



LOWER HUNTER LAND DEVELOPMENT

Concept Plan Infrastructure Report

Nords Wharf

Cardno (NSW) Pty Ltd

ABN 95 001 145 035

Level 3, 910 Pacific Highway

Gordon NSW 2072

Telephone: 02 9496 7700

Facsimile: 02 9499 3902

International: +61 2 9496 7700

sydney.reception@cardno.com.au

www.cardno.com.au

Document Control

| Version | Date | Author | | Reviewer | |
|-----------------|------------|---------------|----------|--------------|----------|
| | | Name | Initials | Name | Initials |
| A | 16/02/2010 | Scott Brisbin | SGB | Martin Wells | MCW |
| B (Final Draft) | 17/05/2010 | Scott Brisbin | SGB | Martin Wells | MCW |
| C (Final) | 19/05/2010 | Scott Brisbin | SGB | Martin Wells | MCW |
| D | 01/10/2010 | Scott Brisbin | SGB | | |
| E | 13/10/2010 | Scott Brisbin | SGB | Martin Wells | MCW |
| F | 09/11/2010 | Scott Brisbin | SGB | Martin Wells | MCW |

"© 2010 Cardno (NSW) Pty Ltd All Rights Reserved. Copyright in the whole and every part of this document belongs to Cardno (NSW) Pty Ltd and may not be used, sold, transferred, copied or reproduced in whole or in part in any manner or form or in or on any media to any person without the prior written consent of Cardno (NSW) Pty Ltd."

LOWER HUNTER LAND DEVELOPMENT CONCEPT PLAN INFRASTRUCTURE REPORT - NORDS WHARF

TABLE OF CONTENTS

| | | |
|-----------|---|----------|
| 1. | INTRODUCTION | 1 |
| 2. | STRATEGIC PLANS..... | 2 |
| 3. | SEWER | 3 |
| 3.1 | Existing and Proposed Infrastructure..... | 3 |
| 3.2 | Consultation | 3 |
| 3.3 | Contributions | 3 |
| 4. | WATER | 4 |
| 4.1 | Existing and Proposed Infrastructure..... | 4 |
| 4.2 | Consultation | 4 |
| 4.3 | Contributions | 4 |
| 5. | ELECTRICITY | 5 |
| 5.1 | Existing and Proposed Infrastructure..... | 5 |
| 5.2 | Consultation | 5 |
| 6. | GAS | 6 |
| 6.1 | Existing and Proposed Infrastructure..... | 6 |
| 6.2 | Consultation | 6 |
| 7. | TELECOMMUNICATIONS..... | 7 |
| 7.1 | Existing and Proposed Infrastructure..... | 7 |
| 7.2 | Consultation | 7 |
| 8. | CONCLUSIONS..... | 8 |

APPENDICES

| | |
|-------------------|--|
| APPENDIX A | EXISTING INFRASTRUCTURE MAP |
| APPENDIX B | CONCEPT PLAN FROM APPROVED SEWER SERVICING STRATEGY |
| APPENDIX C | CONCEPT PLAN FROM APPROVED WATER SERVICING STRATEGY |
| APPENDIX D | HUNTER WATER ADVICE |
| APPENDIX E | INDICATIVE LOT LAYOUT |
| APPENDIX F | INDICATIVE UTILITY LEAD-IN PLAN |

1. INTRODUCTION

This engineering report has been prepared to supplement the Concept Plan Application to the Department of Planning for the Coal & Allied Industries Limited (Coal & Allied) proposed Nords Wharf development. This report addresses the existing and proposed infrastructure required to service the development and the strategic plans governing and guiding development. This report should be read in conjunction with the accompanying Concept Plan Application prepared by Urbis and the Infrastructure Maps appended to this report.

The following infrastructure elements have been addressed within this report:

- Sewer
- Water
- Electricity
- Gas
- Telecommunications.

In relation to the utility infrastructure listed above, the report addresses the following key issues:

- Existing infrastructure
- Proposed infrastructure
- Consultation undertaken
- Contributions payable (water and sewer only)

Given the size of the development and relatively small number of lots, the infrastructure will be provided in a single construction stage. Therefore, there are no comments on infrastructure staging.

Please note that traffic and transport, stormwater and hydrology, and social infrastructure have been covered in separate reports by other consultants.

2. STRATEGIC PLANS

The over-arching strategic document for Nords Wharf is the Lower Hunter Regional Strategy (LHRS). The LHRS sets out the objectives for the region and the key constraints and drivers to development. Appended to the strategy is a list of key infrastructure which is planned to support the anticipated development of the region.

Hunter Water is responsible for water and sewer infrastructure in the area. Hunter Water's 'Statement of Corporate Intent' sets out the Corporation's objectives, strategic directions and capital works program.

Energy Australia lists upcoming major capital works projects on its website (www.energyaustralia.com.au). Detailed information on recent and upcoming capital works projects can be found in report 'Investing For Future Generations – Our Five Year Network Plan'. The current revision of this report is for the period 2009 to 2014.

No specific strategic plans were identified for Telstra or Jemena (formerly Alinta) in relation to telecommunications and gas infrastructure.

3. SEWER

3.1 Existing and Proposed Infrastructure

Hunter Water has advised that Nords Wharf is located in the Belmont Wastewater Treatment Works catchment. A series of existing Sewer Pump Stations (SPSs) run along the lake front before discharging to Swansea South SPS. Hunter Water have identified that two of the downstream pump stations – Swansea South and Swansea 3A – are scheduled for upgrades in 2011 and 2014, respectively, however the development of Nords Wharf is not dependent upon these upgrades.

A Wastewater Servicing Strategy to service the Coal & Allied, the Rose Group zoned land at Catherine Hill Bay and Stockland developments in the area has been prepared by ADW Johnson (Wastewater Servicing Strategy – Catherine Hill Bay, Wallarah Peninsula, Middle Camp and Nords Wharf, July 2010, Ref: 211688(51), Rev C). The strategy has been approved by Hunter Water.

The Wastewater Servicing Strategy outlined the proposed upgrades and augmentation to the existing network that will be required to service the proposed developments.

Preliminary investigations by Cardno on behalf of Coal & Allied suggest the construction of a low lift pump station may be required on land currently owned by Hunter Water. Further investigations by ADW Johnson as part of the above Strategy suggest that the site could be connected by gravity to the existing network. Further detailed survey investigations will be carried out following Concept Plan approval to determine whether or not the low lift pump station will be required.

A concept plan from the approved ADW Johnson Wastewater Servicing Strategy is included in Appendix B.

3.2 Consultation

An initial meeting was held with Hunter Water's Senior Account Executive Major Development Malcolm Withers on 16 January 2007.

A 'Preliminary Servicing Advice' application for the development site was lodged on 4 July 2007. Subsequently a meeting was held with Hunter Water's Brett Lewis and Malcolm Withers on 2 August 2007. Jacinta Holmick (Cardno) and Lisle Butler (Cardno) attended this meeting on behalf of Coal & Allied.

'Indicative requirements for proposed development' were received from Hunter Water, dated 14 August 2007. The information contained within this document has since been superseded by the ADW Johnson Wastewater Servicing Strategy as noted above.

A follow up meeting was held with Hunter Water's Malcolm Withers on 15 October 2009. Further advice as to timing of Hunter Water funded upgrades was received in March 2010. A copy of this advice is included in Appendix D.

3.3 Contributions

As of 17 December 2008 Developer Services Charges (DSPs) are no longer levied by Hunter Water for sewer and potable water. It should be noted that this may not be the case in the future.

4. WATER

4.1 Existing and Proposed Infrastructure

The residents of Nords Wharf are serviced with potable mains water by Hunter Water from Cams Wharf water supply zone. Initial water modelling by Hunter Water indicates that the existing lead-in main is constrained in relation to minimum pressure and fire fighting requirements. Augmentation to the water supply network is required to cater for the proposed development.

A Water Servicing Strategy to service the Coal & Allied, Rose Group and Stockland developments has been prepared by ADW Johnson (Water Servicing Strategy – Catherine Hill Bay, Wallarah Peninsula, Middle Camp and Nords Wharf, June 2009, Ref: 211688(52), Rev B). The strategy has been approved by Hunter Water.

The Water Servicing Strategy outlined the proposed upgrades and augmentation to the existing network that will be required to service the proposed developments. A concept plan from the approved ADW Johnson Water Servicing Strategy is included in Appendix C.

The site will be serviced by a new 150mm diameter main from the existing Cams Wharf reservoir. The new 150mm diameter main will be cross linked with the existing network to provide benefit to existing residents in the area. The existing Cams Wharf reservoir is intended to be connected to the proposed Wallarah Reservoir as detailed in the approved Water Servicing Strategy.

4.2 Consultation

As above, refer section 3.2.

4.3 Contributions

As above, refer section 3.3.

5. ELECTRICITY

5.1 Existing and Proposed Infrastructure

Existing zone substations at Swansea and Lake Munmorah service the existing residents in Nords Wharf. Energy Australia has indicated that these zone substations may not have the capacity to service the new development area.

Energy Australia is planning for a new zone substation in the Catherine Hill Bay area to be built in 2009-2012. This zone substation will augment the existing network and provide capacity sufficient to service the proposed Nords Wharf development. No lead-in works are required by Coal & Allied. The Nords Wharf development will connect into the existing network in Branter Rd.

5.2 Consultation

Initial telephone conversations were held with Energy Australia's Craig Perry on 13 February 2007.

On 3 July 2007 a letter was issued to Energy Australia providing information on the development yield and timing and requesting a meeting. This meeting was held on 26 July 2007 in Energy Australia's Wallsend office. The attendees were Craig Perry (Energy Australia), Greg Skinner (Energy Australia), Frank van den Brink (Catylis), Jacinta Holmick (Cardno), Paul Malanchuk (Electrical Projects Australia) and Keith Dedden (Coal & Allied).

A follow up was conducted by Cardno to confirm whether the 2007 advice from Energy Australia regarding electrical servicing for the Nords Wharf site was still current and valid. An email and telephone exchange was conducted between Energy Australia and Cardno on 21 September 2010. Following these discussions Energy Australia committed to reviewing their previous advice however at the time of writing a response had not been received.

6. GAS

6.1 Existing and Proposed Infrastructure

Jemena (formerly Alinta) has advised that the closest gas main is at Swansea approximately 8kms north of the site. Jemena has undertaken a preliminary economic assessment and identified that natural gas reticulation is not economically feasible without significant developer contributions. Therefore it is not proposed to provide natural gas reticulation to the proposed development.

6.2 Consultation

A telephone conversation with Jemena's Greg Knight was held on 15 January 2007. Subsequently a meeting was held in Cardno's office with Greg Knight and Jacinta Holmick (Cardno) on 31 July 2007.

7. TELECOMMUNICATIONS

7.1 Existing and Proposed Infrastructure

Consultation with Telstra was undertaken with in 2007 (refer Section 7.2 below). At this time Telstra advised the nearest access to the Nords Wharf site was from the corner of Government Road and Awabakal Drive and that Telstra cabling will be provided in a shared trench arrangement along with electrical cabling

Since the 2007 consultation with Telstra, the National Broadband Network (NBN) has been announced by the Federal Government.

The NBN is committed to the provision of fibre optic telecommunications to 90% of existing Australian dwellings over the next 8 years.

It is understood that the installation of this network is provided at no cost to existing residential areas however in new developments the telecommunications pit and pipe network is developer funded.

Connection to the existing telecommunication network is understood to be funded by the NBN however timing for connection of the Nords Wharf site is currently unconfirmed.

7.2 Consultation

A number of telephone conversations were held with Telstra in January 2007 and a meeting held in Telstra's Newcastle office on 19 January 2007. Five staff from Telstra (including Chris Ross) and three staff and sub consultants of Cardno (including Jacinta Holmick) were in attendance.

8. CONCLUSIONS

Energy Australia has advised that the proposed Catherine Hill Bay zone substation will be provided to suit the development timetable and will augment existing capacity sufficient to service the Nords Wharf development. Energy Australia is in the process of confirming their previous advice.

Gas mains are not feasible for this area given the long distance to existing supplies.

Telecommunications to the site are likely to be provided under the Nation Broadband Network (NBN) however timing for connection to the network has not yet been confirmed.

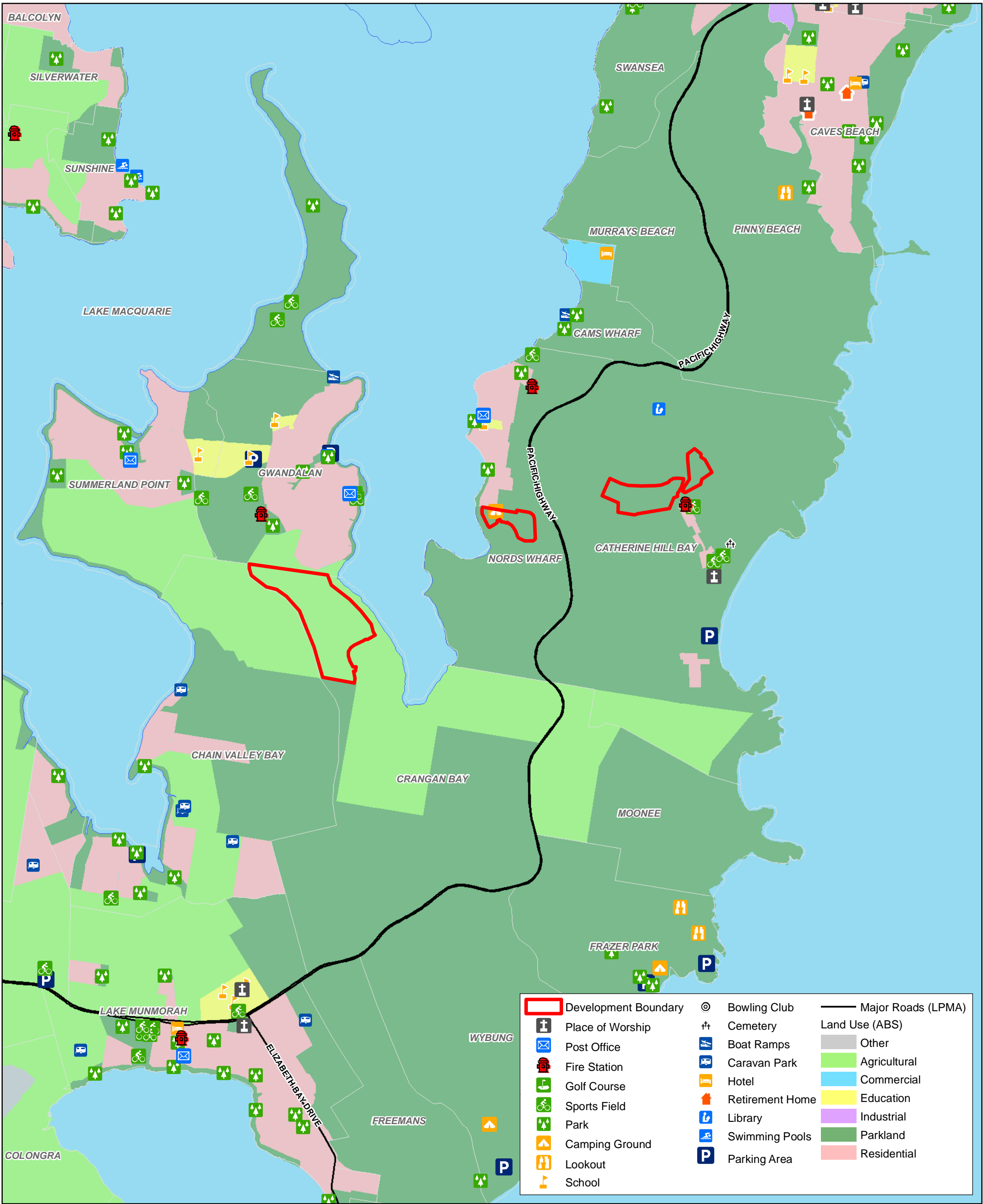
Hunter Water has approved both the Water and Wastewater strategies prepared by ADW Johnson. Water and sewer servicing will be provided to the site in accordance with these strategies.

With the exception of water infrastructure, the infrastructure proposed in this report will service only Coal & Allied's Nords Wharf development and no other developments identified in the Lower Hunter Regional Strategy (LHRS).

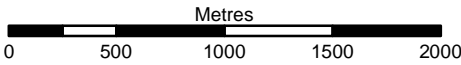
In relation to water infrastructure, the proposed augmentation works would be designed and constructed to suit the cumulative needs of the proposed Coal & Allied's developments at Nords Wharf and Catherine Hill Bay (Middle Camp), Rose Group's Catherine Hill Bay development and Stockland's Wallarah Peninsula development. It should be noted that the other proposed developments are not dependent upon the Nords Wharf infrastructure.

APPENDIX A

EXISTING INFRASTRUCTURE MAP



Scale 1:35,000 (at A3)



Existing Community Services Plan

LOWER HUNTER LAND DEVELOPMENT



Map Produced by Cardno Wollongong
Date: 13 April 2010
Coordinate System: Zone 56 MGA/GDA 94
GIS MAP REF: 210002_03_18012_Services.mxd 01

APPENDIX B

CONCEPT PLAN FROM APPROVED SEWER SERVICING STRATEGY

EXISTING NORDS
WHARF 1 WWPS
DUTY 40l/s@43m



- PROPOSED GRAVITY MAIN
- EXISTING RISING MAIN
- EXISTING GRAVITY MAINS



PROPOSED COAL & ALLIED DEVELOPMENT – NORDS WHARF

| REV. | DATE | AMENDMENT | DRAWN | CHECK | DESIGN | VERIFY | SCALES |
|------|------------|-------------------|-------|-------|--------|--------|--------|
| A | 24/08/2008 | Issued for Review | W.M. | N.D. | N.D. | H.W. | |



Central Coast
2 Bounty Close,
P.O. Box 3717,
Tuggerah N.S.W. 2259
Phone: (02) 4305 4300
Fax: (02) 4305 4399
email: coast@aqdwjohnson.com.au
www.aqdwjohnson.com.au
ABN 62 129 445 398

CLIENT
ROSE PROPERTY GROUP,
STOCKLAND &
COAL & ALLIED

PROPERTY DESCRIPTION
WALLARAH PENINSULAR, CATHERINE
HILL BAY AND NORDS WHARF
WASTEWATER SERVICING STRATEGY

| PROJECT | WASTEWATER SERVICING STRATEGY |
|-------------|--|
| PLAN TITLE | FIGURE 11: NORDS WHARF PROPOSED GRAVITY MAIN - PLAN |
| PROJECT No. | 211688(51) – REP – |
| DISCIPLINE | S11 |
| NUMBER | A |
| REV. | A |

LINE GN

Plotted By: hughw Plot Date: 26/08/09 – 15:45 Cad File: S:\211688\211688(51)\Drawings\211688(51)S12.dwg



ALL DIMENSIONS ARE IN METRES. DO NOT SCALE

Plotted By: hughw Plot Date: 26/08/09 - 15:45 Cad File: S:\211688\211688(51)\Drawings\211688(51)S13.dwg



P.O. Box 3717,
Tuggerah N.S.W. 2259
Phone: (02) 4305 4300
Fax: (02) 4305 4399
email: coast@adwjohnson.com.au
www.adwjohnson.com.au
ABN 62 129 445 398

WALLARAH PENINSULAR, CATHERINE
HILL BAY AND NORDS WHARF
WASTEWATER SERVICING STRATEGY

| | |
|-------------|--|
| PROJECT | WASTEWATER SERVISING STRATEGY |
| PLAN TITLE | FIGURE 12: NORDS WHARF PROPOSED GRAVITY MAIN - SECTION SHEET 2 |
| PROJECT No. | 211688(51) |
| DISCIPLINE | REP - |
| NUMBER | S13 |
| REV. | A |

APPENDIX C

CONCEPT PLAN FROM APPROVED WATER SERVICING STRATEGY

211688(52)R09[B]

100mm AT FULL SIZE

PROPOSED CATHERINE HILL BAY RESERVOIR
BASE RL88m
TWL RL95m

PROPOSED CATHERINE HILL BAY DEMAND AREA

EXISTING CATHERINE HILL BAY DEMAND AREA

PROPOSED NORDS WHARF DEMAND AREA

DIAGRAM B

PROPOSED MIDDLE CAMP DEMAND AREA

FLOWERS DRIVE

EXISTING MIDDLE CAMP DEMAND AREA

MINE CAMP ROAD

PROPOSED RADAR HILL DEMAND AREA

CATHERINE HILL BAY REMOTE AIV

CAMS WHARF ROAD

DN150 DUPLICATION

PROPOSED LAKESIDE DEMAND AREA

DIAGRAM A

PROPOSED WALLARAH RESERVOIR
BASE RL98.5m
TWL RL108.6m

EXISTING CAVES BEACH HIGH LEVEL RESERVOIR

SCENIC DRIVE

EXISTING CAVES BEACH HIGH LEVEL DEMAND AREA

PROPOSED MASONS RIDGE DEMAND AREA

EXISTING SWANSEA WPS

EXISTING SWANSEA 1 RESERVOIR

EXISTING SWANSEA 2 RESERVOIR

PROPOSED WALLARAH WPS

EXISTING CAVES BEACH WPS

PACIFIC OCEAN

LEGEND

- EXISTING RESERVOIR
- PROPOSED RESERVOIR
- 80m CONTOUR
- 50m CONTOUR
- 10m CONTOUR
- PROPOSED WPS
- EXISTING WPS

- PROPOSED $\phi 375$ WATER MAIN
- PROPOSED $\phi 300$ WATER MAIN
- PROPOSED $\phi 250$ WATER MAIN
- PROPOSED $\phi 200$ WATER MAIN
- PROPOSED $\phi 150$ WATER MAIN

- PROPOSED ROSE GROUP DEVELOPMENT
- PROPOSED COAL AND ALLIED DEVELOPMENT
- PROPOSED RADAR HILL DEVELOPMENT (STOCKLAND)
- PROPOSED MAWSONS DEVELOPMENT (STOCKLAND)
- PROPOSED LAKESIDE DEVELOPMENT (STOCKLAND)
- PROPOSED COASTAL DEVELOPMENT (STOCKLAND)

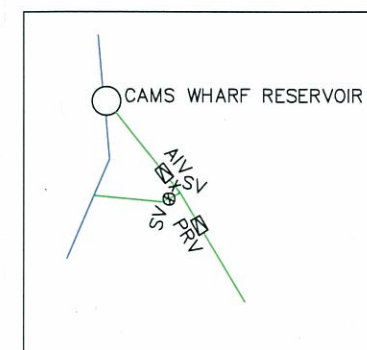


DIAGRAM A
BACKUP AIV ARRANGEMENT

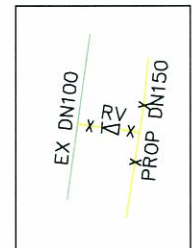
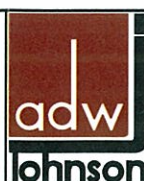


DIAGRAM B
BACKUP AIV ARRANGEMENT

| REV. | DATE | AMENDMENT | DRAWN | CHECK | DESIGN | VERIFY | SCALES |
|------|------------|-------------------|-------|-------|--------|--------|--------|
| A | 26/01/2009 | Issued for Review | W.M. | N.D. | N.D. | N.D. | |
| B | 30/06/2009 | HWC Comments | H.W. | N.D. | N.D. | H.W. | |



1:20000 at A3



Central Coast
2 Bounty Close,
P.O. Box 3717,
Tuggerah N.S.W. 2259
Phone: (02) 4305 4300
Fax: (02) 4305 4399
email: coast@adwjohnson.com.au
www.adwjohnson.com.au
ABN 62 129 445 398

CLIENT
ROSE PROPERTY GROUP
PTY LTD

PROPERTY DESCRIPTION
WALLARAH PENINSULAR AND
CATHERINE HILL BAY WATER
SERVICING STRATEGY

| PROJECT WATER SERVICING STRATEGY | | | |
|--|-----------------|-----------------------------------|--------------|
| PLAN TITLE FIGURE 09 PREFERRED WATER SYSTEM OPERATION SCHEMATIC | | | |
| SURVEYED ADWJ | DATUM A.H.D. | PROJECT No. 211688(52) - REP - | NUMBER 09 |
| | | DISCIPLINE | REV. B |

APPENDIX D

HUNTER WATER ADVICE

Scott Brisbin (Sydney)

From: Withers Malcolm [malcolm.withers@hunterwater.com.au]
Sent: Friday, 5 March 2010 4:54 PM
To: Scott Brisbin (Sydney)
Cc: McClymont Tony
Subject: Hunter Water response to Lower Hunter Land Development request for information

Follow Up Flag: Follow up
Flag Status: Completed

Good afternoon Scott,

Please accept my sincere apologies for the delay in responding to your enquiry. The following response is provided regarding the Lower Hunter Land Development Sites of Minmi/Link Rd, Black Hill, Catherine Hill Bay and Nords Wharf.

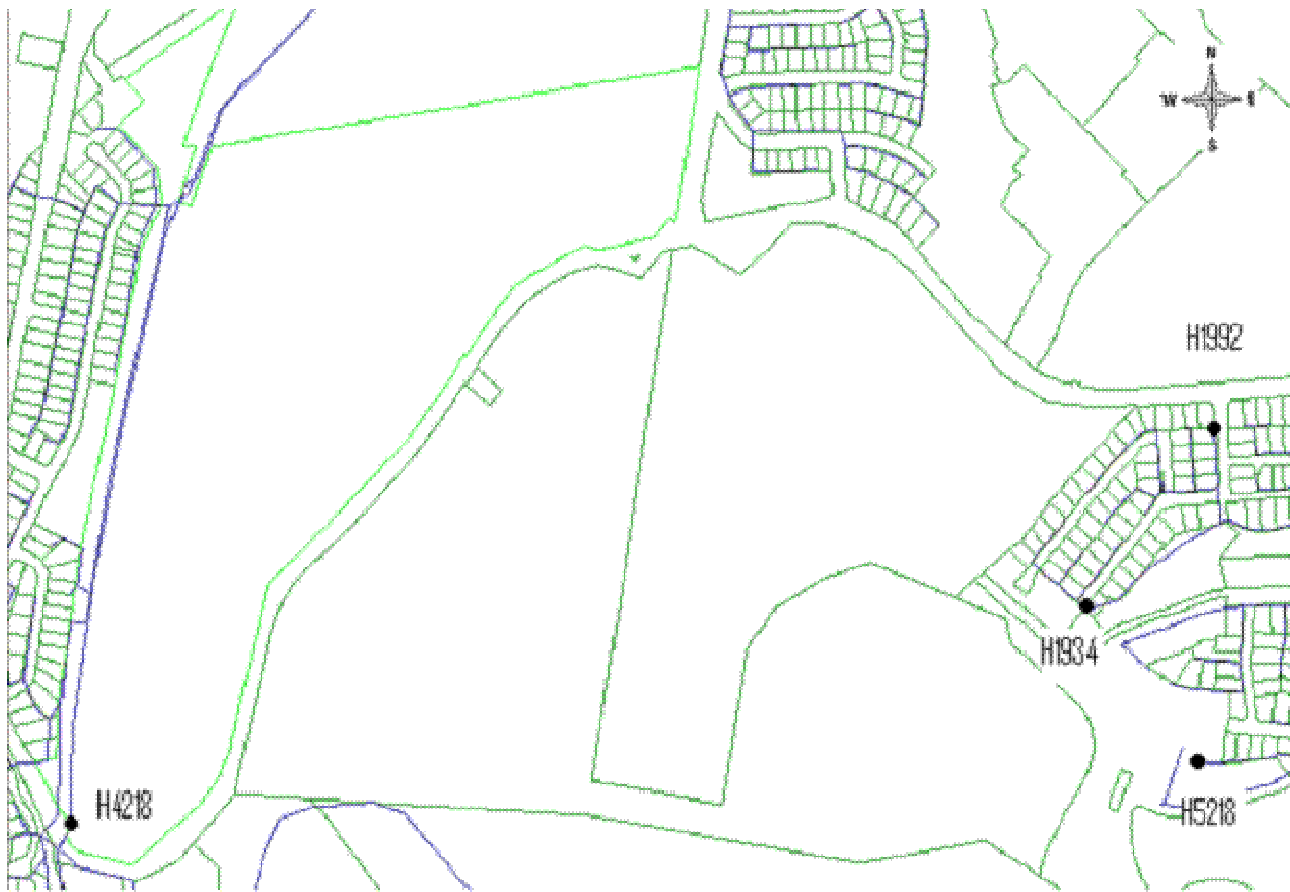
Minmi / Link Rd

Previous advice indicated that there was spare capacity for less than 400 ET in the existing wastewater transportation system. The following information provides more detail to assist in the preparation of servicing strategy.

The proposed Stage 1 development will have potential for wastewater to drain to a number of connection points within Hunter Water's existing system.

A portion of Stage 1 may be able to drain (or a WWPS may be required) south west to existing infrastructure at access chamber H4218, shown on diagram below. This manhole drains into the Minmi No.1 WWPS catchment. There is 240ET spare capacity available at this station.

The far east section of Stage 1 will drain to the existing system (access chambers H1934 and H5218 as shown in the figure below). Preliminary information indicates that Manhole H1934 currently has capacity for a further 200 ET while manhole H5218 has capacity for 65ET. The majority of Stage 1 will need to drain to a new pump station that may need to cater for other adjacent development. The pump station will require the construction of a new rising main. A feasible option would be for the rising main to discharge into access chamber H1992, but other options may be identified in the strategy. The current capacity at this access chamber is between 500 and 550ET depending on the number of ET connecting at H1934. Note that there are numerous other identified areas for growth that may also use some of the spare capacity in the wastewater network. It is likely that further upgrade work (downstream sections which receive flows from H1992, H1934 and H5218) will be required to service all identified growth.



The water supply system for the development will require a watermain to be constructed along Minmi Road connecting to the existing infrastructure at both ends. A DN200 watermain will provide sufficient capacity for the additional 600ET proposed, however the strategy will need to assess whether this watermain should be larger to provide capacity for further growth. The eastern-most portion of the development will reach be at elevations as high as 90m AHD. The existing system only achieves 82m HGL and therefore cannot be serviced from the current water supply system. This will need to be addressed, if this part of the site is to be developed.

Black Hill

The interim servicing option would involve discharging to the existing wastewater infrastructure on the north side of John Renshaw Dr. This infrastructure drains to the Beresfield 21 WWPS. This station has a duty capacity of 38L/s and currently receives approximately 13L/s of PWWF. The interim option of utilising some of this capacity initially will be dependant on consideration of the impacts on capacity available for other growth in the Beresfield 21 WWPS catchment.

In regard to on-site treatment, Hunter Water is not involved with the approval of on-site treatment systems, this would happen through council or DECC. Hunter Water may be available to assist you with this approval process and there may also be opportunities for Hunter Water to be involved in the design, construction and operation of the on-site treatment facilities. Please contact me if you wish to discuss these opportunities further.

Middle Camp (Catherine Hill Bay) and Nords Wharf

Swansea 3A is proposed to be upgraded at Hunter Water's expense. The timing of this upgrade is nominally indicated as 2013/14 in the forward capital program, however the timing of works beyond 2012/13 are generally less certain as they are in the next Price Path which is subject to IPaRT approval. However, Hunter Water will have time to monitor the growth in the total catchment to ensure that the upgrade is delivered at the right to allow development in the catchment not to be inhibited.

If you have any questions, please do not hesitate to contact me.

Regards

Malcolm Withers | Senior Account Executive Major Development | Hunter Water Corporation
T 02 4979 9545 | F 02 4979 9111 | M 0423 526 360 | malcolm.withers@hunterwater.com.au

From: Scott Brisbin (Sydney) [mailto:Scott.Brisbin@cardno.com.au]

Sent: Wednesday, 18 November 2009 5:54 PM

To: Withers Malcolm

Subject: Lower Hunter Land Development



Cardno (NSW) Pty Ltd | ABN 95 001 145 035
Level 3, Cardno Building
910 Pacific Highway Gordon NSW 2072
Tel:02 9496 7700 Fax:02 9499 3902

Malcolm,

Thank you for meeting with Geoff Rock and myself a few weeks ago.

Further to our meeting, please find attached a letter requesting additional information on the water and wastewater to the developments. The original has been sent in today's post.

Please give me a call should you wish to discuss.

Regards,

Scott Brisbin
Design Engineer

Phone:02 9496 7700

Fax:02 9499 3902

Mobile:0413 437 367

Email:scott.brisbin@cardno.com.au

Web:www.cardno.com.au

The information contained in this email and any attached files is strictly private and confidential and Cardno do not warrant the accuracy of information supplied electronically. The intended recipient of this email may only use, reproduce, disclose or distribute the information contained in this email and any attached files with Cardno's permission and should undertake an examination of electronically supplied data against an applicable hard copy version which shall be the only document for which Cardno warrants accuracy. If you are not the intended recipient, you are strictly prohibited from using, reproducing, adapting, disclosing or distributing the information contained in this email and any attached files or taking any action in reliance on it. If you have received this email in error, please email the sender by replying to this message, promptly delete and destroy any copies of this email and any attachments. Virus scanning software is used by this organisation to prevent file and system attacks, however the recipient is responsible for their own virus protection. Cardno accepts no liability whatsoever for any possible subsequent loss or damage arising from the use of this data or any part thereof.



This transmission is confidential and intended for the addressee only.
If you have received it in error, please delete it and notify the sender.
Unless explicitly attributed, the opinions expressed in this e-mail are those of the author only and do not represent the official view of Hunter Water Corporation.

Hunter Water Corporation checks all inbound/outbound e-mail for viruses. However, we advise that this e-mail and any attached files should be re-scanned to detect viruses. Hunter Water Corporation

accepts no liability for the loss or damage (whether caused by negligence or not) resulting from the use of this or any attached files.

This transmission is confidential and intended for the addressee only. If you have received it in error, please delete it and notify the sender. Unless explicitly attributed, the opinions expressed in this e-mail are those of the author only and do not represent the official view of Hunter Water Corporation.

Hunter Water Corporation checks all inbound/outbound e-mail for viruses. However, we advise that this e-mail and any attached files should be re-scanned to detect viruses. Hunter Water Corporation accepts no liability for the loss or damage (whether caused by negligence or not) resulting from the use of this or any attached files.

APPENDIX E

INDICATIVE LOT LAYOUT



Figure A1.3.1 Nords Wharf Indicative Lot Layout

APPENDIX F

INDICATIVE UTILITY LEAD-IN PLAN

| REV | DATE | FOR APPROVAL | Description | CMH | SGB | Drawn | Appd |
|-----|-----------|--------------|-------------|-----|-----|-------|------|
| 1 | 1/10/2010 | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |



© Cardno Ltd 2010
All Rights Reserved.
This document is produced by Cardno Ltd solely for the benefit of and use by the client in accordance with the terms of the contract between the client and Cardno Ltd. No liability is accepted by Cardno Ltd for any use of this document other than that intended by the client. Any use of this document for any other purpose without the written consent of Cardno Ltd is prohibited.



| Drawn | CMH | Date |
|----------|-----|------|
| Created | SGB | Date |
| Designed | SGB | Date |
| Verified | MCW | Date |
| Approved | MCW | Date |

COAL & ALLIED
LOWER HUNTER LAND DEVELOPMENT
SOUTHERN ESTATES
NORDS WHARF ESTATE

| STATUS | NOT FOR CONSTRUCTION |
|----------|----------------------|
| Date | 01/10/2010 |
| Drawn | AHD |
| Scale | AS SHOWN |
| Size | A1 |
| Revision | 1 |

