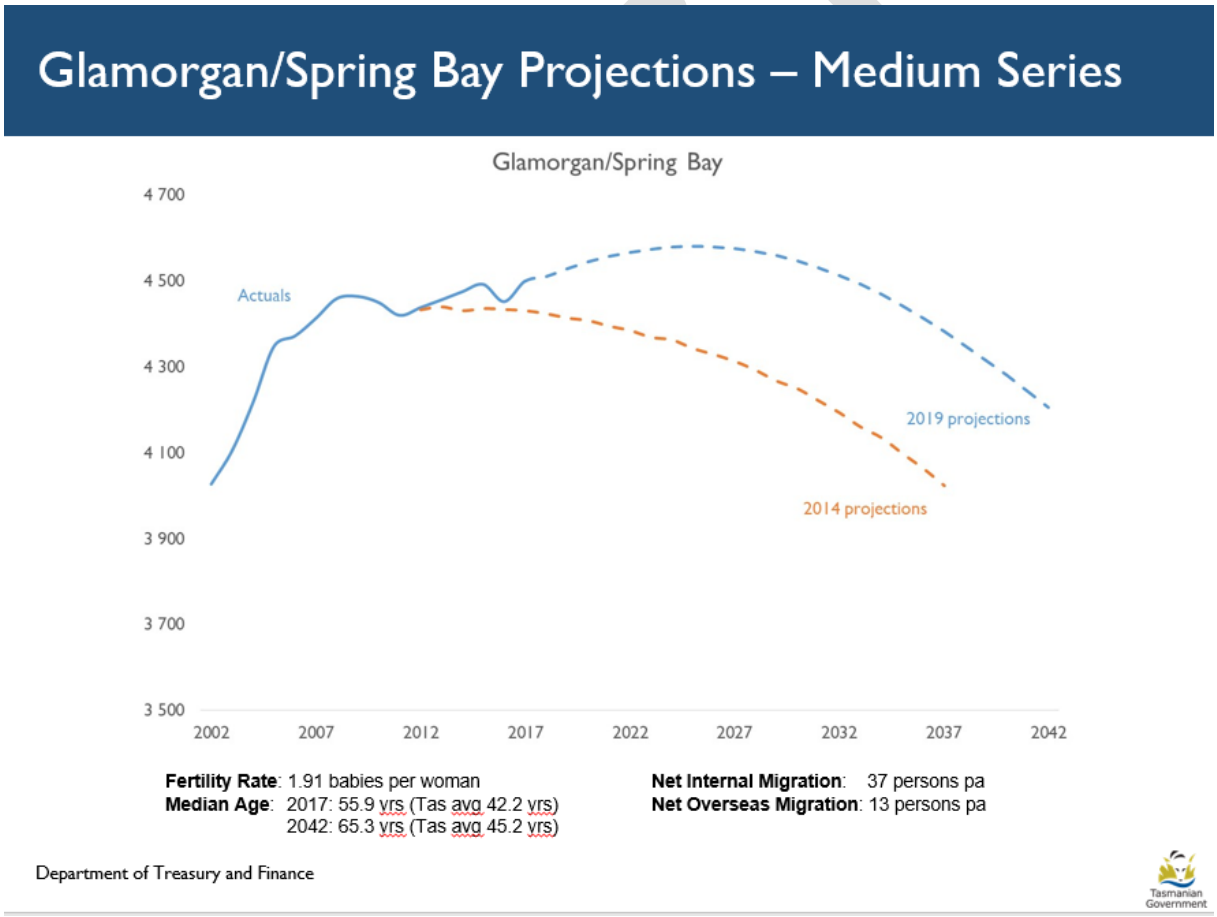


Figure 4.2 – Department of Treasury and Finance – Glamorgan Spring Bay population projections (medium series).

4.3 Demand Impact and Demand Management Plan

The impact of demand drivers that may affect future service delivery and use of assets are shown in Table 4.3.

Demand for new services will be managed through a combination of managing existing assets, upgrading of existing assets and providing new assets to meet demand and demand management. Demand management practices can include non-asset solutions, insuring against risks and managing failures.

Opportunities identified to date for demand management are shown in Table 4.3. Further opportunities will be developed in future revisions of this Asset Management Plan.

Table 4.3: Demand Management Plan

Demand driver	Current position	Projection	Impact on services	Demand Management Plan
Population	4,528 people in 2018.	Refer Figure 4.2	The change is not foreseen to impact services	No impact to services, hence management plan is not required.
Demographic	Median age of 55.9 years (2017)	Increase in median age to approx. 65 years by 2039	The change is not foreseen to impact services	No impact to services, hence management plan is not required.
Existing stormwater drainage issues and climate change	Experiencing more extreme weather patterns and events	Continue to experience increased frequency and intensity of extreme weather events (30% increase in stormwater design flows)	Will require upgrade to stormwater drainage network to increase capacity.	Refer *Draft Urban Stormwater Management Plan*
Future development	Development of previously vacant land gradually occurring	Forecast to continue	Additional demand on local stormwater networks	Refer *Draft Urban Stormwater Management Plan*

4.4 Asset Programs to meet Demand

The new assets required to meet demand may be acquired, donated or constructed. Additional assets are discussed in Section 5.4.

Acquiring new assets will commit Council to ongoing operations, maintenance and renewal costs for the period that the service provided from the assets is required. These future costs are identified and considered in developing forecasts of future operations, maintenance and renewal costs for inclusion in the Long Term Financial Plan (Refer to Section 5).

4.5 Climate Change Adaptation

The impacts of climate change will have a significant impact on the assets we manage and the services they provide. In the context of the Asset Management Planning process climate change can be considered as both a future demand and a risk.

How climate change impacts on assets varies depending on the location and the type of services provided, as does the way in which we respond and manage those impacts.[4]

As a minimum we consider how to manage our existing assets given climate change impacts for our region.

Risk and opportunities identified to date are shown in Table 4.5.1

[4] IPWEA Practice Note 12.1 Climate Change Impacts on the Useful Life of Infrastructure

Table 4.5.1 Managing the Impact of Climate Change on Assets and Services

Climate Change Description	Projected Change	Potential Impact on Assets and Services	Management
Increased frequency and intensity of extreme rainfall events, in conjunction with sea level rise	Upgrade to stormwater drainage infrastructure	Increased drainage renewal, acquisition and maintenance costs	Refer *Draft Urban Stormwater Management Plan*

Additionally, the way in which we construct new assets should recognise that there is opportunity to build in resilience to climate change impacts. Building resilience can have the following benefits:

- Assets will withstand the impacts of climate change;
- Services can be sustained; and
- Assets that can endure may potentially lower the lifecycle cost and reduce their carbon footprint

Table 4.5.2 summarises some asset climate change resilience opportunities.

Table 4.5.2 Building Asset Resilience to Climate Change

New Asset Description	Climate Change impact on these assets?	Build Resilience in New Works
Stormwater drainage infrastructure	Greater capacity required	Only renew with, or acquire, assets that have been designed to allow for climate change flows in accordance with the *Draft Urban Stormwater Management Plan*

The impact of climate change on assets is a new and complex discussion and further opportunities will be developed in future revisions of this Asset Management Plan.

5.0 LIFECYCLE MANAGEMENT PLAN

The lifecycle management plan details how the Council plans to manage and operate the assets at the agreed levels of service (Refer to Section 3) while managing life cycle costs.

5.1 Background Data

5.1.1 Physical parameters

The assets covered by this Asset Management Plan are shown in Table 5.1.1.

Table 5.1.1: Assets covered by this Plan

Asset Category	Number of Assets/Length	Replacement Value
Stormwater pipes (including culverts where recorded)	32.11 km	$5,619,260
Stormwater pits (manholes, side entry pits, grated pits, gross pollutant traps etc.)	774	$1,625,400
Stormwater detention and infiltration basins	2	$30,000
Swanwick Sewerage System	1	Refer 2.1
Prosser Plains Raw Water Scheme pipeline (including valves and structures along alignment)	8.2 km	$4,955,357
Prosser Plains Raw Water Scheme pump station	1	$1,513,088
Prosser Plains Raw Water Scheme electrical and control assets	16	$451,042
TOTAL		**$14,194,147**

All figure values are shown in current day dollars.

The age profile of the assets included in this Asset Management Plan would normally be shown in Figure 5.1.1. below, however due to construction dates of hydraulic infrastructure assets being largely unknown, this graph is not shown. This is noted for improvement in Section 8.0. This graph would normally outline past peaks of investment that may require peaks in future renewals.

Figure 5.1.1: Asset Age Profile

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5.1.2 Asset capacity and performance

Assets are generally provided to meet design standards where these are available. However, there is insufficient resources to address all known deficiencies. Locations where deficiencies in service performance are known are detailed in Table 5.1.2.

Table 5.1.2: Known Service Performance Deficiencies

Location	Service Deficiency
Holkham Court, Orford	Deficient stormwater overland flow path, road culvert capacity and localised flooding.
East & West Shelly Beach Road, Orford	Encroachment on overland flow paths, lack of capacity in roadside stormwater system and localised flooding.
South Orford	Lack of stormwater network capacity and localised flooding.
North Orford	Lack of stormwater network capacity and localised flooding, including from Tasman Highway roadside drains (Department of State Growth).
Glamorgan Spring Bay Boat Club catchment, Triabunna	Encroachment on overland flow paths, lack of capacity in roadside stormwater system and localised flooding.
Louisville Road and Bernacchi Drive, Triabunna	Constrained overland flow path (high likelihood of future development exacerbating existing problem) and localised flooding.
Freycinet Drive, Coles Bay	Insufficient roadside drain capacity.
Buckland public toilet aerated wastewater treatment system	Overflow occurs during significant rain events, requires $30,000 upgrade.

The above service deficiencies were identified from discussion with Council's contract hydraulic engineer who has recently authored the *Draft Urban Stormwater Management Plan.* There are further minor service deficiencies known and reference is made to the *Draft Urban Stormwater Management Plan.* Once stormwater network modelling is completed, verification and better understanding of other currently unknown service deficiencies will be achieved.

5.1.3 Asset condition

Condition is not currently monitored in any formal way and hence graded condition ratings of assets are not currently included within the asset register, with the exception of the Prosser Plains Raw Water Scheme assets which have an assumed condition rating of 1 considering their age. Condition inspections and condition rating of assets have been noted in the improvement plan in Section 8.

In the future, condition is to be measured using a 1 – 5 grading system[5] as detailed in Table 5.1.3. It is important that a consistent approach is used in reporting asset performance enabling effective decision support. A finer grading system may be used at a more specific level, however, for reporting in the Asset Management Plan results are translated to a 1 – 5 grading scale for ease of communication.

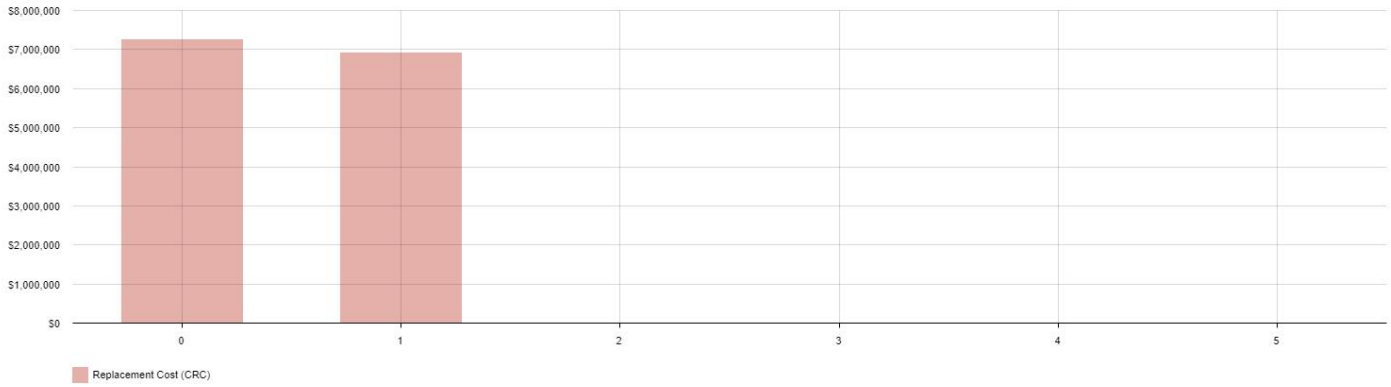
[5] IPWEA, 2015, IIMM, Sec 2.5.4, p 2|80.

Table 5.1.3: Condition Grading System

Condition Grading	Description of Condition
1	**Very Good**: free of defects, only planned and/or routine maintenance required
2	**Good**: minor defects, increasing maintenance required plus planned maintenance
3	**Fair**: defects requiring regular and/or significant maintenance to reinstate service
4	**Poor**: significant defects, higher order cost intervention likely
5	**Very Poor**: physically unsound and/or beyond rehabilitation, immediate action required

The condition profile of our assets is shown in Figure 5.1.3.

Figure 5.1.3: Asset Condition Profile



All figure values are shown in current day dollars.

All stormwater assets currently have no condition rating, hence have been assigned unknown conditions (i.e. 0 – refer Figure 5.1.3), these assets have a combined asset replacement value estimated at $7.24 M. For accounting purposes, these stormwater drainage assets have currently been depreciated by approximately half of their replacement value (noting a 100 year average design life, meaning their estimated remaining useful life is approximately 50 years). The assets in Condition 1 ($6.9 M) of Figure 5.1.3 are the Prosser Plains Raw Water Scheme assets only. All asset values above are from end of financial year 2019-20 financial data.

There are known assets that have not yet been valued or included in this management plan. Two examples of this are the Swanwick Sewerage System (to be transferred to TasWater - refer note in 2.1), and also stormwater drainage assets that are currently missing from our asset register and Geographical Information System. A project is currently underway to identify these missing stormwater drainage assets, which there are a considerable number of, and include these in the asset register and Geographical Information System. Hence, this plan is to be updated on completion of this project.

5.2 Operations and Maintenance Plan

Operations include regular activities to provide services. Examples of typical operational activities include cleaning out stormwater pipes/culverts/drains, asset inspection, and staff costs.

Maintenance includes all actions necessary for retaining an asset as near as practicable to an appropriate service condition including regular ongoing day-to-day work necessary to keep assets operating. Examples of typical maintenance activities include patch repairs, minor timber bridge deck works, patch repairs to stormwater pipes etc.

The trend in operations and maintenance budgets are shown in Table 5.2.1.

Table 5.2.1: Operations and Maintenance Budget Trends

Year	Operations and Maintenance Budget $
2019-20	$187,261
2020-21	$445,500
2021-22	$278,327

Maintenance budget levels are considered to be adequate to meet projected service levels, which may be less than or equal to current service levels. Where maintenance budget allocations are such that they will result in a lesser level of service, the service consequences and service risks have been identified and are highlighted in this Asset Management Plan and service risks considered in the Infrastructure Risk Management Plan.

Assessment and priority of reactive maintenance is undertaken by staff using experience and judgement.

Asset hierarchy

An asset hierarchy provides a framework for structuring data in an information system to assist in collection of data, reporting information and making decisions. The hierarchy includes the asset class and component used for asset planning and financial reporting and service level hierarchy used for service planning and delivery.

The service hierarchy is shown in Table 5.2.2.

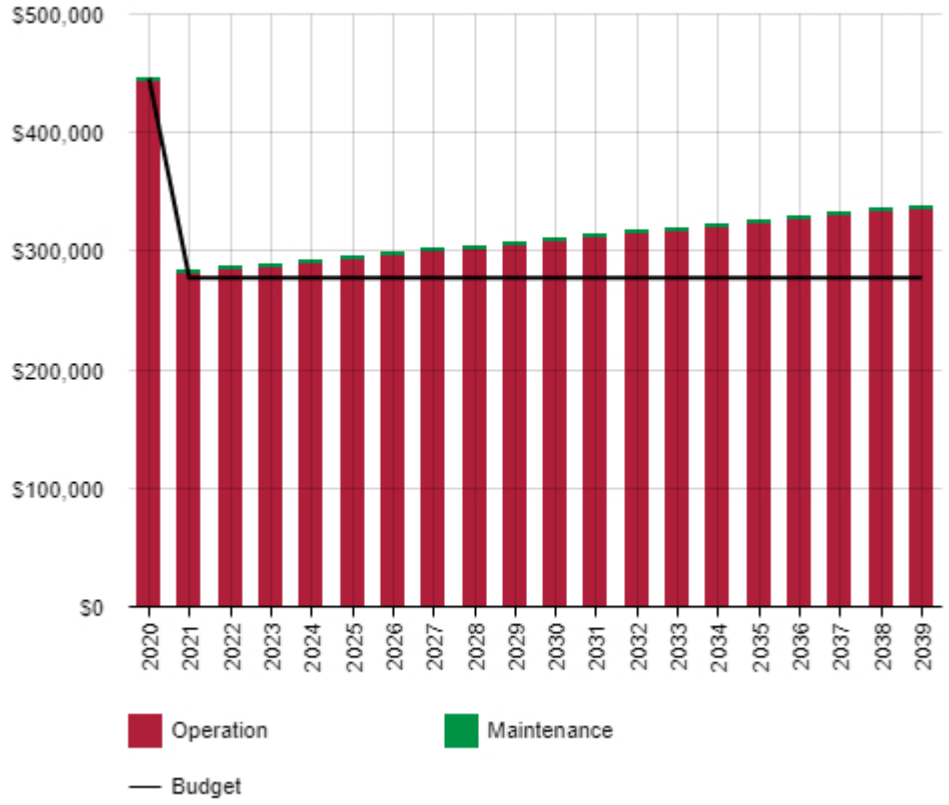
Table 5.2.2: Asset Service Hierarchy

Service Hierarchy	Service Level Objective
Level 1 (Critical, high priority) - Main stormwater drainage assets	Maintain main trunk and other high importance drainage system assets (inclusive of pits, pipes, open channels and detention basins) so that the risk of flooding to dwellings or roads is mitigated. Regular inspections undertaken to ensure serviceable.
Level 2 (High importance) - Collector type stormwater drainage assets	Maintain collector drainage systems and their elements (inclusive of pits, pipes, open channels) so that the risk of flooding of any adjacent property or road is mitigated. Only known problematic areas inspected prior to forecast significant rain events.
Level 3 (Non-critical, low priority) - Minor collector stormwater drainage assets (if these fail, consequences are low)	Not generally inspected. Normally only a reactive type service provided when issues present.

Summary of forecast operations and maintenance costs

Forecast operations and maintenance costs are expected to vary in relation to the total value of the asset stock. If additional assets are acquired, the future operations and maintenance costs are forecast to increase. If assets are disposed of the forecast operation and maintenance costs are expected to decrease. Figure 5.2 shows the forecast operations and maintenance costs relative to the proposed operations and maintenance Planned Budget.

Figure 5.2: Operations and Maintenance Summary



All figure values are shown in current day dollars.

As can be seen in Figure 5.2, operation cost forecasts increase over the planning period. This is due to additional operation costs associated with acquired assets. When acquiring assets over the planning period, it is expected for operation and maintenance costs to also increase. The spike in 2020 is representative of part of the $500,000 that Council budgeted this year for improving the management and performance of the stormwater drainage network (this includes costs associated with development of the *Draft Urban Stormwater Management Plan* and planning of capital works to improve the stormwater network). Figure 5.2 highlights that Council does not currently have sufficient planned budget to undertake all of the forecast operation and maintenance beyond 2021. The difference between the forecast costs and the planned budget is specifically related to the additional operation costs associated with acquired assets.

The minor maintenance costs shown in Figure 5.2 relate to the Prosser Plains Raw Water Scheme only, as 'maintenance' in the context of this plan, does not generally occur to stormwater drainage assets. Hence, all operation and maintenance type costs for stormwater drainage assets have been included in the 'operations' forecasts.

Deferred maintenance (i.e. works that are identified for maintenance activities but unable to be completed due to available resources) should be included in Section 6.0 of this plan where it poses a 'high' or 'very high' risk to Council – refer Table 6.2.

5.3 Renewal Plan

Renewal is major capital work which does not significantly alter the original service provided by the asset, but restores, rehabilitates, replaces or renews an existing asset to its original service potential. Work over and above restoring an asset to original service potential is considered to be an acquisition resulting in additional future operations and maintenance costs.

Assets requiring renewal are identified from one of two approaches in the Lifecycle Model.

- The first method uses Asset Register data to project the renewal costs (current replacement cost) and renewal timing (acquisition year plus updated useful life to determine the renewal year), or
- The second method uses an alternative approach to estimate the timing and cost of forecast renewal work (i.e. condition modelling system, staff judgement, average network renewals, or other).

The typical useful lives of assets used to develop projected asset renewal forecasts are shown in Table 5.3. Asset useful lives were last reviewed in December 2020.

Table 5.3: Useful Lives of Assets

Asset (Sub)Category	Useful life
Stormwater pipes	100 years
Stormwater pits (manholes, side entry pits, grated pits etc.)	100 years
Stormwater detention/infiltration basins	100 years
Stormwater Gross Pollutant Traps	75 years
Stormwater culverts	75 years
Open drains/overland flow paths	100 years
Swanwick Sewerage System	100 years
Prosser Plains Raw Water Scheme pipeline	100 years
Prosser Plains Raw Water Scheme pump station	30 years
Prosser Plains Raw Water Scheme components	25 years

The estimates for renewals in this Asset Management Plan were based on a combination of both the asset register and alternate methods.

5.3.1 Renewal ranking criteria

Asset renewal is typically undertaken to either:

- Ensure the reliability of the existing infrastructure to deliver the service it was constructed to facilitate (e.g. replacing a bridge that has a 5 t load limit), or
- To ensure the infrastructure is of sufficient quality to meet the service requirements (e.g. condition of a playground).[6]

It is possible to prioritise renewals by identifying assets or asset groups that:

- Have a high consequence of failure,
- Have high use and subsequent impact on users would be significant,
- Have higher than expected operational or maintenance costs, and

[6] IPWEA, 2015, IIMM, Sec 3.4.4, p 3|91.

- Have potential to reduce life cycle costs by replacement with a modern equivalent asset that would provide the equivalent service.[7]

The ranking criteria used to determine priority of identified renewal proposals is detailed in Table 5.3.1.

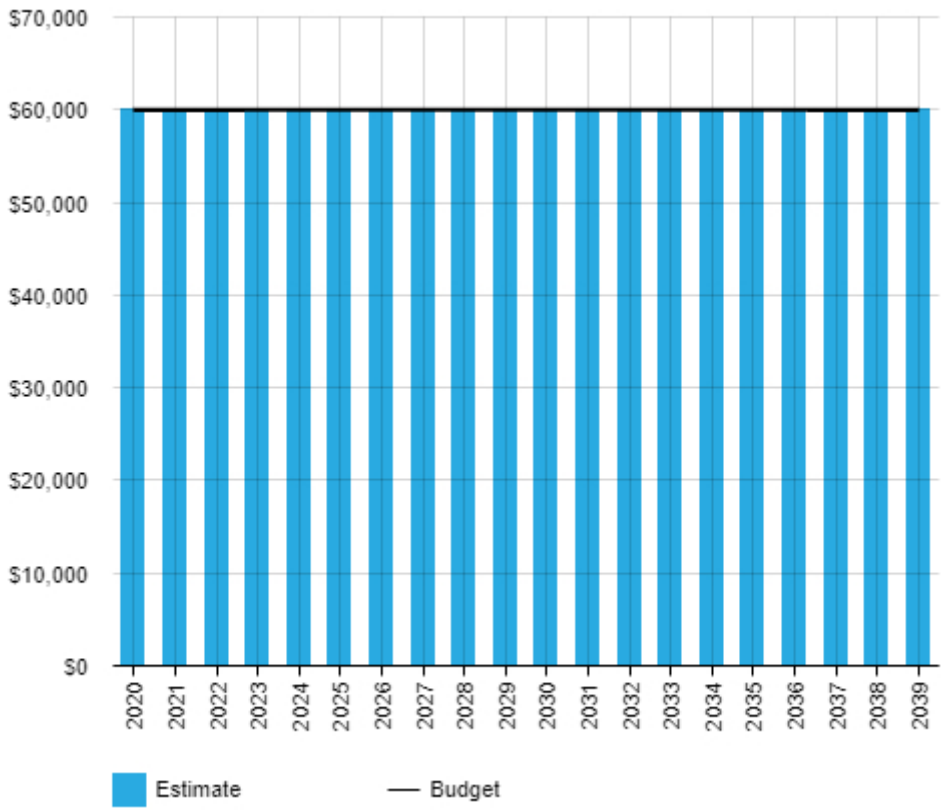
Table 5.3.1: Renewal Priority Ranking Criteria

Criteria	Weighting
Capacity	60 %
Risk/failure consequence	25 %
Condition	10 %
High operation & maintenance costs that could be reduced significantly by renewal	5 %
Total	**100%**

5.4 Summary of future renewal costs

The forecast costs associated with renewals are shown relative to the proposed renewal budget in Figure 5.4.1. A detailed summary of the forecast renewal costs is shown in Appendix D.

Figure 5.4.1: Forecast Renewal Costs



[7] Based on IPWEA, 2015, IIMM, Sec 3.4.5, p 3|97.

All figure values are shown in current day dollars.

Figure 5.4.1 shows that the forecast renewal costs currently match the proposed renewal budget over the planning period.

There are currently no deferred renewals forecasted. Deferred renewal (assets identified for renewal and not scheduled in capital works programs) should be included in Section 6.0 of this plan where they pose a 'high' or 'very high' risk to Council – refer Table 6.2.

5.5 Acquisition Plan

Acquisition are new assets that did not previously exist or works which will upgrade or improve an existing asset beyond its existing capacity. They may result from growth, demand, social or environmental needs. Assets may also be donated to Council (e.g. stormwater pipes and culverts associated with a new subdivision).

5.5.1 Selection criteria

Proposed acquisition of new assets, and upgrade of existing assets, are identified from various sources such as community requests, proposals identified by strategic plans or partnerships with others. Potential upgrade and new works should be reviewed to verify that they are essential to Council's needs. Proposed upgrade and new work analysis should also include the development of a preliminary renewal estimate to ensure that the services are sustainable over the longer term. Verified proposals can then be ranked by priority and available funds and scheduled in future works programmes. The priority ranking criteria is detailed in Table 5.5.1.

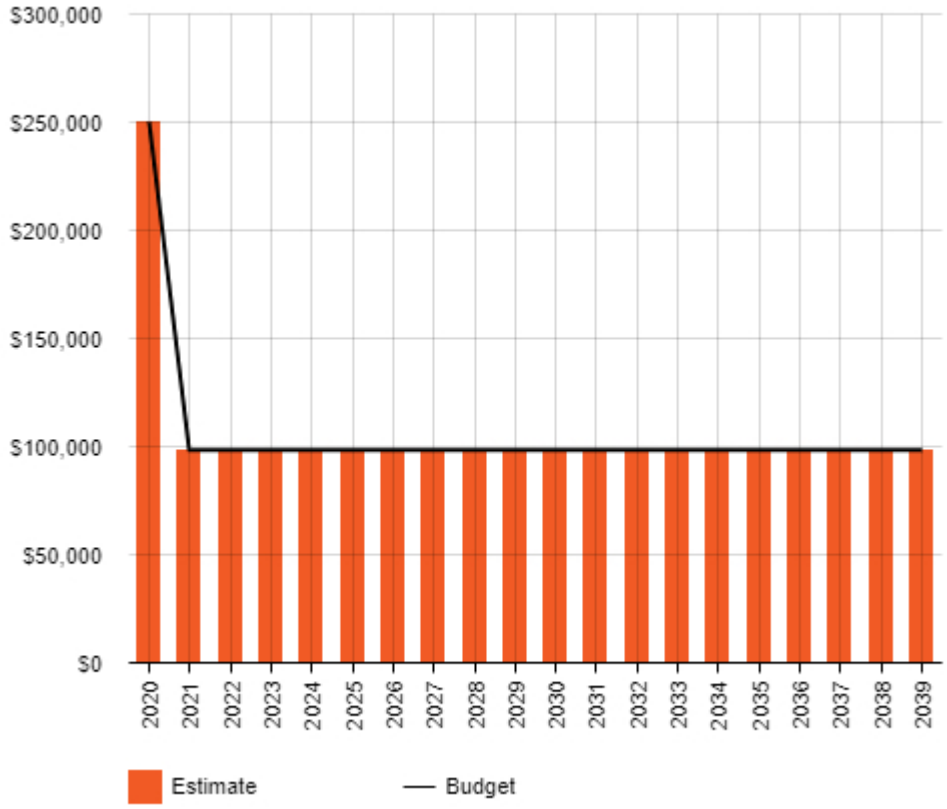
Table 5.5.1: Acquired Assets Priority Ranking Criteria

Criteria	Weighting
Is the acquisition in line with Council's core purpose?	30 %
Necessity/demand	25 %
Are lifecycle costs known and funds available in planned budget?	20 %
Risk consequence of not providing	25 %
Total	**100%**

Summary of future asset acquisition costs

Forecast asset acquisition costs are summarised in Figure 5.5.1 and shown relative to the proposed acquisition budget. The forecast capital works (acquisitions) program is shown in Appendix A.

Figure 5.5.1: Acquisition (Constructed) Summary

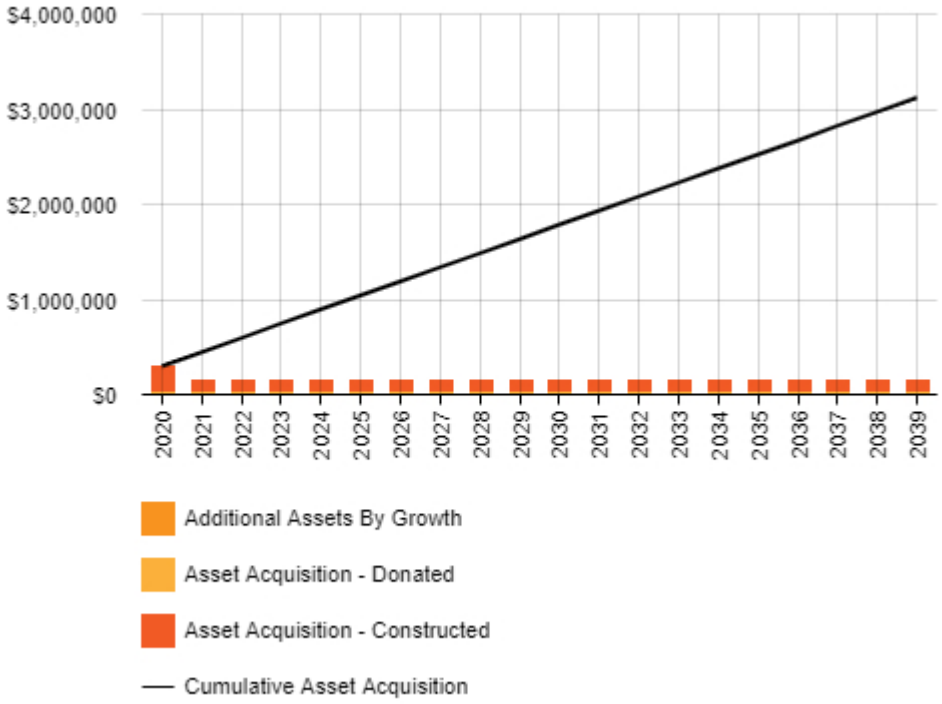


All figure values are shown in current day dollars.

As can be seen in Figure 5.5.1, acquisition (constructed) cost forecasts are estimated to remain constant over the planning period. The spike in 2020 is representative of part of the $500,000 that Council budgeted this year for capital works to improve the performance of the stormwater drainage network. Figure 5.5.1 highlights that Council currently has sufficient planned budget to undertake all of the forecast acquisitions over the planning period.

When Council commits to new assets, they must be prepared to fund future operations, maintenance and renewal costs. They must also account for future depreciation when reviewing long term sustainability. When reviewing the long term impacts of asset acquisition, it is useful to consider the cumulative value of the acquired assets being taken on by Council. The cumulative value of all acquisition work, including assets that are constructed and contributed are shown in Figure 5.5.2.

Figure 5.5.2: Acquisition Summary



All figure values are shown in current dollars.

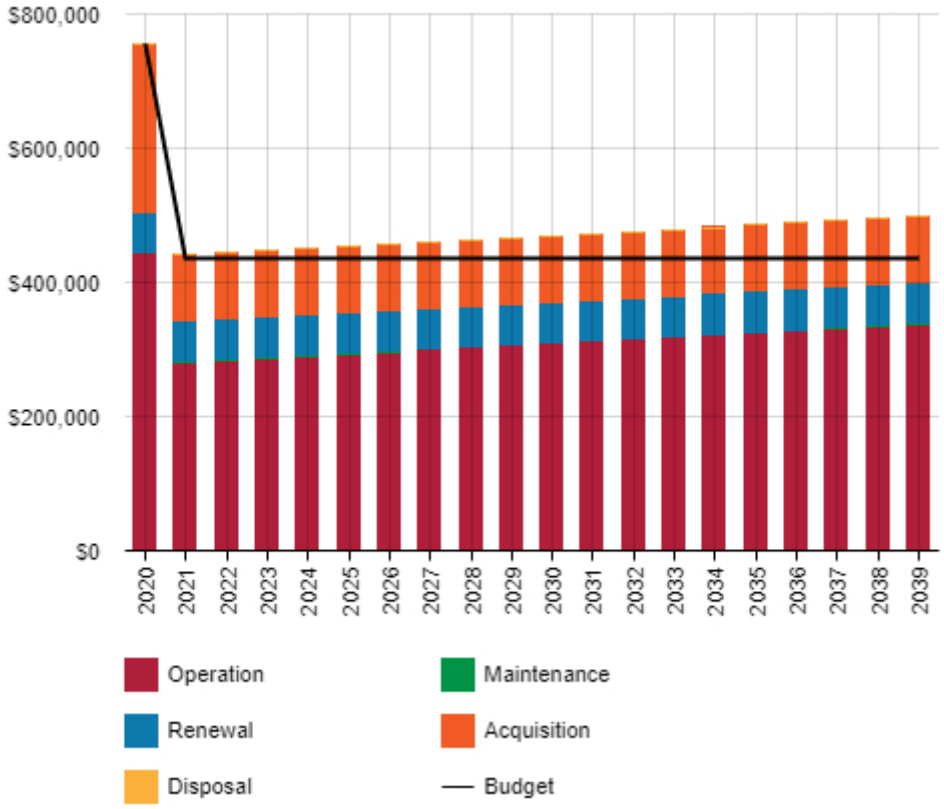
Expenditure on new assets and services in the capital works program will be accommodated in the Long Term Financial Plan, but only to the extent that there is available funding.

Summary of asset forecast costs

The financial projections from this asset plan are shown in Figure 5.5.3. These projections include forecast costs for acquisition, operation, maintenance, renewal, and disposal. These forecast costs are shown relative to the proposed budget.

The bars in the graphs represent the forecast costs needed to minimise the life cycle costs associated with the service provision. The proposed budget line indicates the estimate of available funding. The gap between the forecast work and the proposed budget is the basis of the discussion on achieving balance between costs, levels of service and risk to achieve the best value outcome.

Figure 5.5.3: Lifecycle Summary



All figure values are shown in current day dollars.

As can be seen in Figure 5.5.3, the forecasted lifecycle costs exceed the planned budget (black line) as we move through the planning period. The forecast lifecycle cost for operations (increasing forecast costs due to acquisitions) is the main reason for the shortfall between the planned budget and the forecast lifecycle costs. All other lifecycle forecast components are in balance with the planned budget, which is good.

5.6 Disposal Plan

Disposal includes any activity associated with the disposal of a decommissioned asset including sale, demolition or relocation. Assets identified for possible decommissioning and disposal are shown in Table 5.6. A summary of the disposal costs and estimated reductions in annual operations and maintenance of disposing of the assets are also outlined in Table 5.6. Any costs or revenue gained from asset disposals is included in the Long Term Financial Plan.

NOTE: The assets identified for potential disposal in Table 5.6 are preliminary only and will require further investigation, reporting, community consultation and ultimately Council approval before any disposals are actually undertaken. The further investigation required should include looking at renewal costs, operating and maintenance costs, age, condition, land ownership, leases and licenses, current use and community concerns, with this information then reported back to Council.

Table 5.6: Potential Assets Identified for Disposal

Asset	Reason for Disposal	Timing	Disposal Costs	Operations & Maintenance Annual Savings
Swanwick Sewerage System	Asset transfer to TasWater (sewerage authority)	2021	Currently unknown	Currently unknown, but all operating and maintenance costs, including power usage.
Prosser Plains Raw Water Scheme	Does ownership of this asset align with Council's core purpose?	2022	Currently unknown	Loan and interest repayments on construction loan, power usage costs, and an estimated $53,500 annual operating and maintenance cost.
Stormwater drainage assets that are under capacity and will be replaced prior to the end of their useful life (as part of any works recommended from the *Draft Urban Stormwater Management Plan* – refer works plan shown in Appendix A).	To improve stormwater drainage network	2021-2031	Currently unknown	N/A

6.0 RISK MANAGEMENT PLANNING

The purpose of infrastructure risk management is to document the findings and recommendations resulting from the periodic identification, assessment and treatment of risks associated with providing services from infrastructure, using the fundamentals of International Standard ISO 31000:2018 Risk management – Principles and guidelines.

Risk Management is defined in ISO 31000:2018 as: 'coordinated activities to direct and control with regard to risk'[8].

An assessment of risks[9] associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences. The risk assessment process identifies credible risks, the likelihood of the risk event occurring, and the consequences should the event occur. The risk assessment should also include the development of a risk rating, evaluation of the risks and development of a risk treatment plan for those risks that are deemed to be non-acceptable.

6.1 Critical Assets

Critical assets are defined as those which have a high consequence of failure causing significant loss or reduction of service. Critical assets have been identified and along with their typical failure mode, and the impact on service delivery, are summarised in Table 6.1. Failure modes may include physical failure, collapse or essential service interruption.

Table 6.1 Critical Assets

Critical Asset(s)	Failure Mode	Impact
- All stormwater drainage assets (notably stormwater detention basins, culverts, pipelines, open drains, overland flow paths etc.)	Flooding/blockage	Damage to buildings, roads and other infrastructure.
Prosser Plains Raw Water Scheme	Component failure	Loss of income and exposure to unbudgeted financial costs
Swanwick sewerage system	Component failure or overflow	Environmental nuisance

By identifying critical assets and failure modes an organisation can ensure that investigative activities, condition inspection programs, maintenance and capital expenditure plans are targeted at critical assets.

6.2 Risk Assessment

The risk management process used is shown in Figure 6.2 below.

It is an analysis and problem-solving technique designed to provide a logical process for the selection of treatment plans and management actions to protect the community against unacceptable risks.

The process is based on the fundamentals of International Standard ISO 31000:2018.

[8] ISO 31000:2009, p 2

[9] Refer GSBC Risk Management Policy and GSBC Risk Management Strategy (June 2020)

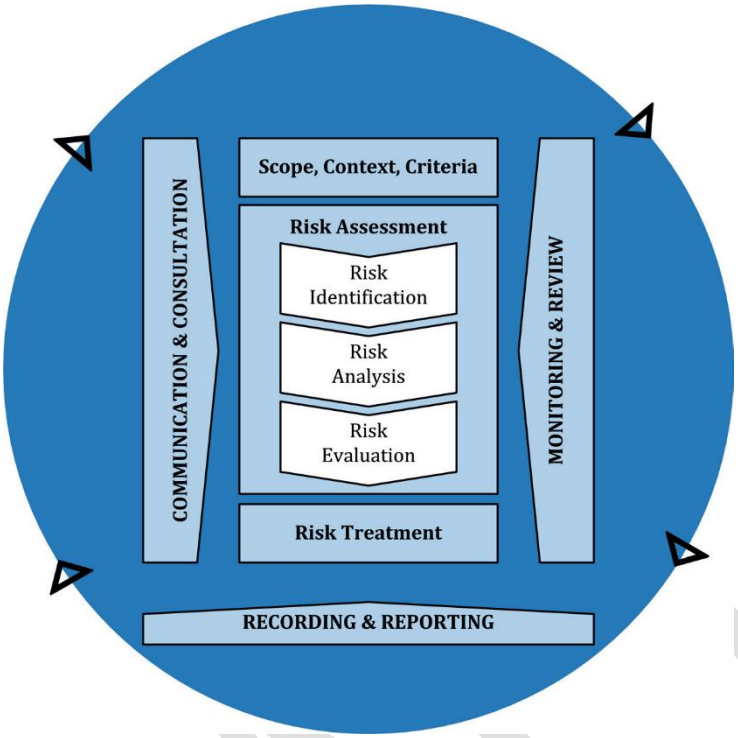


Fig 6.2 Risk Management Process – Abridged
Source: ISO 31000:2018, Figure 1, p9

The risk assessment process identifies credible risks, the likelihood of the risk event occurring, the consequences should the event occur, development of a risk rating, evaluation of the risk and development of a risk treatment plan for non-acceptable risks.

An assessment of risks[10] associated with service delivery will identify risks that will result in loss or reduction in service, personal injury, environmental impacts, a 'financial shock', reputational impacts, or other consequences.

Critical risks are those assessed with 'Very High' (requiring immediate corrective action) and 'High' (requiring corrective action) risk ratings identified in the Infrastructure Risk Management Plan. The residual risk and treatment costs of implementing the selected treatment plan is shown in Table 6.2. It is essential that these critical risks and costs are reported to management and the Councilors.

[10] Refer GSBC Risk Management Policy and GSBC Risk Management Strategy (June 2020)

Table 6.2: Risks and Treatment Plans

Service or Asset at Risk	What can Happen	Risk Rating (VH, H)	Risk Treatment Plan	Residual Risk *	Treatment Costs
Prosser Plains Raw Water Scheme	Loss of customer or reduction in water use income.	H	Divest the Prosser Plains Raw Water Scheme	L	Currently unknown.
Hydraulic Infrastructure	Loss of knowledge	H	Develop a succession plan and improve record keeping	L	$75,000
Hydraulic Infrastructure	Underfunding	H	Ensure prioritised renewal and acquisition works are budgeted	L	$5,000
Swanwick Sewerage System	Upgrade required	H	Asset transfer to TasWater	L	$10,000
Hydraulic Infrastructure	Flooding to dwellings/network requires increased capacity	H	Upgrade stormwater network adjacent to affected properties	L	$975,000 over the next 5-10 years

Note * The residual risk is the risk remaining after the selected risk treatment plan is implemented.

6.3 Infrastructure Resilience Approach

The resilience of our critical infrastructure is vital to the ongoing provision of services to customers. To adapt to changing conditions we need to understand our capacity to 'withstand a given level of stress or demand', and to respond to possible disruptions to ensure continuity of service.

Resilience recovery planning, financial capacity, climate change risk assessment and crisis leadership.

We do not currently measure our resilience in service delivery. This will be included in future iterations of the Asset Management Plan.

6.4 Service and Risk Trade-Offs

The decisions made in adopting this Asset Management Plan are based on the objective to achieve the optimum benefits from the available resources.

6.4.1 What we cannot do

The planned budget does not allow all capital works (acquisitions and renewals) recommended in the *Draft Urban Stormwater Management Plan* to be undertaken immediately, however, Council will endeavour to complete these works on a priority basis over the next 5-10 years.

6.4.2 Service trade-off

If there is forecast work (operations, maintenance, renewal, acquisition or disposal) that cannot be undertaken due to available resources, then this will result in service consequences for users. The service consequences will generally be related to a reduction in level of service provided.

6.4.3 Risk trade-off

The operations and maintenance activities and capital projects that cannot be undertaken may sustain or create risk consequences. These risk consequences include:

- A reduction to the level of service provided
- Reputational consequences

These actions and expenditures are considered and included in the forecast costs, and where developed, the Risk Management Plan.

7.0 FINANCIAL SUMMARY

This section contains the financial requirements resulting from the information presented in the previous sections of this Asset Management Plan. The financial projections will be improved as the discussion on desired levels of service and asset performance matures.

7.1 Financial Sustainability and Projections

7.1.1 Sustainability of service delivery

There are two key indicators of sustainable service delivery that are considered in the Asset Management Plan for this service area. The two indicators are the:

- Asset renewal funding ratio (proposed renewal budget for the next 10 years / forecast renewal costs for next 10 years), and
- Medium term forecast costs/proposed budget (over 10 years of the planning period).

Asset Renewal Funding Ratio

Asset Renewal Funding Ratio[11] **100 %**

The Asset Renewal Funding Ratio is an important indicator and illustrates that over the next 10 years we expect to have **100 %** of the funds required for the optimal renewal of assets.

The forecast renewal work along with the proposed renewal budget, and the cumulative shortfall, is illustrated in Appendix D.

Medium term – 10 year financial planning period

This Asset Management Plan identifies the forecast operations, maintenance and renewal costs required to provide an agreed level of service to the community over a 10 year period. This provides input into 10 year financial and funding plans aimed at providing the required services in a sustainable manner.

This forecast work can be compared to the proposed budget over the first 10 years of the planning period to identify any funding shortfall.

The forecast operations, maintenance and renewal costs over the 10 year planning period is **$370,960** on average per year.

The proposed (budget) operations, maintenance and renewal funding is **$354,310** on average per year giving a 10 year funding shortfall of **$16,650** per year. This indicates that **95.51 %** of the forecast costs needed to provide the services documented in this Asset Management Plan are accommodated in the proposed budget. Note, these calculations exclude acquired assets.

Providing sustainable services from infrastructure requires the management of service levels, risks, forecast outlays and financing to achieve a financial indicator of approximately 1.0 for the first years of the Asset Management Plan and ideally over the 10 year life of the Long Term Financial Plan.

7.1.2 Forecast Costs (outlays) for the Long Term Financial Plan

Table 7.1.3 shows the forecast costs (outlays) required for consideration in the 10 year Long Term Financial Plan.

Providing services in a financially sustainable manner requires a balance between the forecast outlays required to deliver the agreed service levels with the planned budget allocations in the Long Term Financial Plan.

A gap between the forecast outlays and the amounts allocated in the financial plan indicates further work is required on reviewing service levels in the Asset Management Plan (including possibly revising the Long Term Financial Plan).

[11] AIFMM, 2015, Version 1.0, Financial Sustainability Indicator 3, Sec 2.6, p 9.

We will manage the 'gap' by developing this Asset Management Plan to provide guidance on future service levels and resources required to provide these services in consultation with the community.

Forecast costs are shown in 2020 dollar values.

Table 7.1.2: Forecast Costs (Outlays) for the Long Term Financial Plan

Year	Acquisition	Operation	Maintenance	Renewal	Disposal
2020	$250,000	$443,600	$2,000	$60,000	$0
2021	$98,436	$281,680	$2,030	$60,000	$0
2022	$98,436	$284,738	$2,045	$60,000	$0
2023	$98,436	$287,796	$2,060	$60,000	$0
2024	$98,436	$290,853	$2,075	$60,000	$0
2025	$98,436	$293,911	$2,089	$60,000	$0
2026	$98,436	$296,969	$2,104	$60,000	$0
2027	$98,436	$300,027	$2,119	$60,000	$0
2028	$98,436	$303,084	$2,134	$60,000	$0
2029	$98,436	$306,142	$2,149	$60,000	$0
2030	$98,436	$309,200	$2,164	$60,000	$0
2031	$98,436	$312,258	$2,178	$60,000	$0
2032	$98,436	$315,316	$2,193	$60,000	$0
2033	$98,436	$318,373	$2,208	$60,000	$0
2034	$98,436	$321,431	$2,223	$60,000	$0
2035	$98,436	$324,489	$2,238	$60,000	$0
2036	$98,436	$327,547	$2,253	$60,000	$0
2037	$98,436	$330,605	$2,267	$60,000	$0
2038	$98,436	$333,662	$2,282	$60,000	$0
2039	$98,436	$336,720	$2,297	$60,000	$0

7.2 Funding Strategy

The proposed funding for assets is outlined in Council's budget and Long Term Financial Plan.

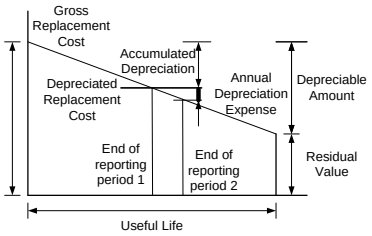
The financial strategy of Council determines how funding will be provided, whereas the Asset Management Plan communicates how and when this will be spent, along with the service and risk consequences of various service alternatives.

7.3 Valuation Forecasts

7.3.1 Asset valuations

The best available estimate of the value of hydraulic infrastructure assets included in this Asset Management Plan is shown below:

Replacement Cost (Current/Gross)	$14,194,147
Depreciable Amount	$14,194,147
Depreciated Replacement Cost[12]	$3,547,927
Annual Depreciation	$72,698



7.3.2 Valuation forecast

Asset values are forecast to increase as additional assets are added to the asset stock from construction and acquisition by Council, and from assets constructed by developers and others, that are donated to Council.

Additional assets will generally add to the operations and maintenance needs in the longer term. Additional assets will also require additional costs due to future renewals. Any additional assets will also add to future depreciation forecasts.

Forecast acquisitions noted in Appendix A have been identified to address known deficiencies in the stormwater drainage network. Many stormwater drainage assets are currently missing from Council's Geographical Information System and asset register. A project is currently being completed by Council's surveyor/geographical information system officer to collect this missing data and update the asset register. There are a significant number of these assets which have already been identified and it is expected there will be many more. On completion of forecast acquisitions and the data collection project, there will be an increase in stormwater drainage asset values and this plan should be updated to reflect this.

7.4 Key Assumptions Made in Financial Forecasts

In compiling this Asset Management Plan, it was necessary to make some assumptions. This section details the key assumptions made in the development of this Asset Management Plan and should provide readers with an understanding of the level of confidence in the data behind the financial forecasts.

Key assumptions made in this Asset Management Plan:

- Expenditure projections are low confidence budget type figures with a range of ± 40%
- Financial data used in the development of this plan was from the end of the 2019-20 financial year.
- It is assumed that no major acquisitions outside of those referenced in this plan are to be undertaken during the planning period without detailed lifecycle costing knowledge and allocation in planned budget to meet these costs.
- That the Swanwick Sewerage System is transferred to TasWater in 2021 without any significant cost to Council, hence no replacement value has currently been included in this plan.
- Several gross assumptions were required in the derivation of planned budget and lifecycle forecast figures. This is due to the quality of financial information currently available.
- Professional judgement has been applied in the absence of good quality data, however where applied, it has been noted for improvement in Section 8.0.
- All figures are presented in current day dollars.

[12] Also reported as Written Down Value, Carrying or Net Book Value.

7.5 Forecast Reliability and Confidence

The forecast costs, proposed budgets, and valuation projections in this Asset Management Plan are based on the best available data. For effective asset and financial management, it is critical that the information is current and accurate. Data confidence is classified on an A - E level scale[13] in accordance with Table 7.5.1.

Table 7.5.1: Data Confidence Grading System

Confidence Grade	Description
A. Very High	Data based on sound records, procedures, investigations and analysis, documented properly and agreed as the best method of assessment. Dataset is complete and estimated to be accurate ± 2%
B. High	Data based on sound records, procedures, investigations and analysis, documented properly but has minor shortcomings, for example some of the data is old, some documentation is missing and/or reliance is placed on unconfirmed reports or some extrapolation. Dataset is complete and estimated to be accurate ± 10%
C. Medium	Data based on sound records, procedures, investigations and analysis which is incomplete or unsupported, or extrapolated from a limited sample for which grade A or B data are available. Dataset is substantially complete but up to 50% is extrapolated data and accuracy estimated ± 25%
D. Low	Data is based on unconfirmed verbal reports and/or cursory inspections and analysis. Dataset may not be fully complete, and most data is estimated or extrapolated. Accuracy ± 40%
E. Very Low	None or very little data held.

The estimated confidence level for and reliability of data used in this Asset Management Plan is shown in Table 7.5.2.

Table 7.5.2: Data Confidence Assessment for Data used in Asset Management Plan

Data	Confidence Assessment	Comment
Demand drivers	Medium	Requires Council input, review and acceptance
Growth projections	High	State government provided projections used
Acquisition forecast	Low	Several gross estimates and assumptions made. Requires review on provision and improvement of financial data
Operation forecast	Low	Several gross estimates and assumptions made. Requires review on provision and improvement of financial data
Maintenance forecast	Low	Several gross estimates and assumptions made. Requires review on improvement of financial data
Renewal forecast - Asset values	Low	Based on Brighton Council revaluation rates (2019), further assets currently being added to asset register by surveyor/GIS officer which will increase total replacement value. To be revised on completion of data pickup.

[13] IPWEA, 2015, IIMM, Table 2.4.6, p 2|71.

- Asset useful lives	Low	Based on professional judgement/estimate by staff only
- Condition modelling	Low	Based on professional judgement/estimate by staff only, no condition assessments undertaken
Disposal forecast	Medium	Potential disposals identified, however some require further investigation and ultimately Council approval

The estimated confidence level for and reliability of data used in this Asset Management Plan is considered to be **Low**.

8.0 PLAN IMPROVEMENT AND MONITORING

8.1 Status of Asset Management Practices[14]

8.1.1 Accounting and financial data sources

This Asset Management Plan utilises accounting and financial data. The source of the data is Council's financial management system *XERO*.

8.1.2 Asset management data sources

This Asset Management Plan also utilises asset management data. The source of the data is Council's asset management software *MyData* in conjunction with spatial information obtained from *MapInfo* and *Exponare* Geographic Information Systems (GIS).

8.2 Improvement Plan

It is important that Council recognise areas of their Asset Management Plan and planning process that require future improvements to ensure effective asset management and informed decision making. The improvement plan generated from this Asset Management Plan is shown in Table 8.2.

Table 8.2: Improvement Plan

Task	Task	Responsibility	Resources Required	Timeline
1	Formally dispose of Swanwick Sewerage System to TasWater.	General Manager, Director of Corporate Services	Director of Infrastructure	2021
2	Council to take on management of stormwater drainage assets in *MyData* software (previously done by Brighton Council) and aim to improve information and confidence in the asset register (including condition assessment, review of useful lives, construction dates, replacement value etc.).	Director of Infrastructure	Geographical Information System officer	2021-2023
3	Develop detailed capital works program for upcoming years with project ranking consistent with agreed criteria. Use to inform Asset Management Plan and Long Term Financial Plan updates.	Director of Infrastructure, Works Manager, Works Supervisor	Accountant, Works Manager, Works Supervisor	June 2021
4	Establish a formal program for clearing open drains, pipes, culverts and gross pollutant traps etc.	Works Manager	Works Manager, Works Supervisor and Works Crew.	June 2021
5	Increase accuracy of budget breakdown to include acquisitions, maintenance, operations, renewals and disposals. Aim for better transparency.	Accountant	Accountant, Director of Infrastructure	September 2021
6	Update Geographical Information System (GIS) to include all previously missing stormwater drainage assets (including	Director of Infrastructure	Surveyor/Geographical Information System officer	2021

[14] ISO 55000 Refers to this as the Asset Management System

	pipes, headwalls, pits, culverts and open drains) once they have been recorded.			
7	Completion and adoption of the *Draft Urban Stormwater Management Plan* once complete, including all associated recommendations. This includes completion of catchment modelling to better understand/identify deficiencies (currently underway).	Director of Infrastructure	Hydraulic Engineer	2021
8	Improve confidence in financial data used in Long Term Financial Plan and Asset Management Plan – this is foreseen to involve improved recording of acquisition, operations, maintenance, renewal and disposal asset lifecycle activities within *XERO* (accounting software) so accurate costs can be developed.	Accountant	Accountant, Director of Infrastructure Works Manager, Works Supervisor	December 2021
9	Update forecast disposal values within Asset Management Plan for assets where upgrade works are to occur, noting this will involve writing off the remaining value of replaced assets where they have not reached the end of their useful life.	Director of Infrastructure, Accountant	Director of Infrastructure, Accountant	2022
10	Continue to develop and maintain regular inspection of asset condition, defects and develop maintenance and capital works programs for inclusion in the Asset Management Plan.	Director of Infrastructure	Internal	Ongoing
11	Continually improve correlation between Long Term Financial Plan and Asset Management Plan. (Conduct regular meetings of responsible persons – aim for 'high' confidence level)	General Manager, Accountant, Director of Infrastructure	General Manager, Accountant, Director of Infrastructure	Ongoing
12	Increase confidence and maturity of Asset Management Plan	Director of Infrastructure	Internal	Ongoing

8.3 Monitoring and Review Procedures

This Asset Management Plan will be reviewed during the annual budget planning process and revised to show any material changes in service levels, risks, forecast costs and proposed budgets as a result of budget decisions.

The Asset Management Plan will be reviewed and updated annually to ensure it represents the current service level, asset values, forecast operations, maintenance, renewals, acquisition and asset disposal costs and planned budgets. These forecast costs and proposed budget are incorporated into the Long Term Financial Plan or will be incorporated into the Long Term Financial Plan once completed.

The Asset Management Plan has a maximum life of 4 years and is due for complete revision and updating within 6 months of each Council election.

8.4 Performance Measures

The effectiveness of this Asset Management Plan can be measured in the following ways:

- The degree to which the required forecast costs identified in this Asset Management Plan are incorporated into the Long Term Financial Plan,
- The degree to which the 1-5 year detailed works programs, budgets, business plans and corporate structures consider the 'global' works program trends provided by the Asset Management Plan,
- The degree to which the existing and projected service levels and service consequences, risks and residual risks are incorporated into the Strategic Planning documents and associated plans,
- The Asset Renewal Funding Ratio achieving the Organisational target (this target is often 90 – 100%).

9.0 REFERENCES

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- ISO, 2014, ISO 55000:2014, Overview, principles and terminology
- ISO, 2018, ISO 31000:2018, Risk management – Guidelines
- '10-year Strategic Plan 2020-2029'
- '2020-2021 Annual Plan' (incl. budget)

10.0 APPENDICES

Appendix A Acquisition Forecast

A.1 – Acquisition Forecast Assumptions and Source

A key assumption in the writing of this Asset Management Plan is that no major acquisitions, outside of those noted in this plan, are forecast to be undertaken during the planning period. Given future demand (discussed in Section 4), Council's current financial position and available budget, a strategy of minimising acquisitions over the planning period is recommended.

The 'donated' acquisition forecast summary estimate is based on the completion (by others/developers) of a moderate sized subdivision each year over the planning period (including associated stormwater drainage pits and pipes to approximately $50,000 in value).

Several gross estimates and assumptions were required to be made in the acquisition forecast figures due to the quality of financial and forecast information currently available. This has been noted for improvement in Section 8.0.

A.2 – Acquisition Project Summary

Table A2 below is a draft 5-year works plan for the stormwater drainage network, created by Council's hydraulic engineer, stemming from the recommendations of the *Draft Urban Stormwater Management Plan*. This table shows budget type cost forecasts and priorities for design and construction works (mostly acquisition related). It is to be noted that further works to the value of $100-200k above that shown below are expected to come from design projects listed and these additional funds have been considered in the Long Term Financial Plan and Planned Budget.

Table A2 – Draft 5-Year Works Plan

Budget Year	Project Type	Project Name	Description	Township	Budget	Priori
2021/22	Construction	Holkham Court Stormwater System Upgrade Stage 1	Upgrade of Alma Rd and Holkham Court culverts. Upgrade of central drainage channel between 66 Alma Rd and Tasman Highway	Orford	100,000	1
2022/23	Construction	Holkham Court Stormwater System Upgrade Stage 2	Upgrade of Alma Rd and Holkham Court culverts. Upgrade of central drainage channel between 66 Alma Rd and Tasman Highway	Orford	100,000	1
2023/24	Construction	Holkham Court Stormwater System Upgrade Stage 3	Upgrade of Alma Rd and Holkham Court culverts. Upgrade of central drainage channel between 66 Alma Rd and Tasman Highway	Orford	100,000	1
2023/24	Construction	North Orford (Prosser River to Alma Rd) Stage 1	Construction of solutions derived from the joint DSG/GSBC stormwater assessment	Orford	100,000	1
2022/23	Construction	Russell Street open drain	Undertake upgrades, stabilisation of upper Russell Street catchment open drain	Orford	15,000	1
2021/22	Design	West Shelly Beach Road stormwater upgrade (No. 49 Rheban Rd))	Assess and design upgrade of stormwater system from No.49 Rheban Road to West Shelly Beach. This considers new pipe/overland flow linkages and expansion of the Nautilus Drove detention basin. Ref West Shelly Road stormwater investigation (ADD, March 2018)	West Shelly	20,000	1
2021/22	Design	South Orford stormwater upgrade	Assess and design upgrade of stormwater system of south Orford. This will assess solutions to flooding of properties south of Esplanade. Solutions will be required to rectify: Capacity in pipeline between Mary Stet and No. 18 Walters Drive including inefficient hydraulics at Walpole Street (Ref. 46 Charles St Orford Stormwater Report (ADD, June 2018) , flooding adjacent to Esplanade which seems to be a trapped low point, the pump station in No. 11 Murphy Court, ponding in Walpole Street, near the Taswater sewage pump station, upgrade and stabilisation of outfalls to Orford Rivulet and Prosser River, consideration of overland flow path through No. 7 Prosser Street	Orford	20,000	1
2021/22	Design	Orford Rivulet improvements	Undertake detail design of solutions arising from the Orford Rivulet Flood Study (Pitt & Sherry)	Orford	20,000	1
2021/22	Design	West Shelly Beach Road stormwater upgrade (No. 39)	Assess and design upgrade of stormwater system from No.39 Rheban Road to West Shelly Beach. This considers new pipe/overland flow linkages, kerb and channel, connectivity of West Shelly Beach properties, and subdivision of No. 39)	West Shelly	20,000	1
2021/22	Design	Eastcoaster Resort catchment	Considers subdivision of Lot 1 Tasman Highway through to East Coaster. Assessment to address flooding from Bernacchi Drive through East Coaster	Louisville	5,000	1
2020/21	Design	North Orford (Prosser River to Alma Rd)	Flood mapping and concept design of solutions to flooding between Prosser River and Alma Street, including Convict Rd, Riverside Drive, Tasman Highway etc.	Orford	50,000	1
2021/22	Design	North Orford (Prosser River to Alma Rd) Stage 1	Detailed design of solutions derived from the joint DSG/GSBC stormwater assessment	Orford	25,000	1
2021/22	Design	Russell Street open drain	Assess repair and requirements for large open/cut-off drain above Russell Street in Orford	Orford	2,500	1
2020/21	Construction	Spring Bay Boat Club pipework	Install new pipework/pits as per assessment	Triabunna	40,000	2
2020/21	Design & Construct	Gamble Crescent stormwater system upgrade/repairs	Upgrade/repair of stormwater network from Gamble Crescent down	Bicheno	40,000	2
2020/21	Design & Construct	James Street to Esplanade pipeline	Install new pipeline to service No. 16 James Street	Bicheno	20,000	2
2020/21	Design	Spring Bay Boat Club pipework	Model catchment and consider additional pipework along northern boundary to prevent surcharging from manholes. Also check other system improvements (E.g. replace back-to-back culvert inlet/outlets on Esplanade East with new pit	Triabunna	2,500	2
2021/22	Design	Harveys Farm Rd assessment	Assess catchment and overland flow path through properties, considering culvert sizes, new development etc	Bicheno	2,500	2
2020/21	Construction	Alice Street rock lined drain stabilisation	Rock in drain on western side of Alice Street is too small. Needs concrete stabilisation and/or replacement with larger rock	Orford	10,000	3
2020/21	Construction	Paradise Court roadside drain	Upgrade/repairs of open drain upstream of No. 11 to prevent direction of overflows across roadway and down driveway of No. 10	Orford	5,000	3
2020/21	Design & Construct	Hoods Road stormwater	Investigate diversion of Hoods Rd stormwater into open drain in No. 6 Hoods Road. If possible remove diversion.	Spring Beach	2,000	3
2021/22	Design	Freycinet Drive	Undertake assessment of catchment and provide recommendations for road and stormwater improvements/repairs/upgrades in Freycinet Drive, particular near the end of the drive	Coles Bay	40,000	3
2021/22	Design	East Shelly Road assessment & design of open drain and culvert (No. 38)	Undertake assessment and design of solutions to control flooding at East Shelly Road in vicinity of Nos. 38 and 39. This may include roadworks/floodway to ensure flooding is retaining in formal overland flow path. Also consider road safety/rails as there is a reasonable drop-off.	East Shelly	10,000	3
2024/25	Construction	CNR Maria Street and Wellington Street	Upgrade pit on eastern corner to LGAT standard and remove lid and install raised grate to create field pit	Swansea	2,500	4
2024/25	Construction	Holkham Court - End of cul-de-sac kerb and channel	Installation of approx. 45m of kerb and channel at end of cul-de-sac. To control and direct stormwater to SEP	Orford	7,500	4
2025/26	Construction	West Shelly Beach Road concrete drain extension	Extend concrete swale drain from SW pit at front of No. 16 to driveway of No. 12 West Shelly Beach Road	West Shelly	10,000	4
2025/26	Construction	Bluff Road drainage works	Upgrade open drain and driveway culverts at the end of the Bluff Road cul-de-sac	Spring Beach	5,000	4

A.3 – Acquisition Forecast Summary

Table A3 displays the forecast acquisition value each year over the planning period.

Table A3 - Acquisition Forecast Summary

Year	Constructed	Donated	Growth
2020	$250,000	$50,000	$0
2021	$98,436	$50,000	$0
2022	$98,436	$50,000	$0
2023	$98,436	$50,000	$0
2024	$98,436	$50,000	$0
2025	$98,436	$50,000	$0
2026	$98,436	$50,000	$0
2027	$98,436	$50,000	$0
2028	$98,436	$50,000	$0
2029	$98,436	$50,000	$0
2030	$98,436	$50,000	$0
2031	$98,436	$50,000	$0
2032	$98,436	$50,000	$0
2033	$98,436	$50,000	$0
2034	$98,436	$50,000	$0
2035	$98,436	$50,000	$0
2036	$98,436	$50,000	$0
2037	$98,436	$50,000	$0
2038	$98,436	$50,000	$0
2039	$98,436	$50,000	$0

Appendix B Operation Forecast

B.1 – Operation Forecast Assumptions and Source

Several gross estimates and assumptions were required to be made in the operation forecast figures due to the quality of financial information currently available (poor tracking of operational costs relating to hydraulic infrastructure assets). This has been noted for improvement in Section 8.0.

B.2 – Operation Forecast Summary

Table B2 displays the forecast operation costs each year over the planning period. Note the 'Additional Operation Forecast' is a percentage of the 'donated' asset acquisitions value forecast over the planning period and this represents additional funds required to 'operate' these acquired assets. The forecasts include both operation of the Prosser Plains Raw Water Scheme and the stormwater drainage network.

Table B2 - Operation Forecast Summary

Year	Operation Forecast	Additional Operation Forecast	Total Operation Forecast
2020	$443,600	$6,180	$443,600
2021	$281,680	$3,058	$281,680
2022	$284,738	$3,058	$284,738
2023	$287,796	$3,058	$287,796
2024	$290,853	$3,058	$290,853
2025	$293,911	$3,058	$293,911
2026	$296,969	$3,058	$296,969
2027	$300,027	$3,058	$300,027
2028	$303,084	$3,058	$303,084
2029	$306,142	$3,058	$306,142
2030	$309,200	$3,058	$309,200
2031	$312,258	$3,058	$312,258
2032	$315,316	$3,058	$315,316
2033	$318,373	$3,058	$318,373
2034	$321,431	$3,058	$321,431
2035	$324,489	$3,058	$324,489
2036	$327,547	$3,058	$327,547
2037	$330,605	$3,058	$330,605
2038	$333,662	$3,058	$333,662
2039	$336,720	$3,058	$336,720

Appendix C Maintenance Forecast

C.1 – Maintenance Forecast Assumptions and Source

Several gross estimates and assumptions were required to be made in the maintenance forecast figures due to the quality of financial information currently available. This has been noted for improvement in Section 8.0.

C.2 – Maintenance Forecast Summary

Table C2 displays the forecast maintenance costs each year over the planning period. Note this relates to estimated maintenance costs for the Prosser Plains Raw Water Scheme only, as 'maintenance' in the context of this plan, does not generally occur to stormwater drainage assets. All operation and maintenance type costs for stormwater drainage assets have been included in the 'operations' forecasts in Appendix B.

Table C2 - Maintenance Forecast Summary

Year	Maintenance Forecast	Additional Maintenance Forecast	Total Maintenance Forecast
2020	$2,000	$0	$2,000
2021	$2,030	$0	$2,030
2022	$2,045	$0	$2,045
2023	$2,060	$0	$2,060
2024	$2,075	$0	$2,075
2025	$2,089	$0	$2,089
2026	$2,104	$0	$2,104
2027	$2,119	$0	$2,119
2028	$2,134	$0	$2,134
2029	$2,149	$0	$2,149
2030	$2,164	$0	$2,164
2031	$2,178	$0	$2,178
2032	$2,193	$0	$2,193
2033	$2,208	$0	$2,208
2034	$2,223	$0	$2,223
2035	$2,238	$0	$2,238
2036	$2,253	$0	$2,253
2037	$2,267	$0	$2,267
2038	$2,282	$0	$2,282
2039	$2,297	$0	$2,297

Appendix D Renewal Forecast Summary

D.1 – Renewal Forecast Assumptions and Source

The renewal forecast of $60,000 per year is based on the average of renewal budgets over the past decade. This figure has been used in lieu of known, condition based, forecast renewals and has also been adopted in the Long Term Financial Plan. Refer also improvement plan in Section 8.0.

D.2 – Renewal Project Summary

In the absence of condition data for stormwater drainage assets, a renewal program cannot be developed and hence there is currently no project renewal summary. This has been noted in the improvement plan in Section 8.0.

D.3 – Renewal Forecast Summary

Table D3 displays the forecast renewal costs and planned budget each year over the planning period. These figures are matched, as noted in D.1.

Table D3 - Renewal Forecast Summary

Year	Renewal Forecast	Renewal Budget
2020	$60,000	$60,000
2021	$60,000	$60,000
2022	$60,000	$60,000
2023	$60,000	$60,000
2024	$60,000	$60,000
2025	$60,000	$60,000
2026	$60,000	$60,000
2027	$60,000	$60,000
2028	$60,000	$60,000
2029	$60,000	$60,000
2030	$60,000	$60,000
2031	$60,000	$60,000
2032	$60,000	$60,000
2033	$60,000	$60,000
2034	$60,000	$60,000
2035	$60,000	$60,000
2036	$60,000	$60,000
2037	$60,000	$60,000
2038	$60,000	$60,000
2039	$60,000	$60,000

D.4 –Renewal Plan

Reference is made to the acquisition works plan in Appendix B. It is to be noted that generally stormwater assets are upgraded rather than renewed, given their generally long useful service lives and an increase in modern design flows.

Appendix E Disposal Summary

E.1 – Disposal Forecast Assumptions and Source

Through discussion with key staff the potential disposals noted in Table E2 were identified. It is currently assumed that transfer of the Swanwick Sewerage System to TasWater would be at no significant cost to Council. Disposal of the Prosser Plains Raw Water Scheme is assumed to have associated costs, however the magnitude of these costs are currently unknown.

E.2 – Disposal Project Summary

NOTE: The assets identified for potential disposal in Table E2 are preliminary only and will require further investigation, reporting, community consultation and ultimately Council approval before any disposals are actually undertaken. The further investigation required should include looking at renewal costs, operating and maintenance costs, age, condition, land ownership, leases and licenses, current use and community concerns, with this information then reported back to Council.

Table E2: Potential Assets Identified for Disposal

Asset	Reason for Disposal	Timing	Disposal Costs	Operations & Maintenance Annual Savings
Swanwick Sewerage System	Asset transfer to TasWater (sewerage authority)	2021	Currently unknown, but assumed no significant cost to Council	Currently unknown, but all operating and maintenance costs, including power usage.
Prosser Plains Raw Water Scheme	Does ownership of this asset align with Council's core purpose?	2022	Currently unknown	Loan and interest repayments on construction loan, power usage costs, and an estimated $53,500 annual operating and maintenance cost.
Stormwater drainage assets that are under capacity and will be replaced prior to the end of their useful life (as part of any works recommended from the *Draft Urban Stormwater Management Plan* – refer works plan shown in Appendix A).	To improve stormwater drainage network	2021-2031	Currently unknown	N/A

E.3 – Disposal Forecast Summary

Table E3 displays the disposal forecast and disposal budget over the planning period. Any costs associated with potential disposals is currently unknown and will require further investigation as previously noted, hence the zero values currently shown.

Table E3 – Disposal Activity Summary

Year	Disposal Forecast	Disposal Budget
2020	$0	$0
2021	$0	$0
2022	$0	$0
2023	$0	$0
2024	$0	$0
2025	$0	$0
2026	$0	$0
2027	$0	$0
2028	$0	$0
2029	$0	$0
2030	$0	$0
2031	$0	$0
2032	$0	$0
2033	$0	$0
2034	$0	$0
2035	$0	$0
2036	$0	$0
2037	$0	$0
2038	$0	$0
2039	$0	$0

Appendix F Budget Summary by Lifecycle Activity

Several gross estimates and assumptions were required to be made in the development of the planned budget figures shown in Table F1. This is due to the quality of financial information currently available. This has been noted for improvement in Section 8.0.

Table F1 – Budget Summary by Lifecycle Activity

Year	Acquisition	Operation	Maintenance	Renewal	Disposal	Total
2020	$250,000	$443,600	$2,000	$60,000	$0	$755,600
2021	$98,436	$275,500	$2,000	$60,000	$0	$435,936
2022	$98,436	$275,500	$2,000	$60,000	$0	$435,936
2023	$98,436	$275,500	$2,000	$60,000	$0	$435,936
2024	$98,436	$275,500	$2,000	$60,000	$0	$435,936
2025	$98,436	$275,500	$2,000	$60,000	$0	$435,936
2026	$98,436	$275,500	$2,000	$60,000	$0	$435,936
2027	$98,436	$275,500	$2,000	$60,000	$0	$435,936
2028	$98,436	$275,500	$2,000	$60,000	$0	$435,936
2029	$98,436	$275,500	$2,000	$60,000	$0	$435,936
2030	$98,436	$275,500	$2,000	$60,000	$0	$435,936
2031	$98,436	$275,500	$2,000	$60,000	$0	$435,936
2032	$98,436	$275,500	$2,000	$60,000	$0	$435,936
2033	$98,436	$275,500	$2,000	$60,000	$0	$435,936
2034	$98,436	$275,500	$2,000	$60,000	$0	$435,936
2035	$98,436	$275,500	$2,000	$60,000	$0	$435,936
2036	$98,436	$275,500	$2,000	$60,000	$0	$435,936
2037	$98,436	$275,500	$2,000	$60,000	$0	$435,936
2038	$98,436	$275,500	$2,000	$60,000	$0	$435,936
2039	$98,436	$275,500	$2,000	$60,000	$0	$435,936

GLAMORGAN SPRING BAY COUNCIL

Glamorgan Spring Bay Council

DRAFT Related Party Disclosures Policy

Version [1.0]

Adopted:
Minute No.:

Document Control

Policy Name	
First issued/approved	
Source of approval/authority	Council
Last reviewed	Not applicable
Next review date	2023 or as required by legislation
Version number	01
Responsible Officer	General Manager
Department responsible for policy development	Corporate Services
Related policies	• Code of Conduct (Elected Members) • Employee Code of Conduct Policy
Publication of policy	Website

Contents

1 Introduction

From 1 July 2016, local governments (Councils) must disclose related party relationships, transactions and outstanding balances, including commitments, in their annual financial statements.

This Policy has been developed through a working group comprising representatives from the Tasmanian Audit Office, the Local Government Division of the Department of Premier and Cabinet, Clarence City Council and the Local Government Association of Tasmania.

1.1 Purpose

Specifically, the policy outlines the disclosure requirements under AASB 124 of Key Management Personnel (KMP), which includes elected members. It also outlines the procedures Council will follow to collect, store, manage and report on related party relationships, transactions and commitments.

Under the *Local Government Act 1993* and the *Audit Act 2008* all local governments in Tasmania must produce annual financial statements that comply with Australian Accounting Standards.

1.2 Scope

This policy outlines what is expected of elected members and staff of Council in relation to Australian Accounting Standard AASB 124 *Related Party Disclosures* (AASB 124).

1.3 Summary of the Standard

From 1 July 2016, local governments (councils) must disclose related party relationships, transactions and outstanding balances, including commitments, in their annual financial statements.

The objective of the Standard is to ensure that an entity's financial statements contain the disclosures necessary to draw attention to the possibility that its financial position and profit or loss may have been affected by the existence of related parties and by transactions and outstanding balances, including commitments, with such parties.

Council's related parties are likely to include the Mayor, councillors, General Manager, senior executives, their close family members and any entities that they control or jointly control. Any transactions between Council and these parties, whether monetary or not, may need to be identified and disclosed.

1.4 Terms

Term	Meaning
Arm's length terms	Terms between the parties that are reasonable in the circumstances of the transaction that would result from: • neither party bearing the other any special duty or obligation, and • the parties being unrelated and uninfluenced by the other, and • each party having acted in its own interest.
Close Family Member	Family members of Key Management Personnel (KMP) who may be expected to influence, or be influenced by, that person in their dealings with the entity. This includes, but is not limited to, that person's spouse or domestic partner; and the children and dependents of that person or that person's spouse or domestic partner.
Control of an entity	You control an entity if you have: a) power over the entity; b) exposure, or rights, to variable returns from involvement with the entity; and c) the ability to use your power over the entity to affect the amount of your returns.
Declaration by KMP	An annual declaration of close family members and entities that the KMP or their close family members control or jointly control, as per Appendix 1, updated during the year as necessary.
Entities controlled by KMPs	Entities include companies, trusts, joint ventures, partnerships and non-profit associations such as sporting clubs. You control an entity if you have: • power over the entity; • exposure, or rights, to variable returns from involvement with the entity; and • the ability to use your power over the entity to affect the amount of your returns.
Entities related to Council	Entities controlled by Council, jointly controlled by Council or over which Council has significant influence are related parties of Council.
Joint control of an entity	To jointly control an entity there must be contractually agreed sharing of control of the entity, which exists only when decisions about the relevant activities require the unanimous consent of the parties sharing control.
Key Management Personnel (KMP)	Persons having authority and responsibility for planning, directing and controlling the activities of the entity, directly or indirectly. In the council context this includes the Mayor, all aldermen or councillors, the General Manager and senior council officers as outlined in the policy.

Term	Meaning
KMP Compensation	All employee benefits. Employee benefits are all forms of consideration paid, payable or provided by the entity, or on behalf of the entity, in exchange for services rendered to the entity. It also includes such consideration paid on behalf of a parent of the entity in respect of the entity. Compensation includes: a) short-term employee benefits, such as wages, salaries and social security contributions, paid annual leave and paid sick leave, profit-sharing and bonuses (if payable within twelve months of the end of the period) and non-monetary benefits (such as medical care, housing, cars and free or subsidised goods or services) for current employees; b) post-employment benefits such as pensions, other retirement benefits, post-employment life insurance and post-employment medical care; c) other long-term employee benefits, including long-service leave or sabbatical leave, jubilee or other long-service benefits, long-term disability benefits and, if they are not payable wholly within twelve months after the end of the period, profit-sharing, bonuses and deferred compensation; d) termination benefits; and e) share-based payment.
Materiality	Information is material when, if omitted or misstated, it could influence decisions that users make on the basis of financial information about a specific reporting entity. Omissions or misstatements of items are material if they could, individually or collectively, influence the economic decisions that users make on the basis of the financial statements. Materiality depends on the size and nature of the omission or misstatement judged in the surrounding circumstances. The size or nature of the item, or a combination of both, could be the determining factor.
Ordinary Citizen Transactions (OCTs)	Transactions that an ordinary citizen would undertake with Council are usually not material to related party disclosure requirements. OCTs do not apply if the terms and conditions are different to those offered to the general public.
Related Party of Council	People and entities, such as companies, trusts and associations, can be related parties of Council. Most commonly these will be entities related to Council, KMP of Council (including elected members), close family members of KMP and entities that are controlled or jointly controlled by KMP or their close family members.
Related Party Transaction	A transfer of resources, services or obligations between a reporting entity and a related party, regardless of whether a price is charged.

1.5 Legislation and Australian Accounting Standards

There is overlap between the requirements of AASB 124 and the interest provisions in the *Local Government Act 1993* (LGA). Beyond the provisions of AASB 124 the LGA requires certain disclosures. Council will make these disclosures separately where not adequately covered by AASB 124 disclosures.

Other legislation referred to in this policy include the *Audit Act 2008*, *Archives Act 1983*, *Privacy Act 1988*, *Personal Information Protection Act 2004* (PIP Act) and *Right to Information Act 2009.*

Other Australian Accounting Standards referred to in this policy include AASB 10 *Consolidated Financial Statements*; AASB 11 *Joint Arrangements*; AASB 128 *Investments in Associates and Joint Ventures*.

Related Council Policies

This policy relates to and depends on other Council policies, as well as legislation, including:

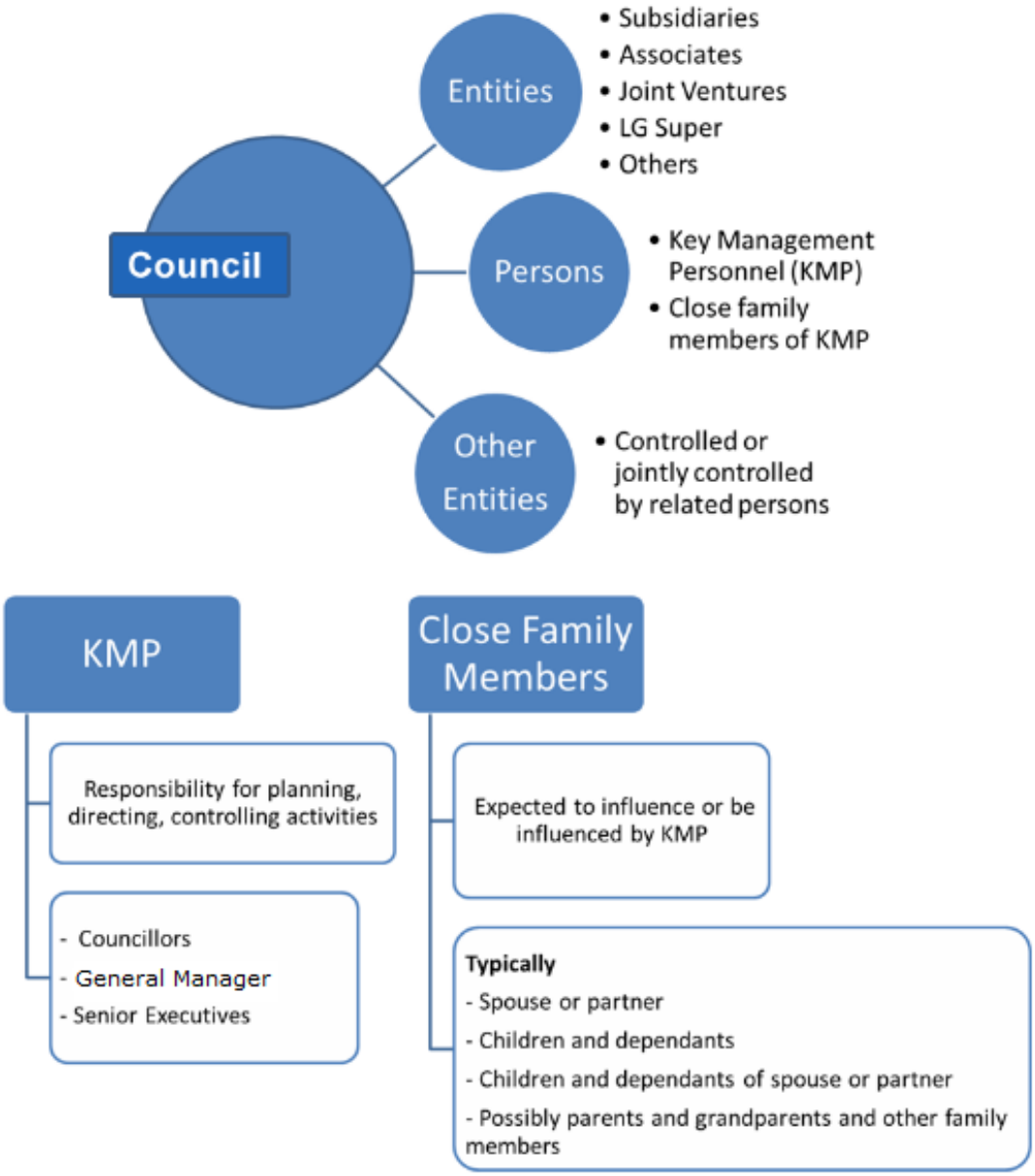
- GSBC Model Code of Conduct
- Employee Code of Conduct
- Risk Management Policy No. 3.15

1.6 Policy Review and Update Cycle

This policy is to be reviewed initially in November 2023 and thereafter, every three years or as required by legislation.

2. Identifying Related Parties

The following diagram gives an overview of common related parties that a council will have:



2.1 The General Manager will establish, review and maintain a list of Key Management Personnel for Council.

Key Management Personnel (KMP) for council are:

- The Mayor
- The Deputy Mayor
- All Councillors
- The General Manager
- Senior Executives

2.2 Those persons identified as KMP will complete an annual declaration which outlines the entities, if any, that are controlled or jointly controlled by that KMP or their close family members and which are likely to have transactions with Council (Appendix 1).

2.3 For the purpose of this Policy, Close Family Members includes:

- that person's children and spouse or domestic partner;
- children of that person's spouse or domestic partner; and
- dependents of that person or of that person's spouse or domestic partner.

Council may determine other family members, such as a parent, grandparent, sibling, cousin, etc, who may be expected to influence, or be influenced by, that person in their dealings with Council or a Council entity.

Example for Guidance (Son of CFO employed by Council)

Sunny Shire Council has recently employed Paul's son (George) in the Council's parks and garden's area. Paul is Council's Chief Financial Officer but was not involved in hiring George. This process was managed by the Director of Parks and Gardens and included an independent assessment process. Paul did not have any influence in George securing the job.

Paul has been identified as a KMP of Council, which makes him a related party.

George will also be a related party of Council because he is a close family member of Paul. The recruitment process that was undertaken for George's position is irrelevant when assessing whether George is a related party.

Example for Guidance (Cousin of Mayor)

The Mayor of Happy Shire Council (Shelley) has lived in the Shire her whole life. In fact her family has been in the area for over five generations.

Shelley's cousin Mavis, owns and operates the local newsagent through a company Happy News Pty Ltd, in which she owns 100% of the shares. Shelley and Mavis have always been close and regularly socialise together.

Shelley has been identified as a KMP of Council. From these facts it would appear that Mavis is a close family member of Shelley because she would be expected to influence, or be influenced by, that person in her dealings with Council

Both Mavis and the company she controls, Happy News Pty Ltd would therefore be related parties of Council. Any transactions that the Council makes with the newsagent would need to be separately identified and may need to be disclosed.

2.4 It is the responsibility of General Manager to seek a declaration upon a change of KMP.

2.5 All KMPs will be asked to provide their declarations by 1 July each year covering the forthcoming financial year. In addition, an updated declaration for the previous financial year will also be provided.

2.6 It is the responsibility of all identified KMP to update their declaration should they become aware of a change, error or omission.

3. Register of Related Party Transactions

3.1 Maintain a Register

The General Manager or Responsible Accounting Officer is responsible for maintaining and keeping up to date a register of related party transactions that captures and records the information for each existing or potential related party transaction (including ordinary citizen transactions assessed as being material in nature) during a financial year.

3.2 Contents of Register

The contents of the register of related party transactions must detail for each related party transaction:

a) the description of the related party transaction;
b) the name of the related party;
c) the nature of the related party's relationship with Council;
d) whether the notified related party transaction is existing or potential;
e) a description of the transactional documents the subject of the related party transaction.

The General Manager or Responsible Accounting Officer is responsible for ensuring that the information is disclosed in Council's Financial Statements to the extent, and in the manner stipulated by AASB 124.

3.3 Council will use the declarations of KMP to establish a list of related parties for the purposes of identifying transactions and reporting under AASB 124.

3.4 Updates will be provided to KMP and Council staff periodically on changes arising from amendments to Australian Accounting Standards, applicable legislation or policy and procedural requirements.

4. Council Entities and Subsidiaries

For the purpose of this policy, entities controlled by Council, jointly controlled by Council or over which Council has significant influence are related parties of Council. Council will need to identify transactions with these entities and may need to make extra disclosure about them in Council's financial statements.

When assessing whether Council has control or joint control over an entity, Council will need to consider AASB 10 *Consolidated Financial Statements* and AASB 11 *Joint Arrangements*. AASB 128 *Investments in Associates and Joint Ventures* details the criteria for determining whether Council has significant influence over an entity.

Example for Guidance (Company that is a related party of Council)

Sunny Regional Council (SRC) owns 90% of the shares in Sunny Regional Development Pty Ltd (the company).

SRC has assessed that it has control over the company. The company is therefore a related party of SRC because SRC controls it.

SRC produces consolidated financial statements which include both a parent entity column and consolidated entity column. In these statements all individually significant transactions between SRC and the company will need to be disclosed. For other transactions that are collectively, but not individually, significant SRC will need to disclose a qualitative and quantitative indication of their extent.

SRC must also disclose the nature of its relationship with the company.

5. Entities Controlled (or jointly controlled) by KMP or their close family members

5.1 KMP will exercise their best judgement in identifying related parties.

5.2 KMP, including elected members, will carefully assess the information and examples following before declaring, or not declaring, an entity over which they, or a close member of the family, have control or joint control.

5.3 Entities include companies, trusts, joint ventures, partnerships and non-profit associations such as sporting clubs.

5.4 When assessing whether or not a KMP or close member of their family controls, or jointly controls, an entity, Council will need to refer to AASB 10 *Consolidated Financial Statements* and AASB 11 *Investments in Associates and Joint Ventures*.

Example for Guidance

Mayor is the President of a local football club.

The Mayor of Sunny Shire Council is the President of League Heroes Inc, the local football club. This club is overseen by a committee which comprises the President and four other committee members. Each member has a single vote when making decisions at meetings. The committee members are not related and do not have agreements to vote with one another. The club has over 100 members that each have a vote in electing the committee members at the club's annual general meeting.

From these facts it would appear that the Mayor does not control or jointly control the football club so it will not be a related party of Council just because the Mayor is the president of the club.

Example for Guidance (Joint control)

Fred is the Mayor of Sunny Shire Council and owns 50 per cent of the ordinary shares in Sunny Development Company Pty Ltd (the company). Fred's brother Stan owns the other 50 per cent of ordinary shares. Fred and Stan are the only Directors of the company and have equal voting rights on the board.

Fred and Stan have joint control of the company because any decisions require the unanimous consent of them both.

Fred will need to include the company on his related party declaration.

6. Related party disclosures by Council

6.1 Each year Council will declare the following related party transactions:

6.1.1 Transactions with Council subsidiaries, by transaction type.

6.1.2 KMP compensation, including:

- short-term employee benefits;
- post-employment benefits;
- long-term benefits; and
- termination benefits.

6.1.3 Transactions with other related parties, including:

- purchases or sales of goods (finished or unfinished);
- purchases or sales of property and other assets;
- rendering or receiving of services;
- leases;
- transfers of research and development;
- transfers under licence agreements;
- transfers under finance arrangements (including loans and equity contributions in cash or in kind);
- provision of guarantees or collateral;
- commitments to do something if a particular event occurs or does not occur in the future, including executory contracts (recognised and unrecognised); and
- settlement of liabilities on behalf of the entity, or by the entity on behalf of that related party.

6.1.4 Transactions of a similar nature will be disclosed in aggregate except when separate disclosure is necessary for an understanding of the effects of a related party transaction on the financial statements of council, having regard to the following criteria:

- the nature of the related party transaction

- the significance of the transaction (individually or collectively) in terms of size or value (including where the materiality arises due to the fact that no consideration for the transaction is given or received by Council)
    - whether the transaction is carried out on non-arm's length terms
    - whether the nature of the transaction is outside normal day-to-day business operations.

6.1.5 Outstanding balances in relation to transactions with related parties, including:

- Entities controlled by KMPs; and
- Bad or doubtful debts in respect of amounts owed by related parties.

6.1.6 Non-monetary transactions such as use of facilities, peppercorn rents.

6.2 If a KMP or close associate is named individually in disclosure reports, the KMP will be given a copy of the intended disclosure for review and information purposes. Feedback must be provided within 7 days.

6.3 Council will not capture Ordinary Citizen Transactions (OCTs) with related parties. Nor will Council disclose non-material transactions.

6.4 For the purpose of this Policy, example of OCTs are:

Paying rates and charges;
Dog registrations;
Attending Council functions which are open to the public;
Attending Council events after paying the normal fee.

6.5 Examples of transactions that are not OCTs are:

Purchases or sales of property;
Leases;
Purchase of goods and services, regardless of conditions;
Employee expenses of close family member of KMP.

The list of OCTs will be reviewed periodically with updates provided to KMP.

6.6 The General Manager will assess the materiality of the related party transactions that have been captured prior to disclosure.

Council does not have to disclose transactions that are not material. In determining materiality, the size and nature of the transaction individually and collectively will be considered and assessment will be made in consultation with Council's Audit Panel.

6.7 In making disclosures in the annual financial statements Council will include:

6.7.1 Relationships between a parent and its subsidiaries, irrespective of whether there have been transactions between them.

6.7.2 KMP compensation in total and for each of the following categories:

- short-term employee benefits;

- post-employment benefits;
- other long-term benefits; and
- termination benefits.

6.7.3 Where related party transactions have occurred:

- the nature of the related party relationship; and
- information about the transactions, outstanding balances and commitments, including terms and conditions.

6.7.4 Separate disclosure in aggregate for each category of related party transactions.

Note: ***Transactions that are individually significant, either because of their amount or nature, are included in the aggregate disclosure but also need to be disclosed separately.***

6.7.5 The types of transactions disclosed such as:

- purchases or sales of goods;
- purchases or sales of property and other assets o rendering or receiving property and other assets or rendering or receiving goods;
- rendering or receiving of services;
- leases;
- guarantees given or received;
- commitments;
- loans and settlements of liabilities;
- expense recognised during the period in respect of bad debts; and
- provision for doubtful debts relating to outstanding balances.

7. Privacy and right to information

Council must comply with the requirements of the *Archives Act 1983* (Tasmania), *Privacy Act 1988* (Commonwealth), *Personal Information Protection Act 2004* (Tasmania) and *Right to Information 2009* (Tasmania) in the collection, storage, management, disclosure and reporting of information.

A declaration statement from KMP is incorporated into the *Declaration of Related Party Transactions Form* (Appendix 1) to enable the disclosure and reporting of information in accordance with AASB 124. A Related Party Information Collection Notice will be provided to KMP and included in their Declarations (Appendix 2).

8. Dispute resolution

Disputes will be managed in accordance with the appropriate dispute resolution policy.

9. Implementation

Implementation of this Policy rests with the General Manager.

Appendix 1 - Declaration of Related Party Transactions and Consent Form

Private and Confidential

Related Party Declaration by Key Management Personnel

Name of Key Management Person: *(insert name)*

Position of Key Management Person: *(insert name)*

Close Family Member Name	Relationship with KMP	Entities over which the close family member has sole or joint control	Nature of likely transactions with Council or Council entities

Name of Entity over which the KMP has control	Relationship with KMP	Nature of likely transactions with Council or Council entities

I *(insert full name), (insert position)* declare that the above list includes all my close family members and the entities controlled, or jointly controlled, by myself or my close family members having had, or likely to have, transactions with Council. I make this declaration after reading Council's policy which details the meaning of the words "close family members" and "entities controlled, or jointly controlled, by myself or my close family members".

I permit the General Manager to access the register of interests of me and persons related to me and to use the information for the purposes specified in Council's Related Party Disclosures Policy.

Declared at *(insert place)* on the *(insert date)*

Signature of KMP:

Name of KMP:

In accordance with Council's Personal Private Information Policy No. 6.3, your information, and the information of others, is protected by law, including the *Privacy Act 1988* and the *Personal Information Protection Act 2004.*

Appendix 2 –Related Party Information Collection Notice

GLAMORGAN SPRING BAY COUNCIL

Collection Notice

Related party transactions disclosure by Key Management Personnel

From 1 July 2016, Council must disclose related party relationships, transactions and outstanding balances, including commitments, in its annual financial statements, in order to comply with *Australian Accounting Standard AASB 124 Related Party Disclosures*.

Purpose of collection, use and disclosure of related party information

The reason for disclosure of related party transactions is to ensure that Council's financial statements contain the information necessary to draw attention to the possibility that its financial position and profit or loss may have been affected by the existence of related parties and by transactions and outstanding balances, including commitments, with such parties.

Council's related parties are likely to include the Mayor, councillors, General Manager, senior executives, their close family members and any entities that they control or jointly control. Any transactions between Council and these parties, whether monetary or not, may need to be identified and disclosed.

A related party transaction is a transfer of resources, services or obligations between Council and a related party, regardless of whether a price is charged.

A related party transaction must be disclosed in Council's financial statements if the transaction is material. Information is material when, if omitted or misstated, it could influence decisions that users make on the basis of financial information about a specific reporting entity.

Prior to disclosure, the General Manager will assess the materiality of related party transactions that have been captured, and, if deemed material, will disclose in its financial statements the nature of the related party relationship and information about the transaction. Disclosure in the financial statements may be in aggregate form and/or may be made separately, depending on the nature and materiality of the transaction.

Related Party Transactions Declaration by Key Management Personnel

Key management personnel (KMP) are the persons who have authority and responsibility for planning, directing and controlling the activities of Council, directly or indirectly and include the Mayor, councillors, General Manager and senior executives. In order to comply with AASB 124, Council has adopted a policy that requires all KMP to declare any existing or potential related party transactions between Council and any of their related parties during a financial year.

Each KMP must provide an annual *Related Party Declaration* in the approved form, by 1 July each year, and update the Declaration should they become aware of any change, error or omission. KMPs must exercise their best judgement in identifying related parties when declaring, or not declaring, entities over which they, or a close member of their family, have control or joint control.

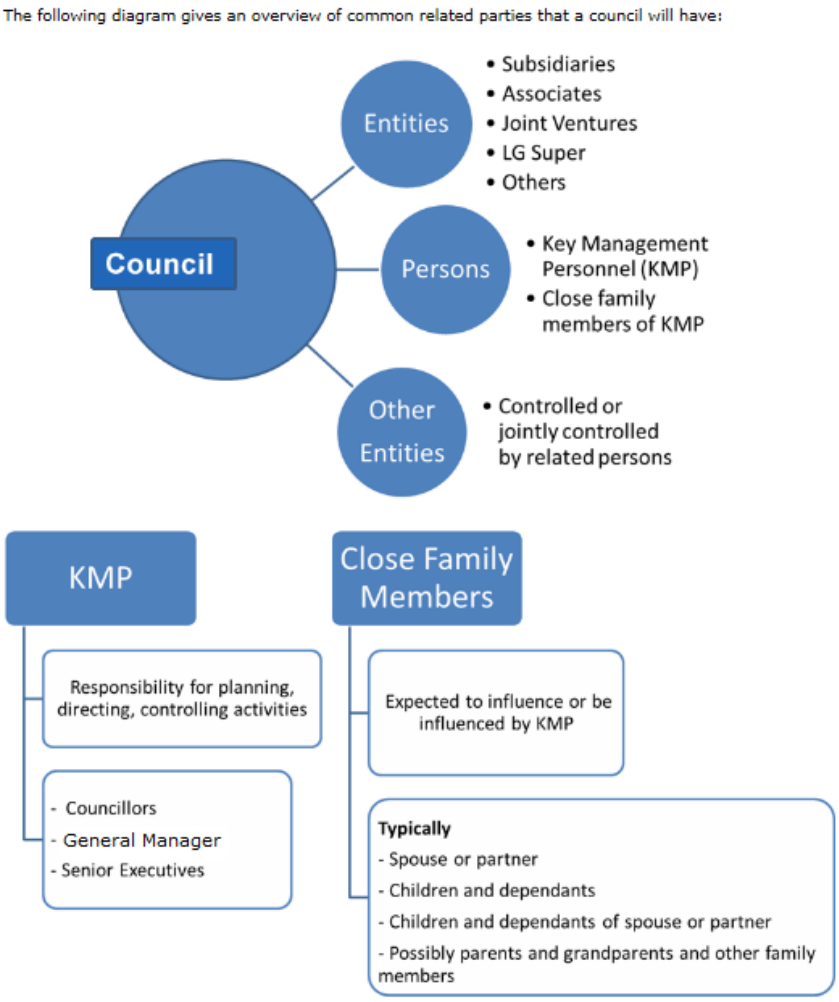
How will the information captured in the Declaration be used?

Council will use the declarations of KMPs to establish a list of related parties of Council for the purposes of identifying transactions and reporting under AASB 124. If a KMP or close family member is named individually in disclosure reports, the KMP will be given a copy of the intended disclosure for review and information purposes.

Who are related parties?

People and entities, such as companies, trusts and associations, can be related parties of Council.

The following diagram gives an overview of common related parties that a council will have.



For related party transaction disclosures under AASB 124, the related party relationship must be disclosed for both the KMP and their close family members, even if the same related party entity is held jointly or in common by them. This is separate and in addition to Council's register of interests which is required under the *Local Government Act 1993.*

Under AASB 124, those persons who are prescribed as definitely being close family members of a KMP include:

- that person's children and spouse or domestic partner;
- children of that person's spouse or domestic partner; and
- dependents of that person or that person's spouse or domestic partner.

Council may determine other family members, such as a parent, grandparent, sibling, cousin, etc, who may be expected to influence, or be influenced by, that person in their dealings with Council or a Council entity.

What is an entity that I, or my close family members, control or jointly control?

Entities include companies, trusts, joint ventures, partnerships and non-profit associations such as sporting clubs.

You control an entity if you have:

a) power over the entity;

b) exposure, or rights, to variable returns from involvement with the entity; and

c) the ability to use your power over the entity to affect the amount of your returns.

You jointly control an entity if there is a contractually agreed sharing of control of the entity. Joint control exists only when decisions about the relevant activities require the unanimous consent of the parties sharing control.

In some instances, it may not be easy to determine whether or not you, or your close family members, control or jointly control an entity. If you are unsure and require further clarification, you should contact the General Manager for a confidential discussion.

For more information about Council's disclosure requirements under AASB 124 Related Party Transactions, please refer to the Council's Related Party Disclosures Policy, which can be found at https://qsbc.tas.gov.au/council/council-policies/

All information collected by Council is in accordance with Council's Personal Private Information Policy and is protected by law, including the Privacy Act 1988 and the Personal Information Act 2004. Council's privacy policy can be found at https://qsbc.tas.gov.au/council/council-policies/