Cc: Edward Bond <Edward.Bond@arup.com>; Vlatko Stoilovski <Vlatko.Stoilovski@arup.com>
Subject: [External] Cook Cove Northern Precinct Development - Request for Information

EXTERNAL SENDER – Be cautious opening Links and Attachments
Dear Kareena,

We have previously submitted an application to confirm that NBNCo are able to service the Cook Cove Northern development – please see the attached email and correspondence from 2016 – 2020 for the trailing emails, application and project history.

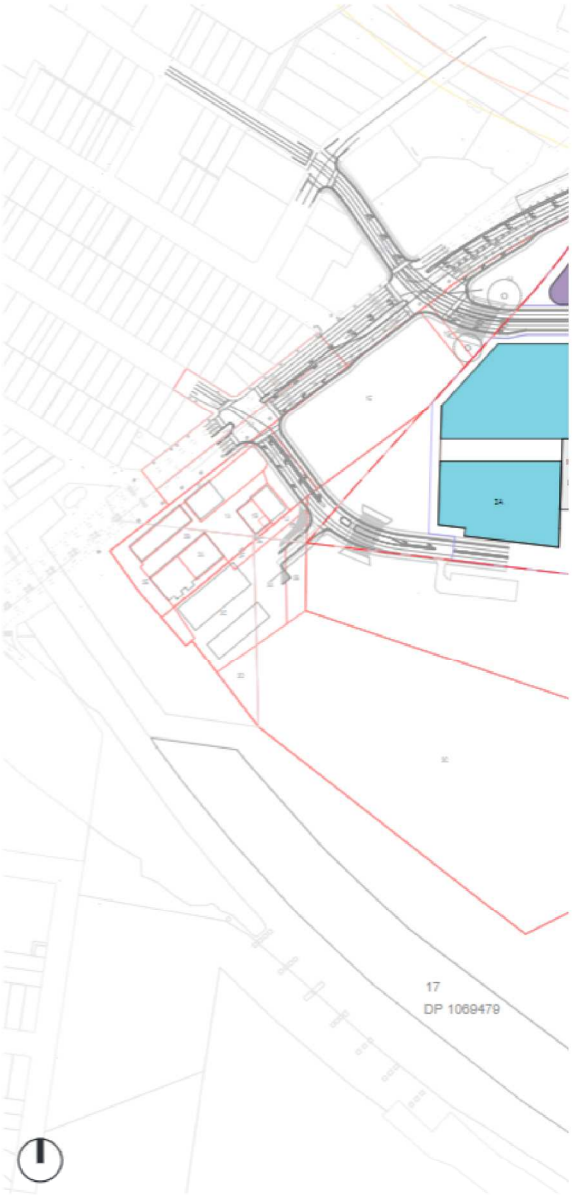
I am writing on behalf of the client who are undertaking the Rezoning Application and future development of the site with revised development yields as below.

MASTER PLAN BUILT FORM

Adjacent plan illustrates the proposed master plan and built form configuration across site.

Area Summary

	Block 1	Block 2	Block 3	Total
Hotel		20,800m²		20,800m²
Commercial	1,110m²	20,500m²		21,610m²
Retail	900m²	9,100m²		10,000m²
Logistics			290,400m²	290,400m²
Total	2,010m²	50,400m²	290,400m²	342,810m²



Could you please re-confirm that NBN is able to service the precinct?

Let me know if you need any further information.

Vanessa Khuu
She/her/hers
Graduate Civil Engineer

B Civil Eng (Hons)

Arup
Gadigal Country
Barrack Place, Level 5, 151 Clarence Street,
Sydney, NSW, 2000, Australia
m +61 2 9320 9378
LinkedIn Twitter Instagram YouTube Facebook

Appendix N

Jemena Correspondence

Vlatko Stoilovski

From: Vanessa Khuu
Sent: Wednesday, 23 November 2022 1:54 PM
To: Neale Hilton
Cc: Edward Bond; Vlatko Stoilovski
Subject: RE: Cook Cove Northern Precinct Development - Request for Information

Hi Neale,

Thanks for the confirmation.

Best,
Vanessa Khuu
She/her/hers
Graduate Civil Engineer
B Civil Eng (Hons)

Arup
Gadigal Country
Barrack Place, Level 5, 151 Clarence Street,
Sydney, NSW, 2000, Australia
m +61 2 9320 9378
LinkedIn Twitter Instagram YouTube Facebook

From: Neale Hilton <Neale.Hilton@jemena.com.au>
Sent: Wednesday, November 23, 2022 9:43 AM
To: Vanessa Khuu <Vanessa.Khuu@arup.com>
Subject: RE: Cook Cove Northern Precinct Development - Request for Information

Vanessa
Thank you for your recent correspondence. Jemena maintains the original advise from 2017 is still relevant to accomplish supply to this development. Regards.

Neale Hilton
Network Development Specialist –
Residential Medium Density/High Rise
Jemena
Level 14, 99 Walker Street, North Sydney, NSW 2060
M 0402 060 151
neale.hilton@jemena.com.au | www.jemena.com.au

From: Vanessa Khuu <Vanessa.Khuu@arup.com>
Sent: Tuesday, 22 November 2022 12:31 PM
To: Neale Hilton <neale.hilton@jemena.com.au>
Cc: Edward Bond <Edward.Bond@arup.com>; Vlatko Stoilovski <Vlatko.Stoilovski@arup.com>
Subject: Cook Cove Northern Precinct Development - Request for Information

Dear Neale,

We have previously submitted an application to confirm that Jemena are able to service the Cook Cove Northern development – please see the attached email and correspondence from 2016 – 2020 for the trailing emails, application and project history.

I am writing on behalf of the client who are undertaking the Rezoning Application and future development of the site with revised development yields as below.

MASTER PLAN BUILT FORM

Adjacent plan illustrates the proposed master plan and built form configuration across site.

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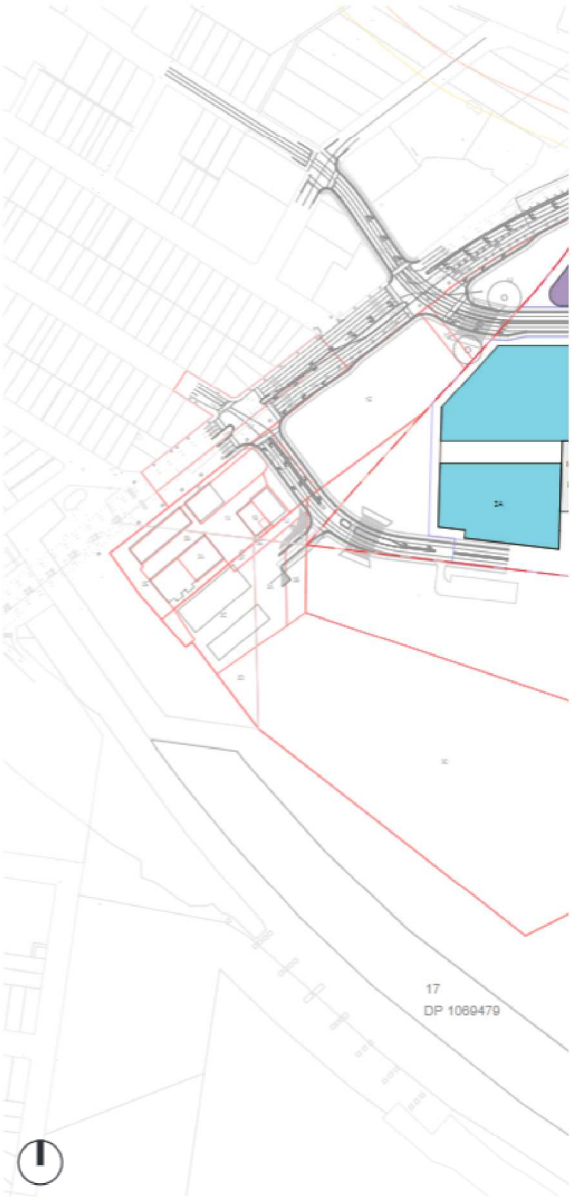

Could you please re-confirm that Jemena is able to service the precinct?

Let me know if you need any further information.

Vanessa Khuu
She/her/hers
Graduate Civil Engineer
B Civil Eng (Hons)

Arup
Gadigal Country
Barrack Place, Level 5, 151 Clarence Street,
Sydney, NSW, 2000, Australia
m +61 2 9320 9378
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Appendix O

Moomba – Sydney Pipeline Route

O.1


N
LEGEND:
SITE BOUNDARY
EXISTING CADASTRAL BOUNDARY
PROPOSED DESIGN
LANDSCAPE DESIGN BY OTHERS
TREES TO BE REMOVED
MOOMBA - SYDNEY ETHANE PIPELINE AND EASEMENT
DESALINATED WATER PIPELINE AND EASEMENT
GERTRUDE STREET EAST
FLORA STREET EAST
M8 / M6 MOTORWAY OPERATING CENTERS
5m CLEARANCE / SETBACK TO MOOMBA-SYDNEY ETHANE PIPELINE TO BE MAINTAINED
EXISTING FROG PONDS
EXISTING DESALINATED WATER PIPELINE EASEMENT
EXISTING MOOMBA-SYDNEY ETHANE PIPELINE EASEMENT
EVE STREET
(FORMED)
PRINCESS HIGHWAY
GERTRUDE STREET
INNESDALE STREET
LEVEY STREET
MARSH STREET
FLORA STREET
VALDA AVENUE
ARUP
COOK COVE
COOK COVE PLANNING PROPOSAL (PP-2022-1748) CONCEPT INFRASTRUCTURE DESIGN
SCHEMATIC LAYOUT OF EXISTING MOOMBA - SYDNEY ETHANE PIPELINE
DRAFT
SK305

Appendix P

APA Group Draft LUIS Submission Letter

APA Group ACN 083 009 278
Level 1, 121 Wharf Street
Spring Hill, QLD 4000
GPO Box 1390. QLD 4001
APA Group | apa.com.au

APA Ref: 170228_LO_Qld State Planning Policy

28th February 2017

Department of Planning and Environment
GPO Box 39
Sydney NSW 2001

Dear Sir or Madam,

RE: Submission on planning documents for Arncliffe, Banksia and Cooks Cove

Thank you for the opportunity to review and provide comment on the *Bayside West Precincts (Arncliffe, Banksia and Cooks Cove) Land Use and Infrastructure Strategy*; and the *Arncliffe and Banksia Priority Precincts, Rezoning Proposal*.

This submission contains three key parts. Firstly, background information is provided on APA, and our obligations in managing and operating high pressure gas transmission pipelines. This background is important to understand in relation to the submissions we are making. The second part contains specific submissions in relation to the two documents on public consultation. Lastly is a summary of key points.

1. Background to APA and High Pressure Gas Transmission Pipelines

About APA

APA Group (APA) is Australia's largest natural gas infrastructure business and has direct management and operational control over its assets and investments. APA's gas transmission pipelines span across Australia, delivering approximately half of the nation's gas usage. APA owns and operates over 15,000 km's of high pressure gas transmission pipelines (HPGTPs) across Australia.

The high pressure gas pipeline infrastructure plays an important role in:

- supplying energy needs to residential customers
- supplying power generators
- providing energy needs to business and industry and thereby supporting economic activity in New South Wales.

APA owns and operates the Moomba-Sydney Ethane Pipeline which runs through the subject area. The pipeline is located outside the northern extent of the subject area, but crosses the Princes Highway and then follows the eastern side of the Cooks Cove Precinct before crossing the River near the southern end of Kogarah Golf Club. While the pipeline is outside and along the edge of the study area, the Measurement Length (ML) of the pipeline extends for 590m, well into the study area (but excluding the Banksia Precinct. The ML is explained below under the heading 'Measurement Length (ML) and Safety'.

APA's statutory obligations

As a licence holder for HPGTPs APA has statutory obligations under the *Pipelines Act 1967 (the Act)*. The *Pipelines Regulation 2013* states a licensee must ensure the design, construction, operation and maintenance of a pipeline is in accordance with Australian Standards 2885 (AS2885).

APA also has a role to play in ensuring development compliance with Clause 55 'Development adjacent to corridor' in Division 9 of SEPP (Infrastructure) 2007, which states the following.

> *(1) Before determining an application (or any application for modification of a consent) for development adjacent to a gas pipeline corridor, the consent authority must:*
>
> *(a) be satisfied that the potential safety risks or risks to the integrity of the pipeline that are associated with the development or modification to which the application relates have been identified, and*
>
> *(b) take those risks into consideration.*

In considering a development proposal or rezoning APA is obligated to ensure its pipelines are not damaged, nor subject to development which may increase the future risk of damage. Furthermore, APA must ensure the pipeline is designed to "reflect the threats to pipeline integrity, and risks to people, property and the environment" (AS2885, s4.3.1). Location classes are used to determine the appropriate pipeline design and management for the circumstances. If the location class changes a Safety Management Study is required to assess the additional risk and ensure the risk is reduced to an acceptable level.

Under AS2885, APA is not only responsible for activities or development on its easements, or land which includes an easement in favour of APA. APA has responsibilities for managing the risks associated with land use well outside of the pipeline easements. This includes both increased risk of physical damage to the pipeline from development and ongoing land use activities, as well as the risk to surrounding development from a loss of containment. The two risks are related, with measures to protect the integrity of the pipeline also reducing risk to surrounding people and development. These issues are explained in more detail below under the heading 'Measurement Length (ML) and Safety'.

APA's role

When considering land use and development proximate to HPGTPs and associated infrastructure, APA must consider safety as a key priority. We wish to emphasise it is APA's intent and duty to ensure high pressure gas pipelines and local communities are safely protected.

APA has a number of responsibilities and duties to perform under a complex framework of legislation, standards and controls across Federal, State and Local Government landscapes. In discharging these duties, APA needs to continuously review what is happening around its assets, what land use changes are occurring and what development is taking place, to ensure it remains in a positon to comply with applicable operational and safety standards and legislation whilst meeting its commercial obligations and imperatives.

In order to maintain pipeline safety, it is essential APA is informed of changes in land use in areas potentially affected by a pipeline failure in order that plans to control new threats and consequences can be developed and implemented. These measures can be costly and require substantial forward planning. Therefore, it is in the interests of the plan makers and development proponents to communicate with the pipeline operator as early as possible in the planning process. The earlier that notice of planning proposals affecting APA's pipelines is provided to APA, the better the information available to address public safety and the better equipped planners and APA will be to design efficient and effective outcomes, including ensuring safety near transmission pipelines both during development and after public settlement in the new areas.

In addition to the macro level perspective outlined above, APA also needs to ensure future land use and development patterns do not inadvertently (or intentionally) erode, reduce or extinguish the current controls and contractual rights commercially obtained by APA though easement agreements within which pipelines and associated infrastructure are located. It is important to avoid such outcomes which threaten the integrity of the pipeline and efficiency of ongoing operations.

Measurement Length (ML) and Safety

In managing HPGTPs and considering land use changes APA must focus on that area geographically defined by the ML. The ML area is essentially the area within which APA is mandated to consider community safety in the event the pipe is impacted in some way and we have a loss of pipeline containment. The ML is the area of safety consequence should a full bore rupture occur. The ML is determined taking account:

- design criteria of the pipe (driven by the environment within which it was designed for at the time of construction), and
- Maximum Allowable Operating Pressure (MAOP) of the pipe.

Due to the factors above the ML can vary significantly, and in the case of the subject area the ML is 590m either side of the pipeline. Therefore, APA must discharge its statutory obligations over a significant area well beyond the extent of any pipeline easements.

AS2885 requires APA to consider community and operational safety aspects in the event of a change in land use or significant increase in population density within the Measurement Length (ML) of the pipeline. This consideration is typically undertaken through a Safety Management Study (SMS). Where required, we strongly recommend Council, the proponent and APA coordinate to undertake this process so future land use and construction within the ML can be undertaken taking account any identified safety considerations and in compliance with AS2885 and its enabling legislation.

The SMS process does not preclude development from occurring, but ensures it occurs in a manner which maintains the pipeline integrity and community safety. Typical recommendations of an SMS are improved physical protection of the pipeline by slabbing installed below ground over the pipeline, and excluding or reducing the risk to sensitive uses within the ML.

State and local government can access pipeline information via the Australian Pipelines and Gas Association which maintain an online mapping database from which data can be exported as an ESRI Shapefile or Google KML file.

This includes the measurement length for all APA transmission pipelines as well as other pipelines. Registration is available at https://maps.landpartners.com.au/apd/APGALogin.aspx.

2. Submission specifics

Arncliffe and Banksia Precinct Proposal

The proposed rezoning for the Arncliffe and Banksia Precincts proposes significantly higher density urban development, when compared with existing development, or development allowed under existing planning controls. APA appreciates the urban planning rationale for higher density development in well serviced areas and does not oppose the principle of the proposed rezoning. However, as a result of the proposed rezoning the increased community risk should be assessed through an SMS. In our experience the outcomes of an SMS may include increased physical protection (slabbing) of the pipeline and appropriate control of additional sensitive uses within the ML. It is important this process be completed now so it can inform land use decisions at an early stage and avoid re-work of detailed planning and design. It should be noted only the Arncliffe Precinct is within the pipeline ML.

The location of the pipeline should be clearly shown on relevant planning constraint mapping to ensure direct impacts on the pipeline are avoided. These includes:

- avoiding roads over the pipeline easement, with crossings only allowed at limited locations at 90 degrees to the pipelines
- avoiding any reconfiguration which segments the easement
- work in the easement or within 50m of the easement requiring prior approval from APA.

The utilisation of the easement as a linear open space reserve with limited embellishment held in single title is the preferred outcome.

The following recommendations relate to the Precinct Proposal.

Recommendation 1 – The Precinct Proposal should explicitly detail the presence of the Moomba-Sydney Ethane Pipeline and the need to address relevant requirements under AS2885 in relation to community safety and pipeline integrity. This should be included in Section 3 - Key Considerations. Gas pipeline and transmission infrastructure should be shown on Figure 15: Opportunities and Constraints. This will assist in giving due consideration to this important economic asset and risk hazard.

Recommendation 2 – Mapping of gas pipeline and transmission infrastructure should accompany the proposed zoning, and other land use control maps in the Rockdale Local Environmental Plan (LEP) and other relevant planning instruments. This will ensure that the gas pipeline is considered as part of development applications.

Recommendation 3 – The Department of Planning and Environment should immediately commission an SMS to ensure risks of change in land use, and increased urban density, are appropriately mitigated.

Recommendation 4 – The recommendations of the SMS should be implemented by the agent of change at their cost. This should be considered as part of the Special Infrastructure Contribution proposed in Section 5.6 - Funding.

Recommendation 5 – The SMS must consider the risk to any sensitive uses proposed within the ML (which extends into the Arncliffe precinct). While not seeking to pre-empt the outcomes of the SMS, given the pressure of the pipeline and wall thickness in this location, there may be some sensitive uses permitted within parts of the ML. Where a sensitive use is found to be at risk, it is APA's preferred approach to relocate the use to eliminate the risk. This relates to the mixed use zoning to the north east of the Arncliffe Station, between the railway line and Princes Highway and east of Princes Highway (see Figure 17: Land Use Plan). This appears to be the only non-residential zoning areas within the ML. Sensitive uses for the purpose of the SMS include:

- child care centre
- entertainment facility
- correctional centre
- educational establishment
- hospital
- place of public worship
- residential care facility
- retail premises
- seniors housing
- service station.

Recommendation 6 – As part of the rezoning to occur through an amendment to the Rockdale LEP, it should be a clearly requirement that the following development be referred to the pipeline license holder in order to meet the requirements of Division 9 of SEPP (Infrastructure) 2009. Referral should be made for the following:

- subdivision of any lots which contain a HPGTP or easement
- a change in land use to a sensitive use as listed in Recommendation 5, and where located within the ML
- development involving any works within the easement and within 50m of the easement.

The benefit of completing an SMS at the current stage of proposed land use change is that the major issues associated with the pipeline will be addressed, in a holistic and coordinated manner, and the potential impact on subsequent development applications will be significantly reduced.

Bayside West Precincts (Arncliffe, Banksia and Cooks Cove) Draft Land Use and Infrastructure Strategy

The Bayside West Precincts (Arncliffe, Banksia and Cooks Cove) Draft Land Use and Infrastructure Strategy (the Strategy) is a high level strategy document which supports the proposed land use change in the area. It does this through key actions including rezoning, special infrastructure contribution, community projects, social housing, infrastructure improvements and planning proposal for Cooks Cove. As explained above in relation to the Precinct Proposal APA is concerned that the presence of the Moomba-Sydney Ethane Pipeline is considered, to ensure additional risks are mitigated, and development does not directly impact on the pipeline and easement.

The following recommendations relate to the Strategy.

Recommendation 7 – The Strategy should explicitly detail the presence of the Moomba-Sydney Ethane Pipeline (and associated infrastructure) and the need to address relevant requirements under AS2885 in relation to community safety and pipeline integrity. This should be included in Section 5 - Key Considerations. Gas pipeline and transmission infrastructure should be shown on Figure 8: Opportunities and Constraints. This will assist in giving due consideration to this important economic asset and risk hazard.

Recommendation 8 – The Department of Planning and Environment should immediately commission an SMS for the entire Strategy area to ensure risks of change in land use and increased urban density are appropriately mitigated. Completing an SMS for the entire Strategy area ensures all development proponents are aware of risk mitigation and development requirements, and can work with the licence holder to advance planning and design. This will also streamline the assessment process for subsequent development applications.

Recommendation 9 – The recommendations of the SMS should be implemented by the agent of change at their cost. This should be considered as part of the Special Infrastructure Contributions under Action 2 of the Strategy.

Recommendation 10 – The SMS must consider the risk to any proposed sensitive uses within the ML (which includes the majority of the Cooks Cove Precinct). While not seeking to pre-empt the outcomes of the SMS, given the pressure of the pipeline and wall thickness in this location, there may be some sensitive uses permitted within parts of the ML. Where a sensitive use is found to be at risk, it is APA's preferred approach to relocate the use to eliminate the risk.

A proposed sensitive uses within Cooks Cove is a new school as noted in Section 6.6 (Strategic Intent) and Section 7.5 (Schools); and shown on Figure 19: Infrastructure Map.

Recommendation 11 – Proposed new infrastructure near the pipeline includes improved cycle and pedestrian connections (missing regional link) and a bridge across Cooks River (Figure 19: Infrastructure Map). These should be designed in close consultation with APA (as the pipeline licence holder) to avoid impacts on the pipeline, maintain the pipeline easement, and explore opportunities for placement of cycle/pedestrian paths to further protect the pipeline. Such infrastructure should be within public open

space which preserves the pipeline easement and provides ongoing protection. Design of open space incorporating the pipeline easement must be subject to consultation with APA to ensure the easement is appropriately managed. Open space associated with the riverfront and cycle/pedestrian links should be mentioned in Section 7.3 (Open Space), and Section 7.4 (Pedestrian and Cycling Connections).

Recommendation 12 – Table 3: Local Infrastructure Upgrades includes a section on Community infrastructure, however, item C6 (new district level branch library and community centre) cannot be located to determine the appropriateness of its location in relation to the ML. The location should be provided and considered as part of the SMS.

Recommendation 13 – The land use plan for Cooks Cove (Section 6.1-3) should note a majority of the site is within the ML of the Moomba-Sydney Ethane Pipeline, and constrained by the pipeline and easement. Development of this area must to subject to consultation with APA to ensure development meets the requirements of AS2885 and SEPP (Infrastructure). As per Recommendation 8 this development proposal should be subject to an SMS.

We note the development proponent for Cooks Cove has held preliminary discussions with APA regarding the site, and we look forward to continuing these discussions.

3. Key Points

1. Licence holders of HPGTPs (licence holders) have statutory obligations under the *Pipelines Act 1967* and the *Pipelines Regulation 2013 (P&G Reg)*. The *P&G Reg* states a licensee must ensure the design, construction, operation and maintenance of a pipeline is in accordance with Australian Standards 2885 (AS2885).

2. Under AS2885 licence holders must consider the implications of land use change in the vicinity of pipelines. It is important the Department of Planning and Environment gives appropriate consideration to APA addressing its obligations under NSW regulations.

3. While development must appropriately consider the impact of development on or near a pipeline and associated easement, regulations require consideration be given to land use change within the ML, which is 590m for the subject pipeline.

4. The above obligations are critical to managing the safety of people and development while maintaining economically important infrastructure.

5. The integrity of pipeline operations is critical to the efficient supply of gas.

6. An SMS should be immediately commenced for the subject areas to ensure issues are identified and addressed early in an effective and coordinated manner. Consideration of licence holder issues early in planning processes will make requirements clear for all parties, addressing major issues at an early stage, and resulting in streamlined development approval processes.

7. Recommendations of the SMS must be implemented, with any costs being borne by the agents of change. Such costs should be considered as part of a Special Infrastructure Contribution.

8. The location and constraints associated with the pipeline should be included in the subject documents and the Rockdale LEP along with any amendments resulting from the proposed rezoning.

9. The Rockdale LEP should include the requirement to refer relevant development applications to the licence holder for comment and consideration of SEPP (Infrastructure). Subject to an SMS

being completed and recommendations implemented this would streamline the development assessment process.

10. The SMS must consider the risk to any sensitive uses proposed within the ML. Where a sensitive use is found to be at risk, it is APA's preferred approach to relocate the use to eliminate the risk.

11. Cycle and pedestrian infrastructure improvements, along the eastern side of Cooks Cove must be designed in close consultation with APA and should incorporate open space including APA's pipeline and easement.

APA thanks the Department of Planning and Environment for the opportunity to comment on the *Bayside West Precincts (Arncliffe, Banksia and Cooks Cove) Land Use and Infrastructure Strategy;* and the *Arncliffe and Banksia Priority Precincts, Rezoning Proposal*. APA appreciates the time and effort spent by the Department on these documents. APA would welcome the opportunity to discuss the contents of this submission in a meeting with the Department.

Please contact Ross Larsen on 07 3223 3328 or email planningnsw@apa.com.au to further discuss the contents of this correspondence.

Yours faithfully,

Ross Larsen
Senior Urban Planner
Infrastructure Planning and Protection

Appendix Q

APA SMS Workshop Report

Agenda

ARUP

Project title	APA Ethane Pipeline	Job number	255952-00
Meeting name and number	SMS Workshop	File reference	
Location	Arup Offices, Level 10, 201 Kent St, Sydney	Time and date	9.00 25 August 2017
Purpose of meeting	Safety Management Study Workshop		
Attendance	Nigel Cann (facilitator) Alicia Baker Peter Bettridge Sean Brokman Bernard Gallagher Ross Larsen Chris Meades Ben Smith Mark Walker Martin Wong		
Apologies			
Circulation	Those attending		

		Action
1.	**Welcome/introductions (9.00 – 9.15)**	Arup
2.	**Introduction to SMS process (9.15 – 9.30)**	Arup
	• Background	
	• Safety management process flowchart	
3.	**Cooks Cove development (9.30 – 10.00)**	Developer
	• Plans	
	• Measurement length	
	• Land use	

Prepared by: Ben Smith

Date of circulation: 22 August 2017

Agenda

Project title	Job number	Date of Meeting
APA Ethane Pipeline	255952-00	25 August 2017

Action

4. Threat identification (10.00 – 12.30; 1.00 – 3.15) All

- Threat guide words:
  a) external interference
  b) corrosion
  c) natural events
  d) electrical events
  e) operations and maintenance activities
  f) construction defects
  g) design defects
  h) material defects
  i) intentional damage
  j) other threats such as seismic and blasting

5. Lot 10 (3.30 – 4.30) All

- Development plan
- Valve station relocation
- Pipeline realignment
- Construction
- Tie-ins
- Hot tapping

6. Wrap up/close out (4.30 – 5.00) Arup

THREAT IDENTIFICATION						EXISTING CONTROLS			ADDITIONAL CONTROLS (ACTION ITEM)			
ID	**Category**	**Description**	**Consequence**	**Threat Credible?**	**If no, why?**	**Physical Controls**	**Procedural Controls**	**Failure Possible?**	**Additional Controls**	**Responsibility**	**Due**	**Failure Possible?**
1	External interference	Third party excavation - during construction	Pipe penetration with ignition	Yes					Pipeline to be slabbed Equipment to be limited to 12T			
2	External interference	Third party excavation - post construction (e.g. during maintenance)	Pipe penetration with ignition	Yes					Pipeline to be slabbed			
3	External interference	Vibration from construction activities	Fatigue	Yes					Vibration monitoring to take place during construction; if threshold is reached, construction activity to be ceased and alternative construction method implemented			
4	External interference	First party excavation - maintenance of buried services or installation of new services	Pipe penetration with ignition	Yes					Pipeline to be slabbed			
5	External interference	Installation of posts or poles for fences or power cable installation (during construction)	Pipe penetration with ignition	Yes					Pipeline to be slabbed			
6	External interference	Installation of posts or poles for fences or power cable installation (post construction)	Pipe penetration with ignition	Yes					Pipeline to be slabbed			
7	External interference	Horizontal directional drilling	Pipe penetration with ignition	Yes								
8	External interference	Land development - grading, cropping, irrigation, forestry etc. (Outside the development area, but within one measurement length)	Pipe penetration with ignition	Yes					Pipeline to be slabbed one measurement length either end of development area			
9	External interference	Impacts by vehicles, including road, rail and aircraft crashes		No	Pipeline underground							
10	External interference	Bogged vehicles or plant over the pipeline	Excessive external pressure on pipeline - possible ovality Possible reduction of cover	Yes					Pipeline to be slabbed			
11	External interference	Vehicles crossing the pipeline at areas other than road crossings	Excessive external pressure on pipeline - possible ovality Fatigue	Yes					Pipeline to be slabbed			

THREAT IDENTIFICATION						EXISTING CONTROLS			ADDITIONAL CONTROLS (ACTION ITEM)			
ID	**Category**	**Description**	**Consequence**	**Threat Credible?**	**If no, why?**	**Physical Controls**	**Procedural Controls**	**Failure Possible?**	**Additional Controls**	**Responsibility**	**Due**	**Failure Possible?**
12	External interference	Excessive external loads from backfill or traffic	Excessive external pressure on pipeline - possible ovality	Yes		RockGuard fitted to pipeline to protect against backfill			Pipeline to be slabbed			
13	External interference	Interference from plant/ equipment repairing the sea wall	Excessive external pressure on pipeline	Yes					APA to approve detailed design APA to approve construction plan including equipment types			
14	Corrosion	External corrosion/erosion of pipe due to environmental factors		No	Threat unchanged as a result of land use change							
15	Corrosion	Internal corrosion due to contaminants (e.g. hydrogen sulfide, carbon dioxide, water)		No	Threat unchanged as a result of land use change							
16	Corrosion	Internal erosion due to the abrasive action of solids		No	Threat unchanged as a result of land use change							
17	Corrosion	Environmentally assisted cracking		No	Threat unchanged as a result of land use change							
18	Corrosion	Bacterial corrosion		No	Threat unchanged as a result of land use change							
19	Natural events	Earthquake		No	Threat unchanged as a result of land use change							
20	Natural events	Ground movement due to land instability		No	Threat unchanged as a result of land use change							
21	Natural events	Wind and cyclone		No	Threat unchanged as a result of land use change							
22	Natural events	Bushfires		No	Threat unchanged as a result of land use change							
23	Natural events	Lightning		No	Threat unchanged as a result of land use change							
24	Natural events	Floods, leading to erosion or impact damage		No	Threat unchanged as a result of land use change							
25	Natural events	Inundation, leading to flotation		No	Threat unchanged as a result of land use change							
26	Natural events	Erosion of cover or support		No	Threat unchanged as a result of land use change							

THREAT IDENTIFICATION						EXISTING CONTROLS			ADDITIONAL CONTROLS (ACTION ITEM)			
ID	Category	Description	Consequence	Threat Credible?	If no, why?	Physical Controls	Procedural Controls	Failure Possible?	Additional Controls	Responsibility	Due	Failure Possible?
27	Electrical events	Induced voltages from parallel electricity transmission lines		Yes								
28	Electrical events	Fault voltages from transmission towers		Yes								
29	Electrical events	Utilities lines crossing pipeline	Erosion of cathodic protection	Yes					Crossings to be limited as far as practicable (ideally no more than 2) by running all utilities across the pipeline in a corridor (with additional redundancy in the corridor)			
30	Operations and maintenance activities	Exceeding MAOP		No	Threat unchanged as a result of land use change							
31	Operations and maintenance activities	Incorrect operation of pigging		No	Threat unchanged as a result of land use change							
32	Operations and maintenance activities	Incorrect valve operating sequence		No	Threat unchanged as a result of land use change							
33	Operations and maintenance activities	Incorrect operation of control and protective equipment		No	Threat unchanged as a result of land use change							
34	Operations and maintenance activities	Bypass of logic, control or protection equipment		No	Threat unchanged as a result of land use change							
35	Operations and maintenance activities	Fatigue from pressure cycling		No	Threat unchanged as a result of land use change							
36	Operations and maintenance activities	Inadequate or incomplete maintenance procedures leading to equipment failure		No	Threat unchanged as a result of land use change							
37	Operations and maintenance activities	Maintenance actions contrary to maintenance procedures		No	Threat unchanged as a result of land use change							
38	Operations and maintenance activities	Inaccurate test equipment, leading to incorrect control and safety equipment settings		No	Threat unchanged as a result of land use change							
39	Operations and maintenance activities	Inadequate servicing of equipment		No	Threat unchanged as a result of land use change							
40	Construction defects	Undetected or unreported damage to the pipe, coating or equipment		No	Threat unchanged as a result of land use change							

THREAT IDENTIFICATION						EXISTING CONTROLS			ADDITIONAL CONTROLS (ACTION ITEM)			
ID	Category	Description	Consequence	Threat Credible?	If no, why?	Physical Controls	Procedural Controls	Failure Possible?	Additional Controls	Responsibility	Due	Failure Possible?
41	Construction defects	Undetected critical weld defects		No	Threat unchanged as a result of land use change							
42	Construction defects	Failure to install the specified materials or equipment		No	Threat unchanged as a result of land use change							
43	Construction defects	Failure to install equipment using the correct procedures or materials		No	Threat unchanged as a result of land use change							
44	Construction defects	Failure to install equipment in accordance with the specified location or in the specified manner		No	Threat unchanged as a result of land use change							
45	Construction defects	Inadequate testing of materials for defects prior to handover		No	Threat unchanged as a result of land use change							
46	Design defects	Failure to specify the correct material, component and equipment characteristics		No	Threat unchanged as a result of land use change							
47	Design defects	Incorrect design or engineering analysis of the pipeline and associated piping		No	Threat unchanged as a result of land use change							
48	Design defects	Failure to define the correct range of operating conditions, leading to incorrect settings on control or protective devices or unacceptable pressures, temperatures and loads		No	Threat unchanged as a result of land use change							
49	Design defects	Failure of design configuration and equipment features to allow for safe operations and maintenance		No	Threat unchanged as a result of land use change							
50	Material defects	Incorrectly identified components		No	Threat unchanged as a result of land use change							
51	Material defects	Incorrect specification, supply, handling, storage, installation or testing which allows faults to remain undetected, or which damages the item and renders its operation inadequate		No	Threat unchanged as a result of land use change							
52	Material defects	Understrength pipe		No	Threat unchanged as a result of land use change							
53	Material defects	Manufacturing defect		No	Threat unchanged as a result of land use change							

THREAT IDENTIFICATION						EXISTING CONTROLS			ADDITIONAL CONTROLS (ACTION ITEM)			
ID	**Category**	**Description**	**Consequence**	**Threat Credible?**	**If no, why?**	**Physical Controls**	**Procedural Controls**	**Failure Possible?**	**Additional Controls**	**Responsibility**	**Due**	**Failure Possible?**
54	Material defects	Lack of adequate inspection and test procedures to confirm the acceptability of material and equipment		No	Threat unchanged as a result of land use change							
55	Intentional damage	Sabotage		No	Threat unchanged as a result of land use change							
56	Intentional damage	Terrorism		No	Threat unchanged as a result of land use change							
57	Intentional damage	Malicious damage		No	Threat unchanged as a result of land use change							
58	Other threats	Seismic survey, resulting in blast or equivalent external pressure loads		No	Threat unchanged as a result of land use change							
59	Other threats	Mine subsidence		No	Threat unchanged as a result of land use change							

Appendix R

APA Group Meeting Minutes

ARUP

Minutes

Project title	Cook Cove - Northern Precinct
Job number	252942-19
Meeting name & number	APA Reference 439882 - Cooks Cove Planning Proposal (post-Gateway), 001
File ref	19-M001
Time and date	1500 hrs 15 December 2022
Location	Virtual
Purpose of meeting	Present Cooks Cove Planning Proposal
Present	Peter Bettridge, Daniel Howard, Omar Ashour, John Lawson, Denis Winterburn, Paul Walters, Scott Michelle, Michael Mielczarek, Ashima Choudhry, Nigel Cann
Apologies	Ed Bond
Circulation	Those present

Topic **Action**

1. Planning proposal overview

Daniel Howard of Ethos Urban and Peter Bettridge of Boyd Properties provided an overview of the Cooks Cove Planning Proposal based on the attached Urban Design report.

Key discussion items of note are:

- The previously proposed development scheme was not supported by Sydney Airport due to residential elements
- The new scheme which received a Gateway Determination from the NSW Department of Planning is a mix of logistical infrastructure, a hotel, commercial office and retail. Further detail will be revealed during the development application process
- The new scheme does not have permanent structures on top of APA's easement
- The hotel is approximately 20,000m² Gross Floor Area, 10 storeys high with a 2,000 m^2 footprint
- Should there be a childcare centre, it will be outside the measurement length.
- Boyd Properties has exchanged a contract to acquire the freehold land, and will settle in Apr'23 coinciding with the Public Exhibition of the Planning Proposal

ARUP

Project title	Cook Cove - Northern Precinct
Job number	252942-19
Date of Meeting	15 December 2022

Topic	Action
• The pipeline is mainly sitting under a bike path / common area between Marsh St and lot 3C, and South of lot 3C will be under a hardstand	
2. APA planning and landscape guidance APA undertook to provide their standard conditions of works and landscaping guidelines. Attached to these minutes.	Completed
3. APA Process for Engagement • Submit the Plan • Boyd Properties and APA to establish a Commercial Agreement • Complete a Safety Management Study with an External Independent Facilitator in accordance with AS 2885.6. APA to provide a list of recognised external independent facilitators. • APA accept the detailed design • APA ensure the design is applied	Completed
4. Status of Project The project is post Gateway Determination (2022-1748) and preparing for the community consultation stage of rezoning process and is based on the attached concept design. The SMS to be completed at this stage is on this concept and to be part of the public hearing and public exhibition process.	
5. APA concerns • Deep piling in proximity of the pipeline if required is a concern • Recoating of the pipeline in section where future maintenance will be restricted may be required in accordance with a coating assessment • SMS and engineering assessment are required. • A more complete indicative list of concerns to be provided by APA	Completed
6. APA estimates of costs Boyd Properties requested that APA provide an indicative estimate of costs for their engagement. APA agreed to do this.	Completed

ARUP

Project title	Cook Cove - Northern Precinct
Job number	252942-19
Date of Meeting	15 December 2022

Topic	**Action**
7. SMS Arup to proceed to organise SMS using one of APA's external Independent Facilitators.	Arup

8. Attachments

- Urban Design Report
- APA Standard Conditions of Work

Hassell

COOKS COVE URBAN DESIGN + LANDSCAPE REPORT (PLANNING PROPOSAL)

016462
Cooks Cove

December 2022

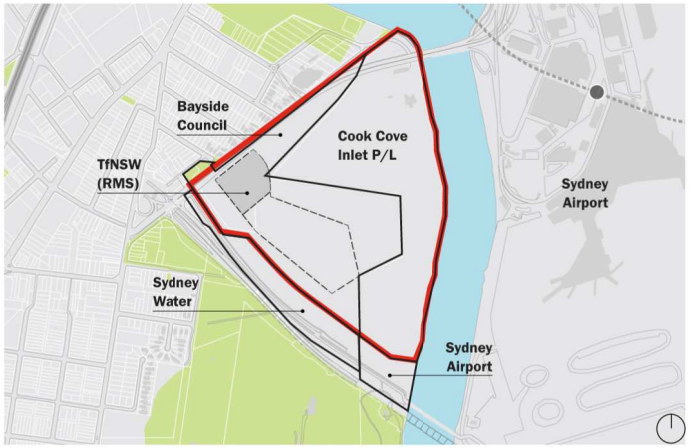
PRECINCT MASTERPLAN

A highly integrated precinct of logistics, commercial, retail and hotel that is intertwined with a highly diverse open space network. A centre of business, logistics and employment that is of local, state and national significance.

LEGEND

1	Block 1 - retail, commercial and waterfront plaza
2	Block 2 - commercial, retail, hotel
3	Fig Tree Grove pavilion
4	Fig Tree Grove
5	Marsh Street plaza
6	Block 3 - Logistics hub
7	Gertrude Street intersection upgrade and extension
8	Flora Street intersection upgrade and extension
9	Culvert under road
10	Frog ponds (by TfNSW)
11	Pemulwuy Park North (by Bayside Council)
12	Pemulwuy Park South (by Bayside Council)
13	Sydney Water Land
14	Commonwealth Land (Sydney Airport)
	Planning proposal boundary

SITE CONDITIONS



Land Ownership

The Cooks Cove Planning Proposal pertains to land owned by Cook Cove Inlet P/L, Bayside Council and Transport for NSW.

Land owned by the Commonwealth of Australia (Sydney Airport) and Sydney Water are adjacent land holdings that are external to the Planning Proposal.

The ownership of lots and sizes are listed below:

Cook Cove Inlet P/L

- → Lot 100 DP1231954 - 17.9Ha
- → Lot 31 DP1231486 - 0.59Ha

Bayside Council

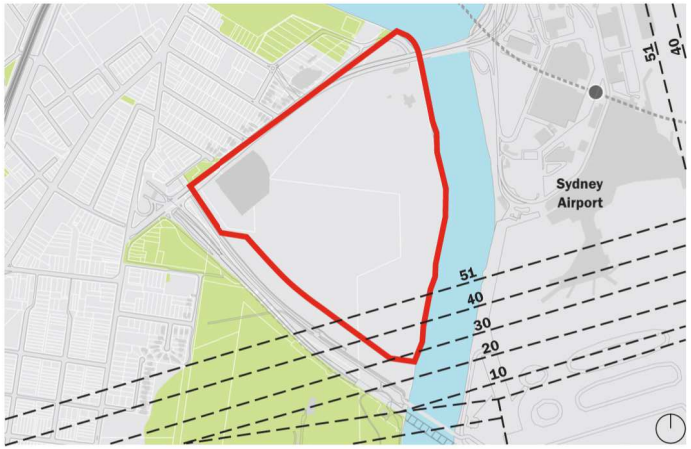
- → Lot 14 DP213314 - 2.9Ha
- → Lot 1 DP108492 - 12Ha

Transport for NSW (RMS)

- → Lot 1 DP329283 - 1.8Ha

Legend

- Land ownership boundaries
- M6 Permanent and Temp Facilities
- Planning proposal boundary

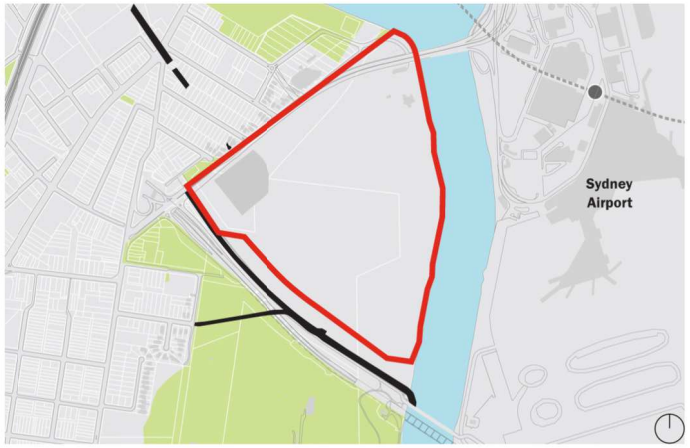


OLS Height Controls

Due to proximity to the Sydney International Airport, the Cooks Cove Master Plan area is subject to Obstacle Limitation Surface (OLS) height controls. The OLS defines the airspace surrounding Sydney International Airport that must be protected from obstacles to ensure aircraft flying in good weather during the initial and final stages of flight, or in the vicinity of the airport, can do so safely.

Legend

- OLS Height Limit
- Planning proposal boundary

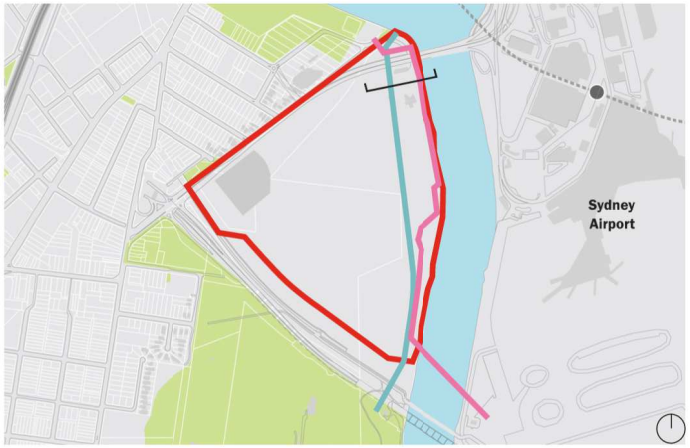


Heritage

The Southern and Western Suburbs Ocean Outfall Sewer (SWSOOS), located on the southern boundary, is a listed heritage item on the State Heritage Register. It is a significant infrastructure which passes in a west to east direction through the site and over the Cooks River. The SWSOOS was constructed in the late 1900s (1909-1916) and is the primary sewer line for south-western Sydney.

Legend

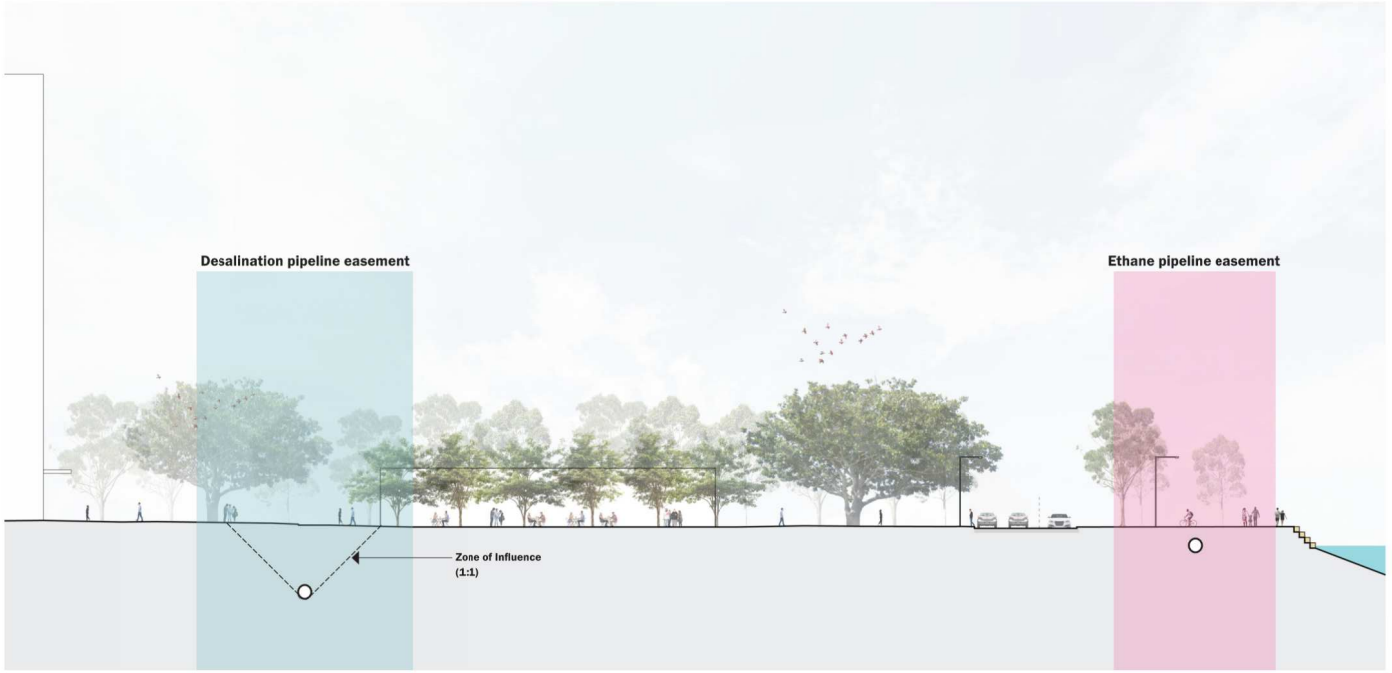
- SWSOOS
- Planning proposal boundary



Easements

The Sydney Desalination Plant pipeline runs through the development zone, north-south adjacent the Cooks River. The pipe has a diameter of 1.8m and sits within an easement of 6-9m in width. From south to north the pipeline is constructed in a combination of trench and above ground with mounded cover and then transitions to micro-tunnel and typical depth of circa 11m.

The Moomba to Sydney Ethane Pipeline containing ethane gas, follows a similar general alignment north-south adjacent the Cooks River. The pipe has a nominal 225mm diameter, within an easement generally 5m wide and with the pipe located at a depth of 1.2m-2.3m.



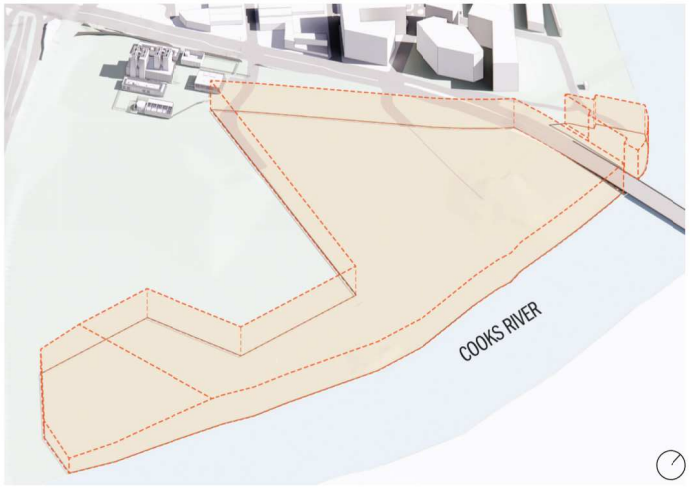
Section - Ethane Pipeline and Desalination Pipeline (with zone of influence)

Legend

- Desalination Pipe Easement
- High Pressure Ethane Gas
- Planning proposal boundary

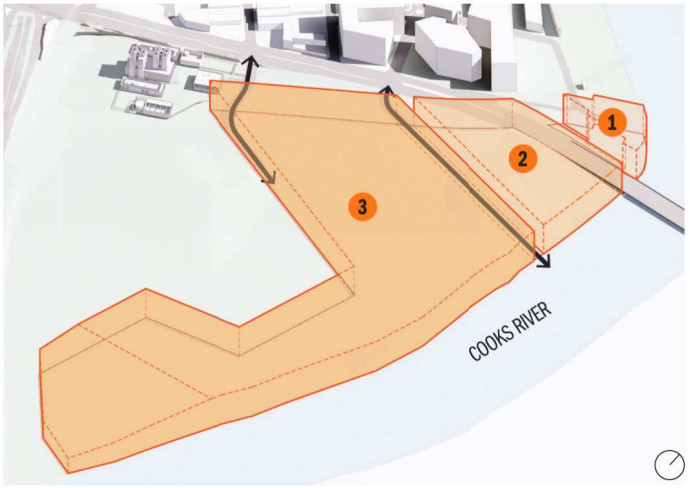
BUILT FORM STRATEGY

The overall mass and form of Blocks 1, 2 and 3 have been developed in response to a number of factors including the existing context, underground services and to optimise the visual amenity from the foreshore and adjacent open space areas.



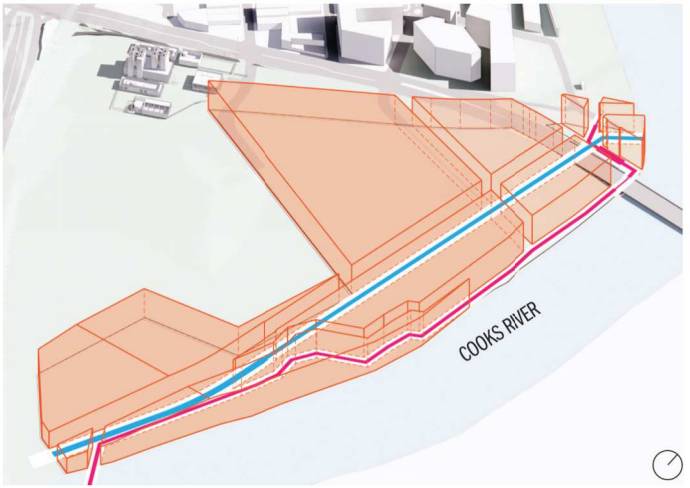
OLS

→ The OLS has defined the maximum building height of the proposed development, the lowest height from RL 26.52 to a maximum height of RL 51.00.



Streets and access

→ The road access to the development is proposed via two new streets from Marsh Street, including the extension of Gertrude Street in the north and Flora Street in the south.
→ The proposed block structure has been developed in response to the street structure, including Gertrude Street East defining the extent of Block 2 and Block 3.



Services Constraints

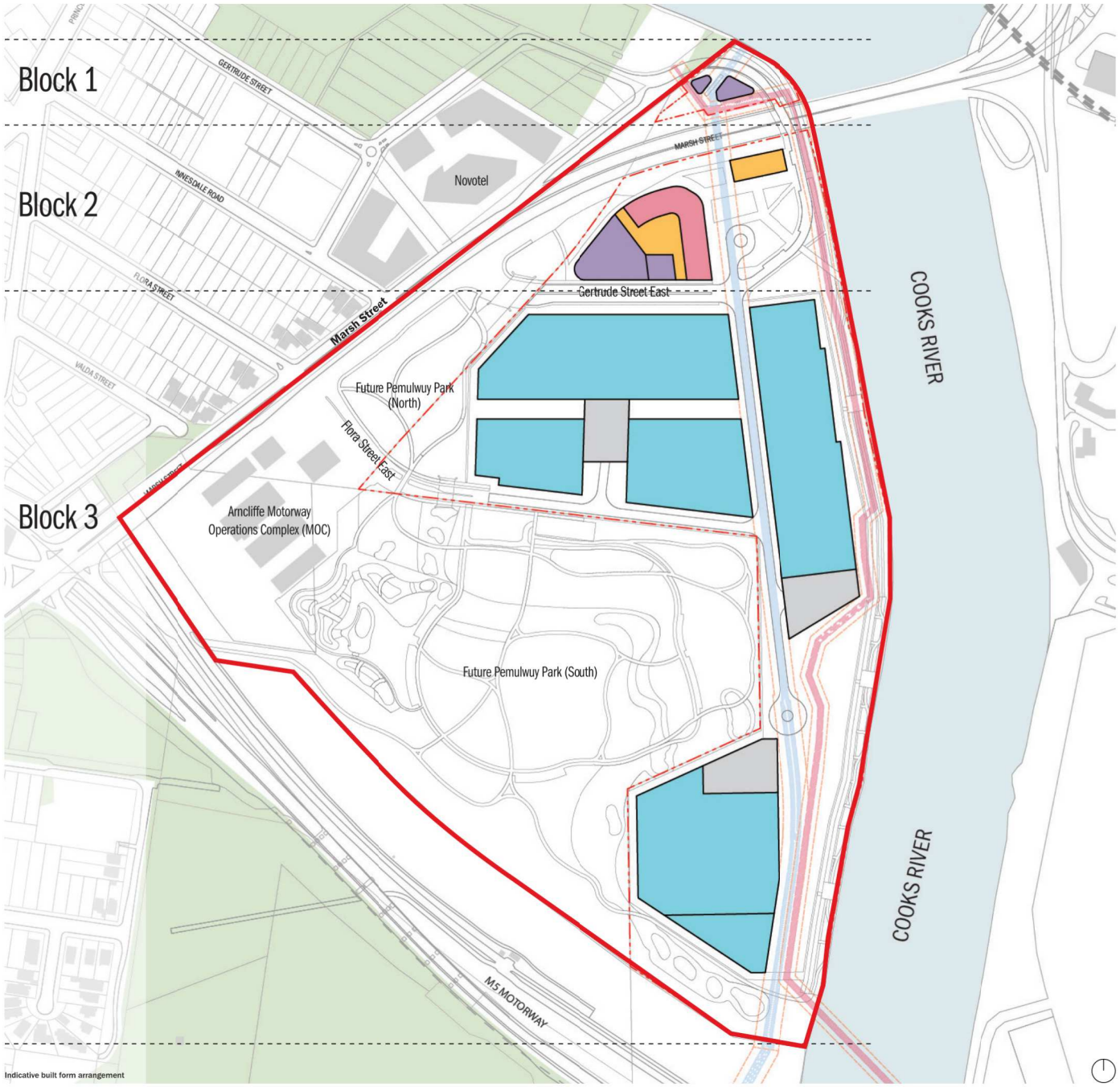
→ The existing underground services within the site include the desalination pipeline (blue) and the Moomba-Sydney ethane pipeline (red).
→ The proposed development is setback from the underground pipeline easements which has determined the extent of building envelopes, primarily within Block 1 and Block 3.

LAND USE PLAN

The Cooks Cove Planning Proposal is made up of Blocks 1, 2 and 3. Each block represents a specific area within the site. This Includes a commercial and retail parcel in Block 1 north of Marsh Street; a Hotel, Commercial and Retail parcel in Block 2 that addresses the waterfront; and a southern Logistics development in Block 3 that is made up of several large mass type buildings. A maximum floor area (GFA) of 343,250m2 is proposed across three blocks.

Area Schedule

	Block 1	Block 2	Block 3	Total
Hotel/ Accomodation		20,000m²		**20,000m²**
Commercial	2,350m²	20,000m²		**22,350m²**
Retail	900m²	10,000m²		**10,900m²**
Logistics/ warehouse			290,000m²	**290,000m²**
Total	**3,250m²**	**50,000m²**	**290,000m²**	**343,250m²**



BLOCK 1

Cooks Cover River office and retail precinct - key moves

The site is constrained by existing underground services that allow for two separate building parcels.

Located on Levey Street adjacent to the Cooks River the site of Block 1 has a waterfront aspect and affords high quality views north towards the Cooks River. The shape of the block is defined by Lot 31 (DP1231486) which extends from Marsh Street across Levey Street to the Cooks River. The site is crossed by the existing underground desalination pipeline and the ethane pipeline. Both services require buildings to be setback to preserve maintenance of easements.

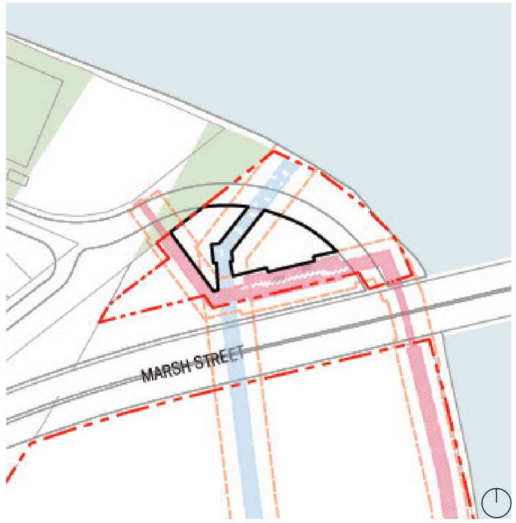
These two easements divide the site into two separate building parcels and result in irregular forms.

The irregular forms present an opportunity to develop two unique waterfront pavilion buildings that respond to available building envelope and provide an interlinking at-grade plaza space.

Key moves

Existing site

→ Site is located along the Cooks River foreshore.
→ Extension of Levey Street runs along the north eastern edge of the site.



Site constraints

→ Existing Desalination line and gas pipeline divides the site into small parcels

Waterfront pavilions

→ Rationalise massing geometry to create pavilions to provide activation to the foreshore

BLOCK 2

Fig Tree office and accomodation precinct - key moves

The proposal for block 2 seeks to maximise the amenity and public domain adjacent to the Cooks River waterfront and to preserve existing mature fig trees. This outcome achieves a high quality public space activated by a pavilion in the park. The development includes a retail podium with commercial and hotel tower above.

The development is constrained by an existing underground desalination pipeline and ethane pipeline running north-south through the site. The buildings are setback from these services to preserve easement access.

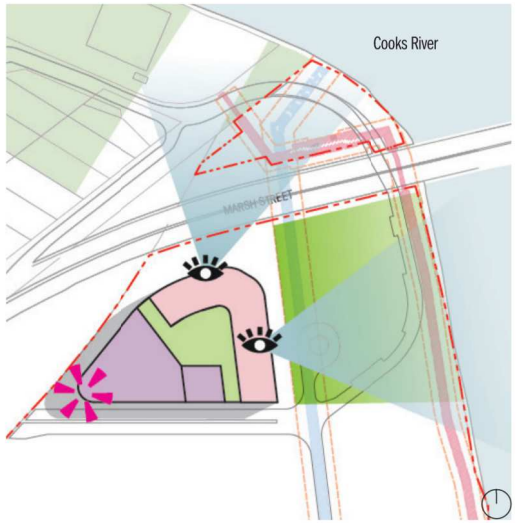
Several existing large fig trees are retained due to the building setback, this preserves the existing amenity and landscape qualities of the site.

A hotel and/or short term accomodation is positioned adjacent to the open space, allowing for a high quality amenity and views north and east of towards the Cooks River. The commercial tower is positioned towards Marsh Street to provide more direct access from the main roads.

Key moves

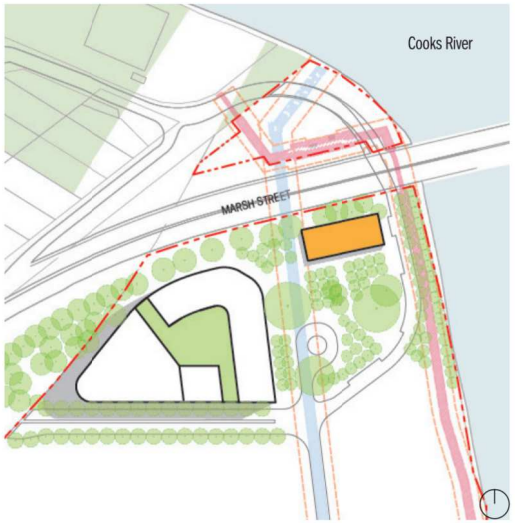
Maximise public domain

- → Consolidate commercial, hotel and retail to the western end of the site.
- → Maximising the public domain by relocating commercial building.



Maximise amenity

- → Locate hotel to the north and east edge to maximise view and access to light.
- → Locate commercial building to the western end of the site to allow ease of access off main roads.



Pavilion in the park

- → Locate hotel to the north and east edge to maximise view and access to light.
- → Locate commercial building to the western end to provide a presence and address on Marsh St

BLOCK 3

Logistics Hub - users

The proposed heights and forms within block 3 have been designed to provide the greatest flexibility in future stages of the design to enable a number of user models

Single User

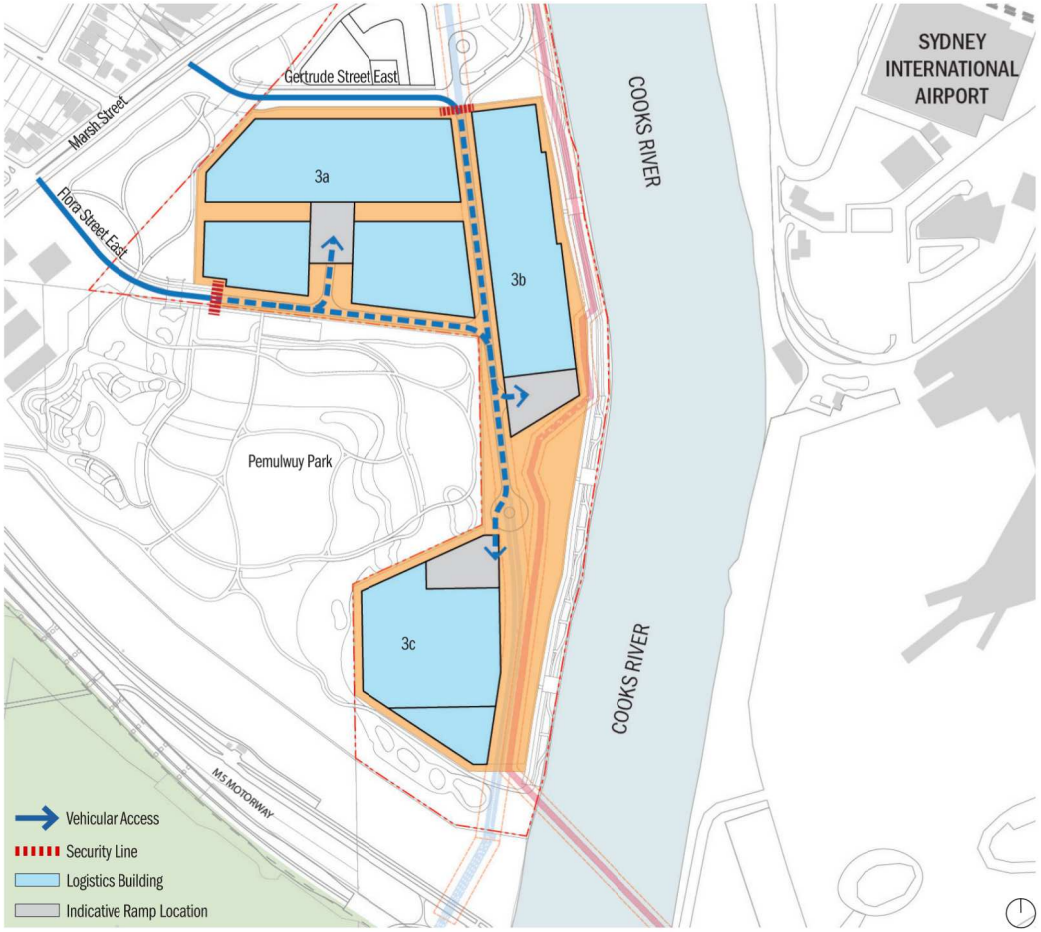
- → Single operator for block 3
- → Subdivided blocks with 3a, 3b and 3c each serviced by a vehicle ramp, office and car parking
- → Single security line at main entrance to Block 3

Multi-user

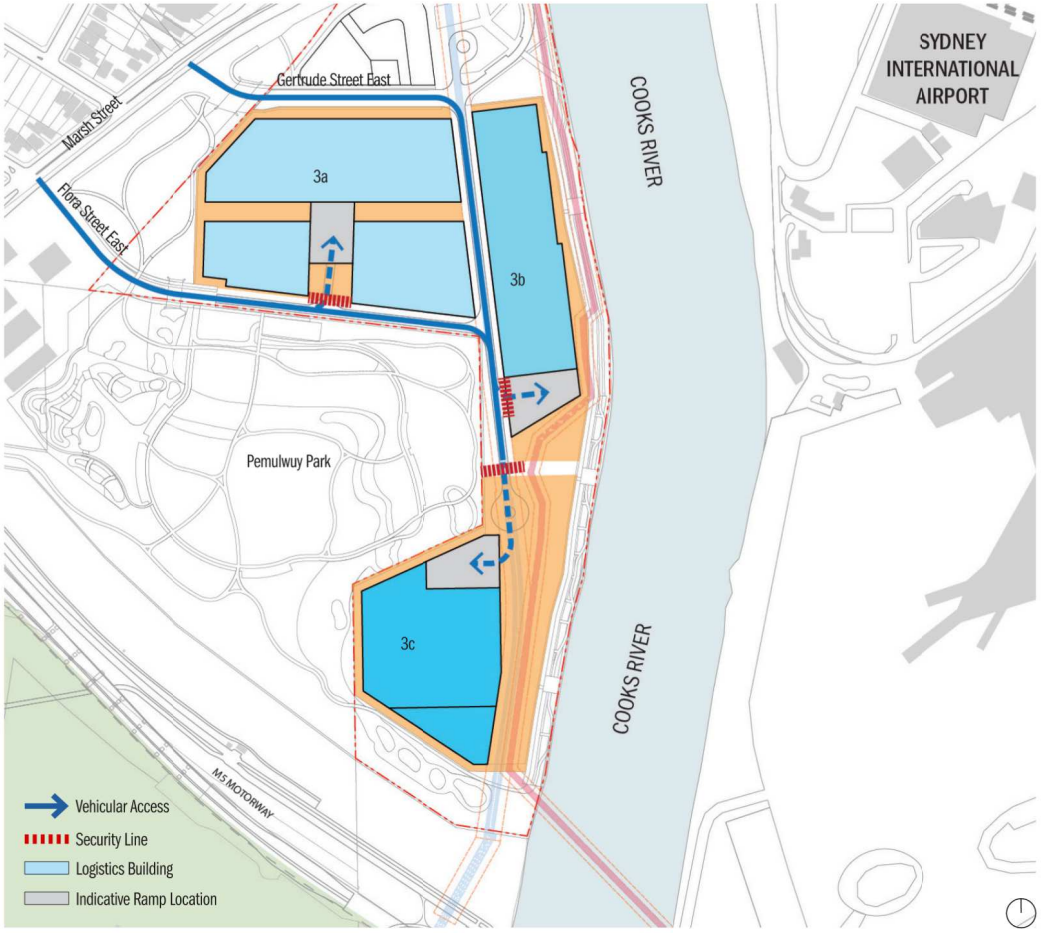
- → Multiple operators for block 3 broken up by subdivided blocks 3a, 3b and 3c
- → Subdivided blocks with 3a, 3b and 3c each serviced by a vehicle ramp, office and car parking
- → Secondary security line at Block 3a, 3b and 3c

Multi-user + Airport user

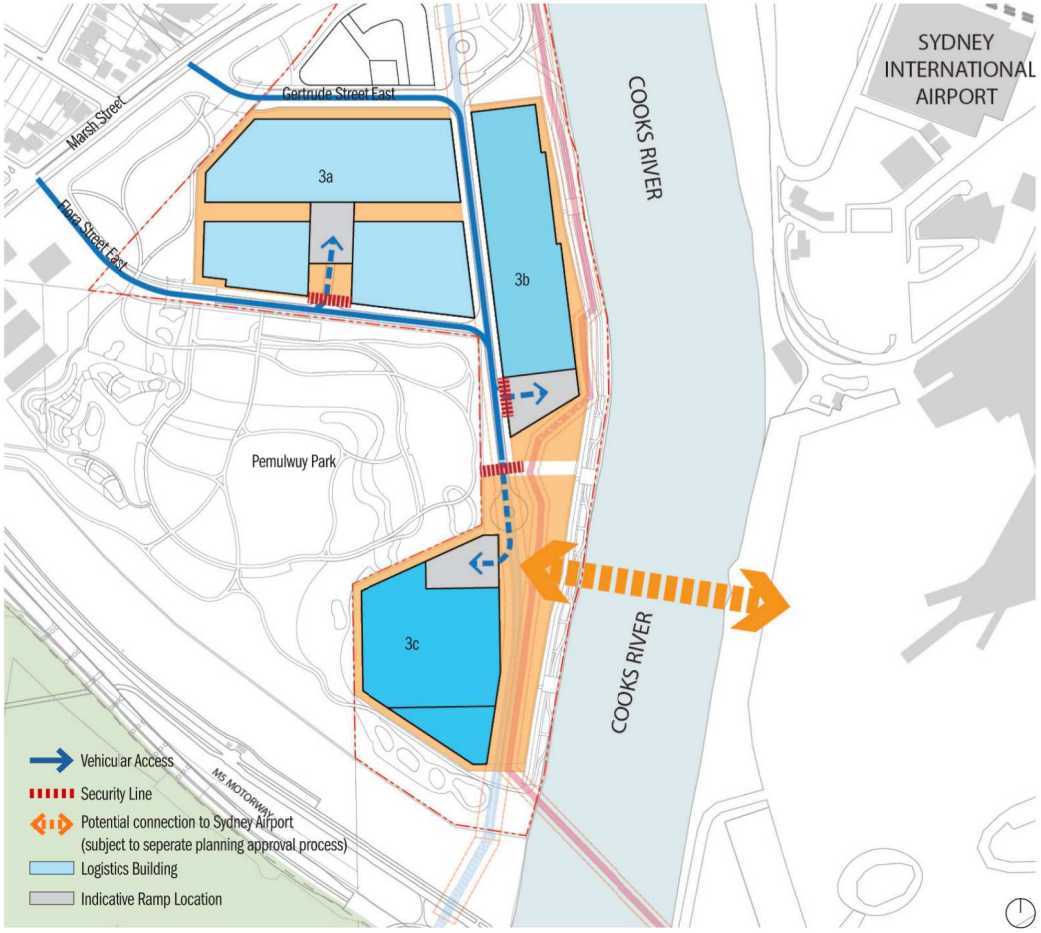
- → Multiple operators for block 3 broken up by subdivided blocks 3a, 3b and 3c
- → Subdivided blocks with 3a, 3b and 3c each serviced by a vehicle ramp, office and car parking
- → Secondary security line at Block 3a, 3b and 3c
- → Potential opportunity to connect to Sydney Airside operations via a new bridge connection over the Cooks River (not the subject of this proposal)



Single user

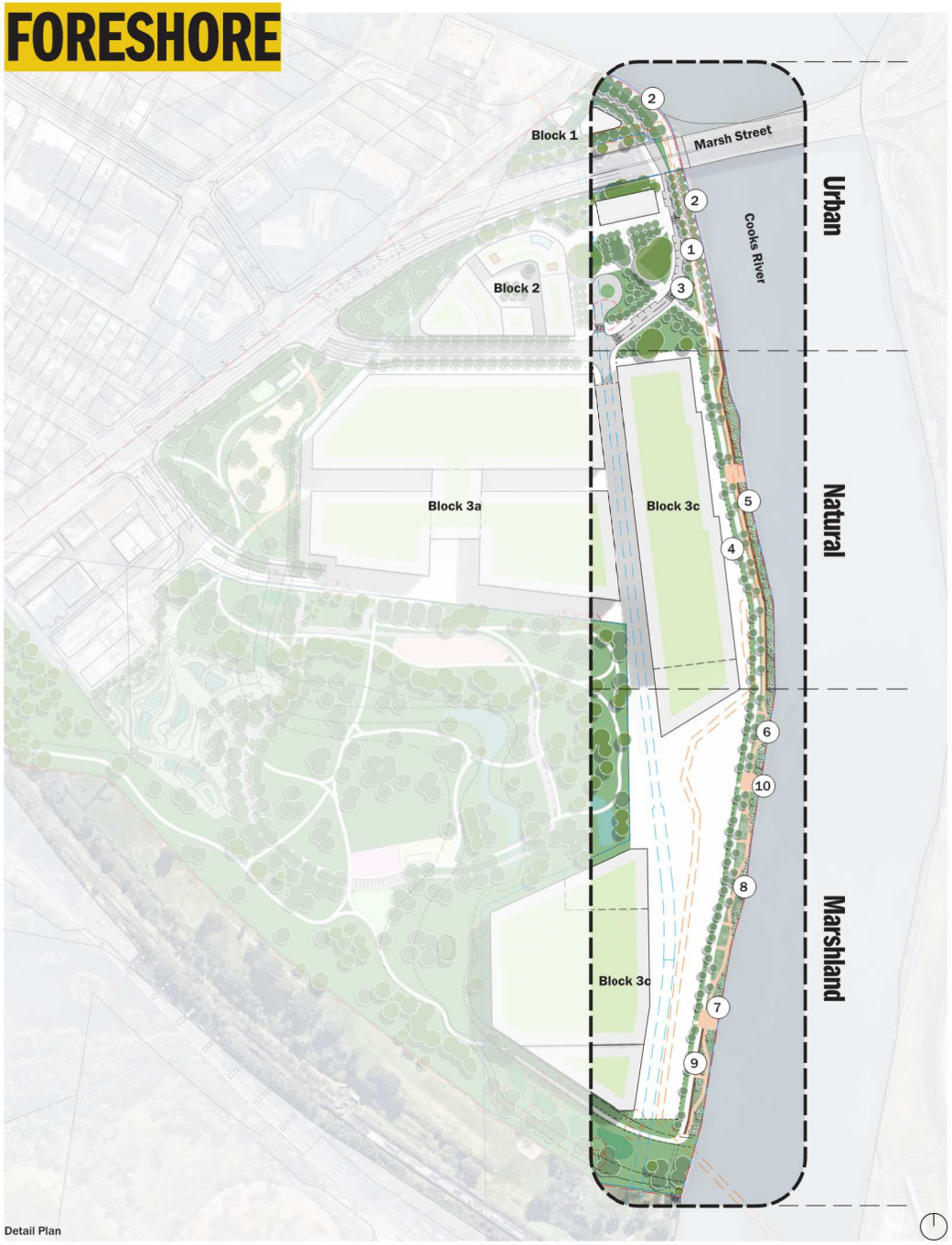


Multi-user



Multi-user / Airport user

FORESHORE



Detail Plan

The Cooks River foreshore is a 20m wide landscaped corridor approx. 1km in length. The foreshore will provide public waterfront access via pedestrian walkways and a separated two-way cyclepath. There will be areas of ecological restoration and salt marsh planting with boardwalks and lookouts.

The Cooks Cove foreshore will be an exciting new waterfront destination for the surrounding community, visitors and workers within the adjacent development. Accessible to the public the foreshore will connect with the existing Cahill Park to the north and the new Pemulwuy Park to the south. There will also be safeguarding for future pedestrian and cycle connections to the south over the existing SWSOOS, which will provide a regional link to the south, connecting with a future Muddy Creek crossing and existing pathways to Kyeemagh and Sans Souci.

The proposed foreshore aims to achieve the following outcomes:

- → maximise public and visual access and open view corridors
- → provide a dedicated two-way cyclepath, and safeguarding for a future cycle link to the south over the SWSOOS (by others)
- → provide a diverse and natural pedestrian waterfront experience through promenades, walkways and boardwalks
- → provide ecological restoration and habitat creation with mangroves and salt marsh planting
- → preserve corridor views to the adjacent Pemulwuy Park, and open views to the Cooks River
- → maximise public safety with pedestrian lighting and visual surveillance from the adjacent development.

LEGEND

1	Landscape promenade
2	Foreshore steps
3	Landscape buffer to road
4	Landscape embankment
5	Mangroves between MHWS and MWL
6	Elevated pedestrian boardwalk
7	Lookout nodes
8	Landscape swale with semi-aquatic planting
9	Cycle path
10	Kayak pull up zone with shelter and information signage

Legend

- Desalination Easement
- Gas Easement
- Planning proposal boundary

Images

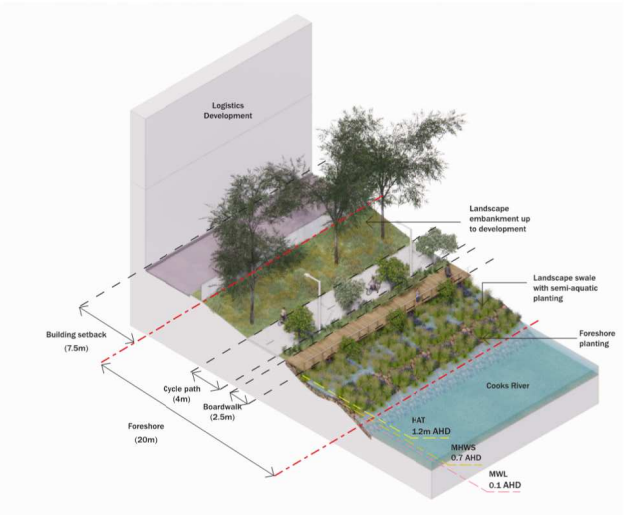
1. Westbund Riverfront by Hassell. Photo: Isabel Tang
2. Hornsbergs Strandpark by Nyrens Arkitektkontor. Photo: Åke Eson Lindman
3. Narrabeen Lagoon by Aspect Studios. Photo: Simon Wood
4. Perreux River Banks by BASE. Photo: BASE

FORESHORE

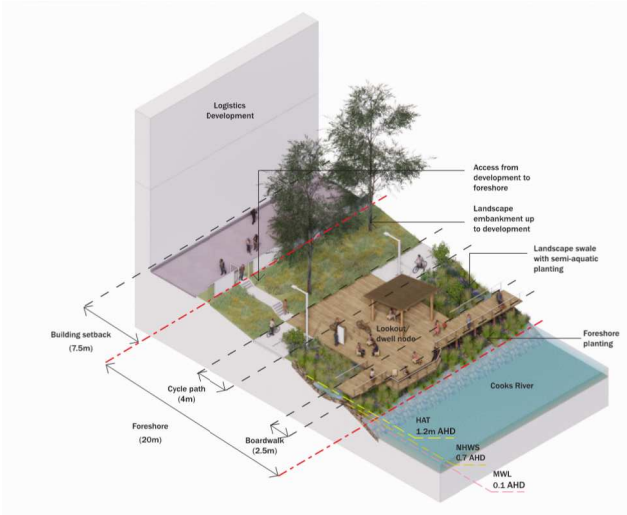
Add image of each typology under

Marshland

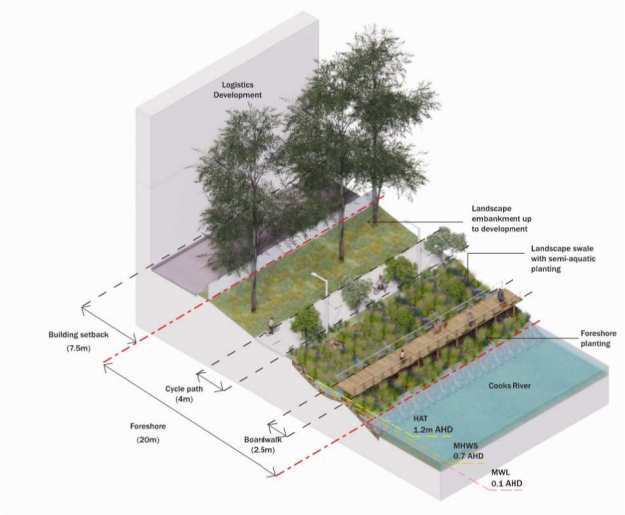
Marshland 3 - Tidal saltmarsh with elevated boardwalk



Marshland 2 - Activity platform and lookout, with access to adjacent development



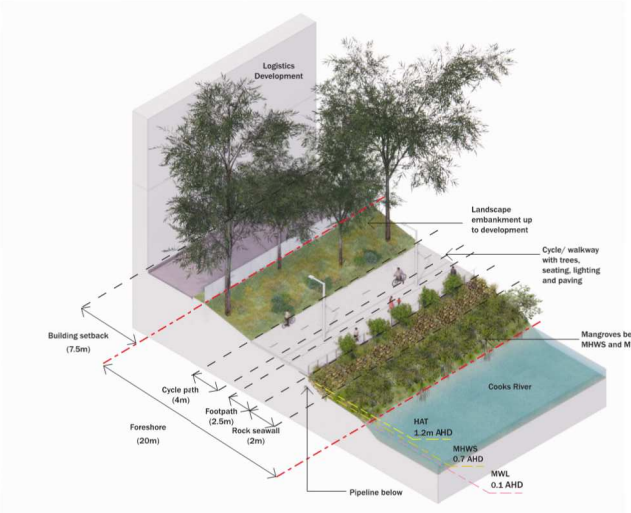
Marshland 1 - Tidal saltmarsh with boardwalk



Add image of each typology under

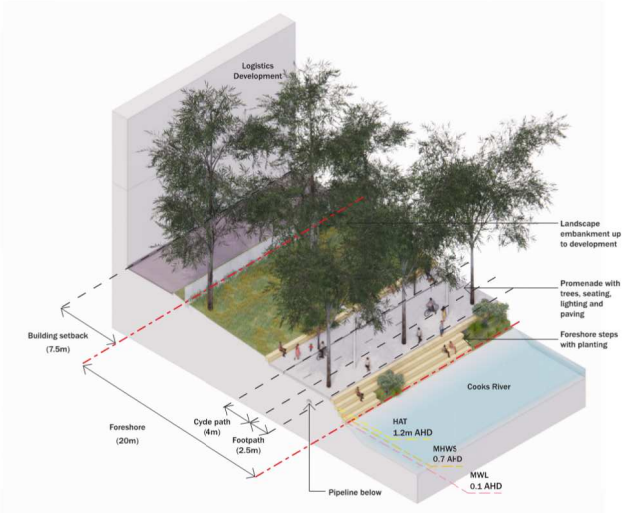
Natural

Natural Edge - Walkway and cyclepath behind a rock seawall

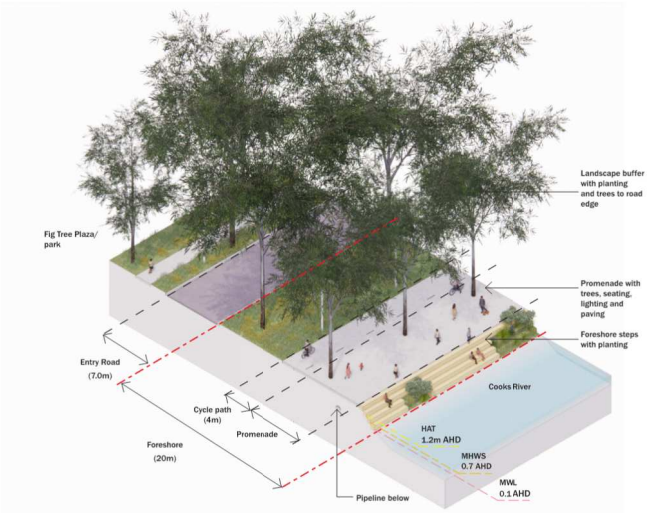


Urban

Urban 2 - Plaza and terraced water edge (building adjacent)

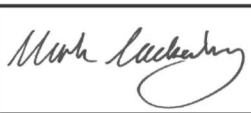


Urban 1 - Plaza and terraced water edge (plaza adjacent)



Standard conditions for works near APA Gas Transmission Pipelines

ASSET ENGINEERING

Document No		580-POL-L-0001			
Rev	Date	Status	Originated/ Custodian	Checked	Approved
4.0	08-06-2021	Issued For use			
			Omar Ashour	Scott Mitchell	Mark Lackenby
			Project Development Engineer	Team Lead Risk & Engineering	Manager Pipeline Engineering

energy. connected.

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