

**Undertaking given under Section 9.5 of the  
*Environmental Planning and Assessment Act*  
1979 (NSW) by:**

**Arash Tavakoli**

**Undertaking given under Section 9.5 of the *Environmental Planning and Assessment Act 1979* (NSW) by Arash Tavakoli**

**1. Person giving the Undertaking**

- 1.1 This undertaking is given to the Planning Secretary of the Department of Planning, Housing and Infrastructure ('**Planning Secretary**') by Mr Arash Tavakoli, for the purposes of section 9.5 of the *Environmental Planning and Assessment Act 1979* (NSW) ('**EP&A Act**').
- 1.2 Mr Tavakoli is the Sole Director and Shareholder of Neil Street Co Pty Ltd (ACN 134 507 350) which was previously named Landmark Construction Group Australia Pty Ltd – (ACN 134 507 350) ('**Company**').
- 1.3 Mr Tavakoli's contact details are:
- (a) Address: 4-6 Bayview Hill Road, Rose Bay
  - (b) Telephone: (02) 9231 8679
  - (c) Email: [Legal@landmarkgr.com](mailto:Legal@landmarkgr.com)
- 1.4 Mr Tavakoli's wife is the registered proprietor of 4-6 Bayview Hill Road, Rose Bay NSW (Lot 10 and 11 in DP 88161) ('**Residence**'). Mr Tavakoli has an equitable interest in the Residence and considers himself to be its owner.

**2. Background**

Background to the Development

- 2.1 Woollahra Municipal Council ('**Council**') alleges that between 11 May 2021 and 8 September 2022 certain works were carried out on land owned by Council, comprising an unformed area of Bayview Hill Road, Rose Bay, bounded by:
- (a) The southern boundary of 8 Bayview Hill Road, Rose Bay;
  - (b) The mean low water mark of Port Jackson;
  - (c) The northern boundary of the Residence; and
  - (d) The western edge of the public lookout adjacent to the Residence.
- ('Land')
- 2.2 The following works have been carried out on the Land:
- (a) **Wall 1** – Construction of a retaining wall adjacent to the southern boundary of the Land to the rear of the dwelling and landscaped area of the Residence:
    - (i) measuring approximately between 4600mm and 1600mm in height, descending down the slope of the Land from east to west and then turning 90 degrees to the north to traverse the Land from south to north at an approximate height of 1650mm; and
    - (ii) constructed of 300mm sandstone blocks with a sediment medium behind.
  - (b) **Walls 2 and 3** – Construction of a retaining wall/sea wall which returned east to west between the north western edge of Wall 1 and Port Jackson:
    - (i) measuring approximately 1600mm to 1500mm high; and
    - (ii) constructed with irregular shaped sandstone pieces with a sediment medium behind. ('**Wall 2**')and
    - (iii) Construction of a sea wall running north to south from the western return of Wall 2, adjacent to the mean high watermark of Port Jackson:
    - (iv) measuring approximately between 2900mm and 3400mm above the natural rock shelf of Port Jackson; and

(v) constructed with irregular shaped sandstone pieces with a sediment medium behind. (**'Wall 3'**)

(c) **Work 1** - Construction of two storm water pits located adjacent to the top of Wall 1 in the area where Wall 1 travels from south to north.

(d) **Work 2** - Construction of two storm water pipes travelling from the pits located adjacent to the top of Wall 1 (i.e. Work 1) through to Wall 3.

(e) **Earthworks** – Carrying out of “earthworks” in the area encompassed by Wall 2 to the north, Wall 3 to the west, the northern boundary of the Residence, and Wall 1 to the east, by filling the Land to raise the level of the Land by approximately 3000mm-3500mm above Port Jackson, and generally at the same level as the rear landscaped area of the Residence.

(collectively, **'the Works'**)

2.3 The Works were carried out on the Land by the Company. Mr Tavakoli aided, abetted, counselled and procured the Company to carry out the Works (as set out at [2.5] below), and, without Council consent, is presently occupying the Land.

#### **The Alleged Contraventions**

2.4 The Council alleges that Mr Tavakoli aided, abetted, counselled, or procured the Company to commit an offence against the *EP&A Act*, being the carrying out of the Works listed above on the Land, without obtaining development consent under an environmental planning instrument (**'Alleged Conduct'**).

2.5 The Alleged Conduct on the part of Mr Tavakoli contravened the *EP&A Act*, as:

(a) Section 4.2(1)(a) states that if an environmental planning instrument provides that specified development may not be carried out except with development consent, a person must not carry out development on land to which the provision applies unless such a consent has been obtained and is in force;

(b) The Works were carried out without development consent contrary to the provisions under section 4.2(1)(a) of the *EP&A Act*, and Mr Tavakoli was aware of the need for consent for the Works; and

(c) The aiding, abetting, counselling or procuring of the Works, which Mr Tavakoli intentionally did, gives rise to an offence pursuant to section 9.50(3A)(a) of the *EP&A Act*.

(**'Alleged Contraventions'**)

2.6 Mr Tavakoli acknowledges that undertaking development without first obtaining consent constitutes a contravention of section 4.2 or section 9.50 of the *EP&A Act*, or both.

2.7 Mr Tavakoli offered this Undertaking to Council.

#### **Response to the Alleged Contraventions**

2.8 Mr Tavakoli acknowledges the community impacts which arise from breaches of the *EP&A Act*, including harm to the regulatory scheme which establishes an orderly method for the obtaining of planning approvals prior to carrying out development.

2.9 Mr Tavakoli acknowledges that development carried out without consent does not undergo prior impacts assessment which would allow for avoidance or mitigation of those impacts.

2.10 Mr Tavakoli undertakes not to commit like conduct on the Land in the future.

### **3. Commencement of this Undertaking**

3.1 This Undertaking comes into effect when:

(a) This Undertaking is signed by Council; and

(b) This Undertaking is signed by Mr Tavakoli; and

(c) This Undertaking so executed is signed by the Secretary or his/her delegate.

(**'Commencement Date'**)

#### 4. Undertaking

4.1 Mr Tavakoli undertakes for the purposes of section 9.5 of the *EP&A Act* that he will:

##### **Works**

- (a) Carry out the works shown in the Concept Drawings annexed to this Undertaking and marked with the letter 'A' ('**Concept Drawings**'), to ameliorate the environmental and community impacts ('**Remediation Works**'). The Remediation Works broadly include the works described below:
- (i) Removing Wall 2 and 3;
  - (ii) Removing of the fill behind Wall 2 and 3;
  - (iii) Installing a rock revetment seaward of Wall 1;
  - (iv) Extending the existing sea wall located on the Residence to join Wall 1;
  - (v) Including an additional small retaining wall at the upper end of Wall 1;
  - (vi) Revegetating the area uphill and retained by Wall 1;
  - (vii) Revegetating and landscaping around the Works 2;
  - (viii) Removing the chain link fence and construction of a man proof fence generally along the alignment of Wall 1 adjacent to the Residence.
- (b) The Remediation Works are to be constructed in a good and workmanlike manner, so that the Remediation Works are structurally sound, fit for purpose, and suitable for their intended use.
- (c) At the request of Mr Tavakoli, the Council will accept a design refinement to the Concept Drawings, if, in the opinion of the Council, that design refinement is required by:
- (i) any development consent made and approved under the EP&A Act or any other development consent or approval granted that relates to the Remediation Works;
  - (ii) any modification to the development consent made and approved under section 4.55 of the EP&A Act or any other development consent or approval granted that relates to the Remediation Works; and
  - (iii) conditions that were not reasonably capable of identification prior to the date of this Undertaking;
- (d) If Council accepts a design refinement to the Concept Drawings under cl 4.1(c) of this Undertaking:
- (i) the Remediation Works are to be carried out in accordance with the Concept Drawings, as amended in accordance with cl 4.1(c);
  - (ii) the certification process following the carrying out of the Remediation Works will assess the completion of the Remediation Works in accordance with the Concept Drawings, as amended in accordance with cl 4.1(c).

##### **Security Bond for Remediation Works**

- (e) Within 7 days of the signing of the Undertaking by the Secretary or his/her delegate in accordance with cl 3.1, a security bond for the Remediation Works is to be paid by Mr Tavakoli to the Council in the amount of \$491,000.
- (f) If Council accepts a design refinement to the Concept Drawings in accordance with cl 4.1(c), and the cost of that design refinement is quantified by a quantity surveyor or estimator, an additional security bond to value of those further works shall be paid by Mr Tavakoli to Council within two weeks of any such quantity surveyor's or estimator's report being served on him.

- (g) All security bonds will be deposited into the following nominated account):

Bank Name: Commonwealth Bank of Australia  
Account Name: Woollahra Municipal Council  
BSB: 062 156  
Account: 2800 9834  
Amount: \$491,000

- (h) Following the carrying out of the Remediation Works, Council will provide Mr Tavakoli with three alternative third-party independent engineers and the parties will agree to appoint one of the third-party independent engineers for the purposes of inspecting and certifying the completion of the Remediation Works in accordance with the Concept Drawings ("**Completion Certificate**").
- (i) Upon receipt of the Completion Certificate, and satisfactory review by Council's officers, the Council will release the security bond paid for the purposes of the Remediation Works within 7 days.
- (j) If the Council acting reasonably forms the view that the Completion Certificate is unsatisfactory, it will advise Mr Tavakoli and the third party engineer within 7 days of receipt of the Completion Certificate. The Council's notification will identify the defects, errors or omissions in the Completion Certificate which, in the opinion of Council acting reasonably, prevent completion.
- (k) If, having considered the advice of the third party engineer, Council acting reasonably maintains the view that further works are required to correct the defects, errors or omissions identified in Council's notification referred to in cl 4.1(j), Mr Tavakoli will carry out the further works so advised in accordance with this clause within 6 months from the date of Council's further notification under this clause.

**Approvals and Development Consent**

- (l) Prior to carrying out the Remediation Works, it is Mr Tavakoli's sole responsibility to obtain all necessary development consent and approvals (including any applications under s138 of the *Roads Act 1993* (NSW)) to carry out the Remediation Works, as well as development consent for any and all development in relation to the northern and western boundary walls required to be carried out at the Residence.
- (m) Mr Tavakoli must lodge all applications for Development Consent with Council within three months of the Commencement Date, and obtain all necessary development consents and approvals within 12 months, of the Commencement Date, unless a different timeframe is agreed between the parties.
- (n) If Mr Tavakoli fails to obtain all necessary development consents and approvals, and/or fails to carry out and complete the works within 24 months (unless a different timeframe is agreed between the parties) of the Commencement Date, the security bond and the contribution to maintenance of remediation works (see cl 4.1(e) above and cl 4.1(q) below) will be forfeited to Council.
- (o) There will be no ongoing or post completion obligations on Mr Tavakoli in respect of the maintenance for the Remediation Works, subject to cl 4.1(k).
- (p) For the avoidance of doubt, cl 4.1(n) applies if Council has determined not to accept a design refinement under cl 4.1(c) above.

**Contribution to Maintenance of Remediation Works**

- (q) A contribution in the amount of \$375,000, is to be paid to Council to be used by Council for the purposes of the ongoing Maintenance of Remediation Works. The contribution will be deposited into the following nominated account:

Bank Name: Commonwealth Bank of Australia

Account Name: Woollahra Municipal Council  
BSB: 062 156  
Account: 2800 9834

- (r) 100% of the contribution of \$375,000 will be paid to Council by Mr Tavakoli within 7 days of the signing of this Undertaking by the Secretary or his/her delegate.

**Contribution to Costs Incurred**

- (s) A contribution is to be paid to Council to cover (**Contribution**):

Costs	Figure
1. Costs associated with investigating and monitoring the Alleged Contraventions and entering into this Undertaking.	\$11,025
2. Legal costs associated with prosecuting Mr Tavakoli and the Company up to the date of signing of this Undertaking.	\$369,000
3. Predicted legal costs associated with prosecuting the Company from the date this Undertaking is signed to the completion of sentence proceedings against it.	\$100,000
4. Predicted fines imposed against the Company.	\$150,000
5. Costs of the remediation plan	\$52,000
Total	\$682,025

- (t) The Contribution of \$682,025 will be deposited into the following nominated account:

Bank Name: Commonwealth Bank of Australia  
Account Name: Woollahra Municipal Council  
BSB :062 156  
Account :2800 9834

- (u) 100% of the Contribution will be paid to Council by Mr Tavakoli within 7 days of the signing of this Undertaking by the Secretary or his/her delegate.
- (v) Upon payment by the Company of any and all fines ordered by the Land and Environment Court in Proceedings Nos. 2023/451457; 2023/451458; 2023/451459; 2023/451460; 2023/451461, and of costs ordered by the Court to be paid by the Company in those proceedings, Council will refund the Contribution amounts referred to at points 3 and 4 in the table above to Mr Tavakoli. If these amounts are not paid by the Company by the respective dates by which they fall due as ordered by the Court, the amounts comprising Contribution points 3 and 4 in the table above will be forfeited to Council.
- (w) Within 30 days after the Commencement Date Mr Tavakoli will pay the Department of Planning and Infrastructure the sum of \$1,000 for legal costs associated with accepting this Undertaking.

**(Departmental Costs)**

- (x) The Departmental Costs will be deposited into the following account:

Bank: Westpac  
Account Name: DPIE Operating CC No 2  
BSB: 032-001  
Account Number: 114428

4.2 Mr Tavakoli will implement the following to satisfy the Council that the undertakings have been complied with:

- (a) Email Rosemary Bullmore at [Rosemary.Bullmore@woollahra.nsw.gov.au](mailto:Rosemary.Bullmore@woollahra.nsw.gov.au), a copy of the bank statement or transaction receipt that confirms the payment of the security bond for Remediation Works described in cl 4.1(e) above, within 7 days of making that payment;
- (b) Email Rosemary Bullmore at [Rosemary.Bullmore@woollahra.nsw.gov.au](mailto:Rosemary.Bullmore@woollahra.nsw.gov.au), a copy of the bank statement or transaction receipt that confirms the payment of the contribution for maintenance of the Remediation Works described in cl 4.1(q) above, within 7 days of making that payment; and
- (c) Email Rosemary Bullmore at [Rosemary.Bullmore@woollahra.nsw.gov.au](mailto:Rosemary.Bullmore@woollahra.nsw.gov.au), a copy of the bank statement or transaction receipt that confirms the payment of the contribution for costs incurred described in cl 4.1(s) above, within 7 days of making that payment.
- (d) Email to the Director - Compliance of the Department of Planning, Housing and Infrastructure at [compliance@planning.nsw.gov.au](mailto:compliance@planning.nsw.gov.au) enclosing a copy of the bank statement or transaction receipt which confirms that the payment described in paragraphs 4.1 (w) & (x) has been made, within 7 days of making that payment.

## 5. Acknowledgements

5.1 The Council acknowledges:

- (a) Once this Undertaking has been signed by the Planning Secretary or his/her delegate and the Company has entered pleas of guilty to the charges in Land and Environment Court Proceedings Nos 2023/451457-451461, and Mr Tavakoli has paid the Security Bond, the Maintenance of Remediation Works amount and the Contribution amount, it will withdraw Land and Environment Court Proceedings Nos. 2023/451429; 2023/451430; 2023/451431; 2023/451432; 2023/451433 ('**Proceedings**') against Mr Tavakoli;
- (b) The withdrawal of the Proceedings will be with no order as to costs.

5.2 Mr Tavakoli acknowledges:


- (a) Upon the signing of this Undertaking by the Planning Secretary or his/her delegate, Mr Tavakoli, as director of the Company, will provide instructions for the Company to enter guilty pleas to the charges against it in Land and Environment Court Proceedings Nos 2023/451457- 451461.
- (b) The Department of Planning, Housing and Infrastructure (**NSW Planning**) may make this Undertaking publicly available including by publishing it on the NSW Planning's public register of section 9.5 undertakings on its website, and may refer to it in media or publications;
- (c) This Undertaking will be tendered by the Prosecutor the proceedings against the Company;
- (d) This Undertaking in no way derogates from the rights and remedies available to any other person arising from the Alleged Contraventions; and

- (e) The NSW Planning may include details of any compliance audits it undertakes of this Undertaking, including records provided under cl 4.1 of this Undertaking, with this Undertaking in the public register.


**6. A Statement of Capacity to Comply with the Terms of the Undertaking**

- 6.1 Mr Tavakoli certifies that he has the financial ability to comply with the terms of this Undertaking.


**Executed as an Enforceable Undertaking under Section 9.5 of the *Environmental Planning and Assessment Act 1979* (NSW)**

Signed:	
Name:	Arash Tavakoli
Date:	13/03/2025

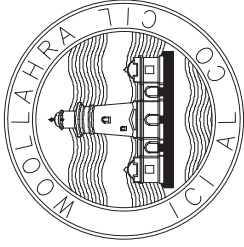
The Council has negotiated the Undertaking with Mr Tavakoli in relation to the Council's functions under the *EP&A Act* and recommends that the Secretary accept the Undertaking

Signed:	
Name:	Craig Swift McNair
Position	General Manager
Date:	14 February 2025

Accepted by the <sup>delegate of the</sup> Planning Secretary of the Department of Planning, Housing and Infrastructure pursuant to Section 9.5 of the *Environmental Planning and Assessment Act 1979* (NSW)

Signed:	
Name:	David Gainsford
Position	Deputy Secretary
Date:	Development Assessment and Sustainability 21/03/2025





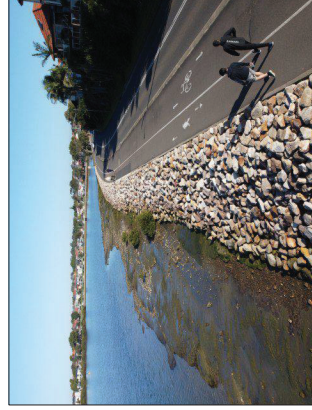
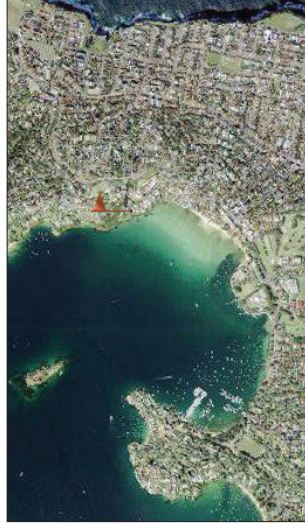
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WOOLLAHRA MUNICIPAL COUNCIL

# BAYVIEW HILL ROAD SEA WALL & RETAINING WALLS DESIGN

CIVIL INFRASTRUCTURE WORKS

LOCALITY PLAN



EXAMPLE OF SANDSTONE REVETMENT SEA WALL

DRAWING SCHEDULE

DWG. No.	DRAWING TITLE	REV	DATE
24-009C-01	COVER PAGE	3	05/03/25
24-009C-02	SPECIFICATIONS AND NOTES	2	05/03/25
24-009C-03	SPECIFICATIONS AND NOTES - SEAWALL-01	2	05/03/25
24-009C-04	SPECIFICATIONS AND NOTES - SEAWALL-02	2	05/03/25
24-009C-10	LAYOUT PLAN DRAINAGE	2	05/03/25
24-009C-11	NORTH ELEVATION	3	11/03/25
24-009C-20	LAYOUT PLAN SEAWALL	2	05/03/25
24-009C-21	SETOUT PLAN SEAWALL	3	05/03/25
24-009C-22	SEAWALL SECTIONS-01	3	11/03/25
24-009C-23	SEAWALL SECTIONS-02	3	11/03/25
24-009C-24	SEAWALL SECTIONS-03	3	11/03/25
24-009C-25	SEAWALL SECTIONS-04	2	05/03/25
24-009C-30	LAYOUT PLAN RETAINING WALLS (SUBJECT TO STRUCTURAL ENGINEERING INPUT)	3	11/03/25
24103-S.101	PLAN RETAINING WALLS (SUBJECT TO STRUCTURAL ENGINEERING INPUT)	1	16/07/24
24103-S.102	RETAINING WALLS SECTIONS (SUBJECT TO STRUCTURAL ENGINEERING INPUT)	1	16/07/24
24-009C-40	LAYOUT PLAN LANDSCAPING	2	05/03/25
24-009C-45	LAYOUT SEDIMENT CONTROL	1	05/03/25
24-009C-50	DRAINAGE AND SEDIMENT CONTROL DETAILS	1	05/03/25
24-009C-51	PLANTING SCHEDULE	1	05/03/25

CONSULTANT



SITE WORKS

- 1. ALL WORKS TO BE IN ACCORDANCE WITH LOCAL, NATIONAL, STATE, TERRITORY, AND AUSTRALIAN STANDARDS...
2. THE CONTRACTOR SHALL INVESTIGATE ALL EXISTING SERVICES...
3. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVALS...
4. BEFORE ANY PAVED DRIVEWAY OR CARPARK IS LAYED...
5. ON COMPLETION OF ANY TRENCHING WORKS...
6. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION...
7. THE CONTRACTOR SHALL PROTECT ALL EXISTING SERVICES...
8. THE CONTRACTOR SHALL PROTECT ALL EXISTING SERVICES...
9. ANY EXISTING TREES SHALL BE PROTECTED...
10. DO NOT OBTAIN DIMENSIONS BY CALCULATING...
11. FOR CLARIFICATION OR CORRECTION...
12. DIMENSIONS SHALL BE OBTAINED FROM THE...
13. MAKE SMOOTH TRANSITION TO EXISTING FEATURES...
14. DRAINAGE AND SEWERAGE SERVICES...
15. SHALL BE SAVED TO FALL TO TOP OF CONCRETE...
16. THE CONTRACTOR SHALL PROTECT ALL EXISTING SERVICES...
17. ALL EXISTING SERVICES SHALL BE PROTECTED...
18. THE CONTRACTOR SHALL PROTECT ALL EXISTING SERVICES...
19. TRAFFIC CONTROL MEASURES SHALL BE IN PLACE...
20. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION...

EROSION & SEDIMENT CONTROL NOTES

- 1. THE CONTRACTOR SHALL INVESTIGATE ALL EXISTING SERVICES...
2. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY APPROVALS...
3. BEFORE ANY PAVED DRIVEWAY OR CARPARK IS LAYED...
4. ON COMPLETION OF ANY TRENCHING WORKS...
5. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION...
6. THE CONTRACTOR SHALL PROTECT ALL EXISTING SERVICES...
7. THE CONTRACTOR SHALL PROTECT ALL EXISTING SERVICES...
8. ANY EXISTING TREES SHALL BE PROTECTED...
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17. ALL EXISTING SERVICES SHALL BE PROTECTED...
18. THE CONTRACTOR SHALL PROTECT ALL EXISTING SERVICES...
19. TRAFFIC CONTROL MEASURES SHALL BE IN PLACE...
20. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION...

CONCRETE NOTES

- 1. THIS SECTION APPLIES TO ALL CONCRETE WORKS...
2. CONFORM TO THE REQUIREMENTS OF ALL AUSTRALIAN AND INDUSTRY...
3. ACCEPTED STANDARDS TO THE EXTENT THAT THEY ARE RELEVANT...
4. AGGREGATE AND TENDERS TO BE PROVIDED...
5. UNLESS SHOWN OR SPECIFIED OTHERWISE...
6. FORMWORK TO BE USED IN ACCORDANCE WITH...
7. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION...
8. THE CONTRACTOR SHALL PROTECT ALL EXISTING SERVICES...
9. ANY EXISTING TREES SHALL BE PROTECTED...
10. DO NOT OBTAIN DIMENSIONS BY CALCULATING...
11. FOR CLARIFICATION OR CORRECTION...
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16. THE CONTRACTOR SHALL PROTECT ALL EXISTING SERVICES...
17. THE CONTRACTOR SHALL PROTECT ALL EXISTING SERVICES...
18. ALL EXISTING SERVICES SHALL BE PROTECTED...
19. TRAFFIC CONTROL MEASURES SHALL BE IN PLACE...
20. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION...

STORMWATER NOTES

- 1. ALL PIPES SHALL BE EQUAL TO OR GREATER THAN...
2. ALL STORMWATER DRAINAGE LINES...
3. PIPES GRADE SHALL BE TO A MINIMUM...
4. PIPES SHALL BE TO A MINIMUM...
5. EQUIVALENT STRENGTH FIBRE PIPES...
6. THE USE OF PRE-CAST STORMWATER DRAINAGE...
7. GATES AND COVERS SHALL CONFORM...
8. ALL COVERS AND GATES TO BE FITTED...
9. KEYS SHALL BE TO A MINIMUM...
10. CLASS 'D' UNWEAR SURFACING...
11. FITTINGS, CONNECTIONS AND JOINTS...
12. ALL CONNECTIONS TO EXISTING DRAINAGE...
13. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION...
14. THE CONTRACTOR SHALL PROTECT ALL EXISTING SERVICES...
15. ANY EXISTING TREES SHALL BE PROTECTED...
16. DO NOT OBTAIN DIMENSIONS BY CALCULATING...
17. FOR CLARIFICATION OR CORRECTION...
18. DIMENSIONS SHALL BE OBTAINED FROM THE...
19. MAKE SMOOTH TRANSITION TO EXISTING FEATURES...
20. DRAINAGE AND SEWERAGE SERVICES...
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22. THE CONTRACTOR SHALL PROTECT ALL EXISTING SERVICES...
23. THE CONTRACTOR SHALL PROTECT ALL EXISTING SERVICES...
24. ALL EXISTING SERVICES SHALL BE PROTECTED...
25. TRAFFIC CONTROL MEASURES SHALL BE IN PLACE...
26. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION...

ASPHALTIC CONCRETE

- GENERAL CONSTRUCTION AND FINISHING...
1. ALL ASPHALTIC CONCRETE SHALL BE...
2. ALL STORMWATER DRAINAGE LINES...
3. PIPES GRADE SHALL BE TO A MINIMUM...
4. PIPES SHALL BE TO A MINIMUM...
5. EQUIVALENT STRENGTH FIBRE PIPES...
6. THE USE OF PRE-CAST STORMWATER DRAINAGE...
7. GATES AND COVERS SHALL CONFORM...
8. ALL COVERS AND GATES TO BE FITTED...
9. KEYS SHALL BE TO A MINIMUM...
10. CLASS 'D' UNWEAR SURFACING...
11. FITTINGS, CONNECTIONS AND JOINTS...
12. ALL CONNECTIONS TO EXISTING DRAINAGE...
13. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION...
14. THE CONTRACTOR SHALL PROTECT ALL EXISTING SERVICES...
15. ANY EXISTING TREES SHALL BE PROTECTED...
16. DO NOT OBTAIN DIMENSIONS BY CALCULATING...
17. FOR CLARIFICATION OR CORRECTION...
18. DIMENSIONS SHALL BE OBTAINED FROM THE...
19. MAKE SMOOTH TRANSITION TO EXISTING FEATURES...
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23. THE CONTRACTOR SHALL PROTECT ALL EXISTING SERVICES...
24. ALL EXISTING SERVICES SHALL BE PROTECTED...
25. TRAFFIC CONTROL MEASURES SHALL BE IN PLACE...
26. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION...

EXISTING UNDERGROUND SERVICES NOTES

- 1. THE CONTRACTOR SHALL EXERCISE CARE...
2. ALL UTILITY SERVICES IDENTIFIED...
3. SERVICES HAND EXCAVATION ONLY...
4. THE CONTRACTOR SHALL PROTECT...
5. THE CONTRACTOR SHALL PROTECT...
6. PRIOR TO COMMENCEMENT...
7. THE CONTRACTOR SHALL PROTECT...
8. THE CONTRACTOR SHALL PROTECT...
9. TRAFFIC CONTROL MEASURES...
10. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION...

UTILITY SERVICE LOCATIONS NOTES

- 1. THE CONTRACTOR SHALL INVESTIGATE...
2. THE CONTRACTOR SHALL OBTAIN...
3. BEFORE ANY PAVED DRIVEWAY...
4. ON COMPLETION OF ANY TRENCHING...
5. THE CONTRACTOR SHALL PROVIDE...
6. THE CONTRACTOR SHALL PROTECT...
7. THE CONTRACTOR SHALL PROTECT...
8. ANY EXISTING TREES SHALL BE...
9. DO NOT OBTAIN DIMENSIONS...
10. FOR CLARIFICATION OR CORRECTION...
11. DIMENSIONS SHALL BE OBTAINED...
12. MAKE SMOOTH TRANSITION...
13. DRAINAGE AND SEWERAGE...
14. SHALL BE SAVED TO FALL TO TOP...
15. THE CONTRACTOR SHALL PROTECT...
16. THE CONTRACTOR SHALL PROTECT...
17. ALL EXISTING SERVICES SHALL BE...
18. THE CONTRACTOR SHALL PROTECT...
19. TRAFFIC CONTROL MEASURES...
20. THE CONTRACTOR SHALL PROVIDE...

PAVEMENTS

- 1. ALL PAVEMENTS SHALL BE...
2. ALL STORMWATER DRAINAGE LINES...
3. PIPES GRADE SHALL BE TO A MINIMUM...
4. PIPES SHALL BE TO A MINIMUM...
5. EQUIVALENT STRENGTH FIBRE PIPES...
6. THE USE OF PRE-CAST STORMWATER DRAINAGE...
7. GATES AND COVERS SHALL CONFORM...
8. ALL COVERS AND GATES TO BE FITTED...
9. KEYS SHALL BE TO A MINIMUM...
10. CLASS 'D' UNWEAR SURFACING...
11. FITTINGS, CONNECTIONS AND JOINTS...
12. ALL CONNECTIONS TO EXISTING DRAINAGE...
13. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION...
14. THE CONTRACTOR SHALL PROTECT ALL EXISTING SERVICES...
15. ANY EXISTING TREES SHALL BE PROTECTED...
16. DO NOT OBTAIN DIMENSIONS BY CALCULATING...
17. FOR CLARIFICATION OR CORRECTION...
18. DIMENSIONS SHALL BE OBTAINED FROM THE...
19. MAKE SMOOTH TRANSITION TO EXISTING FEATURES...
20. DRAINAGE AND SEWERAGE SERVICES...
21. SHALL BE SAVED TO FALL TO TOP OF CONCRETE...
22. THE CONTRACTOR SHALL PROTECT ALL EXISTING SERVICES...
23. THE CONTRACTOR SHALL PROTECT ALL EXISTING SERVICES...
24. ALL EXISTING SERVICES SHALL BE PROTECTED...
25. TRAFFIC CONTROL MEASURES SHALL BE IN PLACE...
26. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION...

KERBING NOTES

- 1. ALL CONCRETE TO HAVE A MINIMUM...
2. ALL KERBS, GUTTERS, DSB, GRABS...
3. EXPANSION JOINTS TO BE LOCATED...
4. EXPANSION JOINTS TO BE LOCATED...
5. EXPANSION JOINTS TO BE LOCATED...
6. IN THE RE-ARMING OF KERB AND GUTTER...
7. EXISTING ALUMINUM DRAINAGE...
8. EXISTING KERB AND GUTTER IS TO BE...
9. ALL DIMENSIONS TO BE SHOWN...
10. ALL DIMENSIONS TO BE SHOWN...
11. ALL DIMENSIONS TO BE SHOWN...
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18. ALL DIMENSIONS TO BE SHOWN...
19. ALL DIMENSIONS TO BE SHOWN...
20. ALL DIMENSIONS TO BE SHOWN...

SAFETY IN DESIGN NOTES

- 1. ALL URBAN ENGINEERING HAS ASSESSED...
2. THE FOLLOWING GENERAL SAFETY...
3. ALL WORKS AROUND OR NEAR...
4. ALL ELECTRICAL WORK SHALL BE...
5. ALL EXCAVATION WORK SHALL...
6. ALL EXCAVATION WORK SHALL...
7. ALL EXCAVATION WORK SHALL...
8. ALL EXCAVATION WORK SHALL...
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20. ALL EXCAVATION WORK SHALL...

GENERAL NOTES

- 1. ALL DIMENSIONS TO BE SHOWN...
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18. ALL DIMENSIONS TO BE SHOWN...
19. ALL DIMENSIONS TO BE SHOWN...
20. ALL DIMENSIONS TO BE SHOWN...

ACCESS AND SAFETY

- 1. THE CONTRACTOR SHALL PROVIDE...
2. ALL WORKS AROUND OR NEAR...
3. ALL ELECTRICAL WORK SHALL BE...
4. ALL EXCAVATION WORK SHALL...
5. ALL EXCAVATION WORK SHALL...
6. ALL EXCAVATION WORK SHALL...
7. ALL EXCAVATION WORK SHALL...
8. ALL EXCAVATION WORK SHALL...
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17. ALL EXCAVATION WORK SHALL...
18. ALL EXCAVATION WORK SHALL...
19. ALL EXCAVATION WORK SHALL...
20. ALL EXCAVATION WORK SHALL...

UTILITY SERVICE LOCATIONS NOTES

- 1. THE CONTRACTOR SHALL INVESTIGATE...
2. THE CONTRACTOR SHALL OBTAIN...
3. BEFORE ANY PAVED DRIVEWAY...
4. ON COMPLETION OF ANY TRENCHING...
5. THE CONTRACTOR SHALL PROVIDE...
6. THE CONTRACTOR SHALL PROTECT...
7. THE CONTRACTOR SHALL PROTECT...
8. ANY EXISTING TREES SHALL BE...
9. DO NOT OBTAIN DIMENSIONS...
10. FOR CLARIFICATION OR CORRECTION...
11. DIMENSIONS SHALL BE OBTAINED...
12. MAKE SMOOTH TRANSITION...
13. DRAINAGE AND SEWERAGE...
14. SHALL BE SAVED TO FALL TO TOP...
15. THE CONTRACTOR SHALL PROTECT...
16. THE CONTRACTOR SHALL PROTECT...
17. ALL EXISTING SERVICES SHALL BE...
18. THE CONTRACTOR SHALL PROTECT...
19. TRAFFIC CONTROL MEASURES...
20. THE CONTRACTOR SHALL PROVIDE...

EROSION & SEDIMENT CONTROL NOTES

- 1. THE CONTRACTOR SHALL INVESTIGATE...
2. THE CONTRACTOR SHALL OBTAIN...
3. BEFORE ANY PAVED DRIVEWAY...
4. ON COMPLETION OF ANY TRENCHING...
5. THE CONTRACTOR SHALL PROVIDE...
6. THE CONTRACTOR SHALL PROTECT...
7. THE CONTRACTOR SHALL PROTECT...
8. ANY EXISTING TREES SHALL BE...
9. DO NOT OBTAIN DIMENSIONS...
10. FOR CLARIFICATION OR CORRECTION...
11. DIMENSIONS SHALL BE OBTAINED...
12. MAKE SMOOTH TRANSITION...
13. DRAINAGE AND SEWERAGE...
14. SHALL BE SAVED TO FALL TO TOP...
15. THE CONTRACTOR SHALL PROTECT...
16. THE CONTRACTOR SHALL PROTECT...
17. ALL EXISTING SERVICES SHALL BE...
18. THE CONTRACTOR SHALL PROTECT...
19. TRAFFIC CONTROL MEASURES...
20. THE CONTRACTOR SHALL PROVIDE...

CONCRETE NOTES

- 1. THIS SECTION APPLIES TO ALL CONCRETE WORKS...
2. CONFORM TO THE REQUIREMENTS OF ALL AUSTRALIAN AND INDUSTRY...
3. ACCEPTED STANDARDS TO THE EXTENT THAT THEY ARE RELEVANT...
4. AGGREGATE AND TENDERS TO BE PROVIDED...
5. UNLESS SHOWN OR SPECIFIED OTHERWISE...
6. FORMWORK TO BE USED IN ACCORDANCE WITH...
7. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION...
8. THE CONTRACTOR SHALL PROTECT ALL EXISTING SERVICES...
9. ANY EXISTING TREES SHALL BE PROTECTED...
10. DO NOT OBTAIN DIMENSIONS BY CALCULATING...
11. FOR CLARIFICATION OR CORRECTION...
12. DIMENSIONS SHALL BE OBTAINED FROM THE...
13. MAKE SMOOTH TRANSITION TO EXISTING FEATURES...
14. DRAINAGE AND SEWERAGE SERVICES...
15. SHALL BE SAVED TO FALL TO TOP OF CONCRETE...
16. THE CONTRACTOR SHALL PROTECT ALL EXISTING SERVICES...
17. THE CONTRACTOR SHALL PROTECT ALL EXISTING SERVICES...
18. ALL EXISTING SERVICES SHALL BE PROTECTED...
19. TRAFFIC CONTROL MEASURES SHALL BE IN PLACE...
20. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION...

STORMWATER NOTES

- 1. ALL PIPES SHALL BE EQUAL TO OR GREATER THAN...
2. ALL STORMWATER DRAINAGE LINES...
3. PIPES GRADE SHALL BE TO A MINIMUM...
4. PIPES SHALL BE TO A MINIMUM...
5. EQUIVALENT STRENGTH FIBRE PIPES...
6. THE USE OF PRE-CAST STORMWATER DRAINAGE...
7. GATES AND COVERS SHALL CONFORM...
8. ALL COVERS AND GATES TO BE FITTED...
9. KEYS SHALL BE TO A MINIMUM...
10. CLASS 'D' UNWEAR SURFACING...
11. FITTINGS, CONNECTIONS AND JOINTS...
12. ALL CONNECTIONS TO EXISTING DRAINAGE...
13. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION...
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23. THE CONTRACTOR SHALL PROTECT ALL EXISTING SERVICES...
24. ALL EXISTING SERVICES SHALL BE PROTECTED...
25. TRAFFIC CONTROL MEASURES SHALL BE IN PLACE...
26. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION...

ASPHALTIC CONCRETE

- GENERAL CONSTRUCTION AND FINISHING...
1. ALL ASPHALTIC CONCRETE SHALL BE...
2. ALL STORMWATER DRAINAGE LINES...
3. PIPES GRADE SHALL BE TO A MINIMUM...
4. PIPES SHALL BE TO A MINIMUM...
5. EQUIVALENT STRENGTH FIBRE PIPES...
6. THE USE OF PRE-CAST STORMWATER DRAINAGE...
7. GATES AND COVERS SHALL CONFORM...
8. ALL COVERS AND GATES TO BE FITTED...
9. KEYS SHALL BE TO A MINIMUM...
10. CLASS 'D' UNWEAR SURFACING...
11. FITTINGS, CONNECTIONS AND JOINTS...
12. ALL CONNECTIONS TO EXISTING DRAINAGE...
13. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION...
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24. ALL EXISTING SERVICES SHALL BE PROTECTED...
25. TRAFFIC CONTROL MEASURES SHALL BE IN PLACE...
26. THE CONTRACTOR SHALL PROVIDE ADEQUATE PROTECTION...

Table with columns: NO, DESCRIPTION, DESIGN, DRAWN, DATE. Includes rows for 1 CONCEPT, 2 PRELIMINARY DESIGN, 3 PRELIMINARY DESIGN, 4 PRELIMINARY DESIGN.

Table with columns: NO, DESCRIPTION, DESIGN, DRAWN, DATE. Includes rows for 1 CONCEPT, 2 PRELIMINARY DESIGN, 3 PRELIMINARY DESIGN, 4 PRELIMINARY DESIGN.

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Table with columns: NO, DESCRIPTION, DESIGN, DRAWN, DATE. Includes rows for 1 CONCEPT, 2 PRELIMINARY DESIGN, 3 PRELIMINARY DESIGN, 4 PRELIMINARY DESIGN.

**GENERAL**

1. THE DRAWINGS SHOW THE WORKS TO BE SUPPLIED AND INSTALLED BY THE CONTRACTOR UNLESS NOTED AS "EXISTING" OR "BY OTHERS".
2. ALL MATERIALS TO BE SUPPLIED AND INSTALLED BY THE CONTRACTOR SHALL BE NEW.
3. THE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER DRAWINGS SPECIFICATIONS AND WITH SUCH OTHER WRITTEN INSTRUCTIONS AS MAY BE ISSUED DURING THE COURSE OF THE CONTRACT.
4. BEFORE UNDERTAKING ANY WORK ESTABLISH THE LOCATIONS OF ALL EXISTING SERVICES AFFECTED BY THE WORKS IF NECESSARY CARRY OUT BEFORE YOU DIG AUSTRALIA SEARCH ADVISE THE SUPERINTENDENT IF THERE ARE ANY PREVIOUSLY UNKNOWN SERVICES THAT CAN POTENTIALLY BE AFFECTED BY THE WORKS.
5. ALL CRITICAL ARRANGEMENTS AND DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR ON SITE BEFORE WORK COMMENCES.
6. DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS.
7. DIMENSIONS AND LEVELS ARE DEPICTED IN MILLIMETRES AND METERS AS DENOTED ON THE DRAWINGS.
8. ALL LEVELS ARE RELATIVE TO AUSTRALIAN HEIGHT DATUM (AHD) UNLESS OTHERWISE NOTED.
9. ANY DISCREPANCY ON THE DRAWINGS SHALL BE REFERRED TO THE SUPERINTENDENT BEFORE PROCEEDING WITH THE WORK.
10. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT AUSTRALIAN STANDARDS AND WITH THE BY LAWS AND ORDINANCES OF THE RELEVANT BUILDING AUTHORITIES EXCEPT WHERE VARIED BY THE SPECIFICATION HEREIN AND THE DRAWINGS.
11. DURING CONSTRUCTION THE STRUCTURE SHALL BE MAINTAINED IN A STABLE CONDITION AND NO PART SHALL BE OVERSTRESSED TEMPORARY BRACING AND BATTERS SHALL BE PROVIDED BY THE CONTRACTOR TO KEEP THE WORKS AND EXCAVATIONS STABLE AT ALL TIMES.
12. THE CONTRACTOR SHALL PROVIDE WRITTEN EVIDENCE THAT THE MATERIALS USED COMPLY WITH THE SPECIFICATION HEREIN.
13. THE CONTRACTOR SHALL CARRY OUT THE WORKS COGNISANT OF THE SITE BEING SUBJECT TO TIDALLY VARIANT MARINE CONDITIONS AND RUN OFF FROM STORM WATER.
14. THE CONTRACTOR SHALL PRESERVE EXISTING INFRASTRUCTURE INCLUDING ALL EXISTING SERVICES.
15. ALL EXCAVATED DEMOLISHED AND EXCESS MATERIALS SHALL BE LAWFULLY DISPOSED OF BY THE CONTRACTOR UNLESS NOTED OTHERWISE BY THE SPECIFICATION HEREIN OR BY THE DRAWINGS.

**DESIGN CRITERIA**

- 16. DESIGN LEVELS FOR THE CONSTRUCTED SEAWALL SHALL BE MINIMUM 100 YEARS AND FOR ALL OTHER MATERIALS UNLESS NOTED OTHERWISE SHALL BE A MINIMUM 25 YEARS WITH PERIODIC INSPECTION AND MAINTENANCE.
- 17. DESIGN LEVELS ARE BASED ON THE FOLLOWING:
  - PREDICTED SEA LEVEL RISE (SLR) OF 0.53 M FOR A 100 YEAR SCENARIO.
  - WIND SET UP OF 0.1 M BASED ON A 10 YEAR ANNUAL EXCEEDANCE PROBABILITY (AEP) FOR THE DESIGN STORM EVENT.
  - A WAVE CLIMATE COMPRISING OF WIND WAVES ( $H_s = 0.34 \text{ m}$  and  $T_p = 1.36 \text{ secs}$ ) AND VESSEL WAVES ( $H_s = 0.35 \text{ m}$ ).
- EXISTING TIDAL LEVELS ARE DERIVED FROM THE PORT DENISON TIDE GAUGE (MHS = 0.65 M AND HAT = 1.18 M).

**QUALITY ASSURANCE**

18. THE CONTRACTOR SHALL IMPLEMENT A QUALITY ASSURANCE SYSTEM TO THE SUPERINTENDENTS REQUIREMENTS AND SUCH THAT SATISFIES ISO 9001
19. PROGRAMS OF RECORDS SHALL BE SUBMITTED TO THE SUPERINTENDENT FOR APPROVAL AND WORK SHALL NOT COMMENCE UNTIL SUCH APPROVAL HAS BEEN GIVEN.
20. RECORDS SHALL BE KEPT OF ALL ASPECTS AND STAGES OF THE WORK DURING THE COURSE OF CONSTRUCTION THE CONTRACTOR SHALL MAINTAIN ACCURATE AND UP TO DATE RECORDS AND SHALL CONVEY SUCH RECORDS TO THE SUPERINTENDENT.
21. AT THE COMPLETION OF EACH STAGE OF THE WORKS THE CONTRACTOR SHALL CERTIFY THAT THOSE WORKS HAVE BEEN UNDERTAKEN AND COMPLETED IN ACCORDANCE WITH THE DRAWINGS SPECIFICATION AND IN ACCORDANCE WITH THE COURSE OF THE CONTRACT.
22. THE CONTRACTOR SHALL OBTAIN AND KEEP ON SITE ALL RELEVANT MATERIAL SAFETY DATA SHEETS (MSDS) FOR ANY MATERIALS THAT ARE USED IN THE WORKS ALL TRANSPORTATION STORAGE AND USE OF THESE MATERIALS SHALL BE IN ACCORDANCE WITH MSDS.
23. ALL WORK SHALL BE CARRIED OUT IN COMPLIANCE WITH THE WHS ACT 2011 (NSW).
24. ALL DEBRIS FROM CONSTRUCTION WORKS SHALL BE COMPLETELY REMOVED CLEAR OF THE WATERWAY.
25. WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH A CEMP (CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN) PREPARED BY THE CONTRACTOR.

**CONSTRUCTION METHODOLOGY**

26. THE INTENT OF THE WORKS IS TO INSTALL ADDITIONAL VERTICAL SANDSTONE BLOCKS OVER THE EXISTING SEAWALL CREST ALIGNMENT THE LAYOUT OF THE WORKS MUST ENSURE THAT SUFFICIENT CONTACT IS ACHIEVED BETWEEN THE EXISTING SEAWALL CREST AND LOWER COURSE OF THE NEW SANDSTONE BLOCKS USING A MORTAR BED (20MM MINIMUM DEPTH).
27. THE ALIGNMENT FOR THE SEAWALL WORKS SHOWN IN THE DRAWINGS DEPICTS THE SEAWALL ALIGNMENT BETWEEN CH 0M AND CH 46M WITH 1M INTERVAL MARKERS.
28. THE CONTRACTOR SHALL UNDERTAKE A PRE CONSTRUCTION SURVEY TO SET OUT THE WORKS IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATION THE INTENT OF THE SET OUT IS TO ESTABLISH A SMOOTH CONTINUOUS ALIGNMENT FOR THE INSTALLATION OF SANDSTONE BLOCKS WHICH IS OFFSET APPROXIMATELY 150MM FROM WATERSIDE EDGE OF THE EXISTING SEAWALL THE SURVEY SHALL BE MARKED OUT ON SITE USING STRING LINES AND INCLUDE ALIGNMENT BETWEEN CH 0M AND CH 46M WITH 1M INTERVAL MARKERS.
29. THE SUPERINTENDENT FOR THE PROPOSED SET OUT OF THE WORKS ON SITE (HOLD POINT 1) WHERE THE ALIGNMENT LEVELS FOR THE EXISTING SEAWALL CREST DIFFER FROM THE EXISTING SURVEY OR SET OUT IN THE DRAWINGS THE SUPERINTENDENT MAY GIVE DIRECTION TO THE CONTRACTOR TO ADJUST THE CONTROL LINE TO COORDINATE WITH EXISTING CONDITIONS WHILE ACHIEVING THE DESIGN INTENT OF THE DRAWINGS AND SPECIFICATION.

30. THE CONTRACTOR SHALL PREPARE THE EXISTING SEAWALL SURFACE WHERE NEW BLOCKS ARE TO BE PLACED BY REMOVING HIGH POINTS TO ACHIEVE A CONTINUOUS LEVEL SUITABLE FOR THE INSTALLATION OF THE MORTAR BED AND SANDSTONE BLOCKS TRIMMING AND PROFILING OF HIGH POINTS IS TO BE UNDERTAKEN BY HAND WORK INCLUDING THE USE OF CHISELS ROCK HAMMERS AND ROCK PICKS THE CONTRACTOR MUST SEEK APPROVAL FROM THE SUPERINTENDENT BEFORE USING ANY MECHANICAL METHODS FOR TRIMMING AND PROFILING.
31. ONCE THE FINISH LEVEL IS ACHIEVED ALONG THE FULL LENGTH OF THE SEAWALL ALIGNMENT THE CONTRACTOR SHALL SEEK APPROVAL FROM THE SUPERINTENDENT BEFORE PROCEEDING (HOLD POINT 2).
32. INSTALL THE MORTAR BED IN ACCORDANCE WITH THE DRAWINGS AND SPECIFICATIONS AND IMMEDIATELY PLACE NEW SANDSTONE BLOCKS COMPLETE CONSTRUCTION OF THE NEW SEAWALL IN SECTIONS NO GREATER THAN 10M COMMENCING AT CH 0M AND MOVING PROGRESSIVELY TO CH 46M.
33. WHERE SECTIONS OF THE SEAWALL REQUIRE TWO ROWS OF SANDSTONE BLOCKS COMPLETE THE INSTALLATION OF THE ENTIRE LOWER COURSE FIRST AT ALL CHANGES BEFORE PLACING THE UPPER COURSE OF BLOCKS.

**DEMOLITION**

33. CARRY OUT DEMOLITION WORK IN ACCORDANCE WITH AS 2601. MAKING DUE ALLOWANCE FOR THE DETERIORATED CONDITION OF THE STRUCTURE.
34. PROTECT PROPERTY AND SERVICES WHICH ARE TO REMAIN OR ADJACENT TO THE SITE.
35. LAWFULLY DISPOSE OF ALL DEMOLITION MATERIALS.
36. ITEMS TO BE DEMOLISHED SHALL BE COMPLETELY REMOVED CLEAR OF THE EXISTING SEAWALL FOOTPRINT AND ADJACENT RESERVE.
37. ALL DEBRIS SHALL BE COMPLETELY REMOVED CLEAR OF THE WATERS AND BED OF THE RIVER.

**STONEMASONRY**

38. SANDSTONE BLOCKS USED IN THE WORKS SHALL BE APPROPRIATE OR SIMILAR APPROVED HAVING THE FOLLOWING PROPERTIES:
- | STANDARD       | PROPERTY                               |
|----------------|--|
| a) AS 1141.6.1 | MINIMUM DRY BULK DENSITY 2500kg/m3     |
| b) AS 1141.6.2 | WATER ABSORPTION < 0.5%                |
| c) AS 1141.2.2 | WET DRY STRENGTH VARIATION < 30%       |
| d) AS 4133.4.1 | POINT LOAD STRENGTH (IS50) ≥ 5 MPa     |
| e) ASTM C99M   | MIN WET MODULUS OF RUPTURE ≥ 3 MPa     |
| f) AS 1141.26  | RESISTANCE TO SALT ATTACK              |
|                | MAX SODIUM SULPHATE WEIGHT LOSS < 0.9% |

39. SANDSTONE BLOCKS SHALL HAVE THE FOLLOWING DIMENSIONS; 1M LENGTH 0.5M WIDTH AND 0.3M HEIGHT THE BLOCKS SHALL HAVE A CHAMFER OR PENCIL ROUND FINISH ALONG ALL EDGES.

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<p>PROJECT: RETAINING AND SEAWALL BAYVIEW HILL ROAD ROSE BAY</p>				
<p>DRAWING TITLE: SEAWALL NOTES &amp; SPECIFICATIONS 01</p>				
<p>STATUS: DETAILED DESIGN</p>			<p>SHEET No: 24-009C</p>	
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<p>PAPER: A3</p>			<p>ISSUE: 2</p>	



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40. THE FOLLOWING STANDARDS SHALL BE COMPLIED WITH FOR THE STONEMASONRY TO THE EXTENT THAT THEY ARE RELEVANT AND NOT OVERIDDEN BY THE SPECIFICATION:
- AS 3972 GENERAL PURPOSE AND BLEND CEMENTS.
  - AS 3700 MASONRY IN BUILDINGS
  - AS 1141 METHODS FOR SAMPLING AND TESTING AGGREGATES.
  - AS 1672 LIMES AND LIMESTONES FOR LIME PUTTY FOR BUILDING.
  - AS 2701 METHODS OF SAMPLING AND TESTING MORTAR FOR MASONRY CONSTRUCTIONS.
  - AS 4489 TEST METHODS FOR LIMES AND LIMESTONES.
  - ASTM C 097 STANDARD TEST METHODS FOR ABSORPTION AND BULK SPECIFIC GRAVITY OF DIMENSIONAL STONE.
  - ASTM C 099 STANDARD TEST METHODS FOR MODULUS OF RUPTURE OF DIMENSIONAL STONE.
  - ASTM C 170 STANDARD TEST METHODS FOR COMPRESSIVE STRENGTH OF DIMENSIONAL STONE.
  - ASTM C 1489-01 STANDARD SPECIFICATION FOR LIME PUTTY FOR STRUCTURAL PURPOSES.
  - ASTM C 1496-01 STANDARD GUIDE FOR ASSESSMENT AND MAINTENANCE OF EXTERIOR DIMENSIONAL STONE MASONRY WALLS AND FACADES.
  - ASTM C 1713-10 STANDARD SPECIFICATION FOR MORTARS FOR THE REPAIR OF HISTORIC MASONRY.
  - AS 4456 MASONRY UNITS AND SEGMENTAL PAVERS METHODS OF TEST.
41. THE COLOUR AND DISTRIBUTION OF NEW SANDSTONE BLOCKS SHALL BE SIMILAR TO THE EXISTING COLOURED PATTERN OF SEAWALL.
42. ALL WORKED STONE SHALL BE INSPECTED ON SITE PRIOR TO INSTALLATION. STONE FOUND UNACCEPTABLE FOR THIS SPECIFIC PURPOSE SHALL BE REJECTED.
43. AT LEAST FOURTEEN (14) DAYS PRIOR TO THE SUPPLY OF ANY SANDSTONE BLOCKS THE CONTRACTOR SHALL PROVIDE DOCUMENTATION TO THE SUPERINTENDENT THAT DEMONSTRATES THAT THE BLOCKS TO BE SUPPLIED COMPLY WITH THE REQUIREMENTS OF THIS SPECIFICATION.
44. REUSE OF EXISTING SANDSTONE BLOCKS SHALL NOT BE PERMITTED UNLESS DIRECTED BY THE SUPERINTENDENT.
45. THE CONSTRUCTED WALL SHALL BE SET OUT IN LINE USING OFFSETS FROM A DATUM LINE TO BE ESTABLISHED BY THE CONTRACTOR'S SURVEYOR.
46. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE ACCURACY OF THE STONE SET OUT AND SHALL MAKE GOOD ANY INACCURACY AT HIS OWN COST TO THE SATISFACTION OF THE SUPERINTENDENT.
47. STONES SHALL BE FREE FROM CRACKS, VENTS, SANDBALLS, FISSURES, SHALE INCLUSIONS, TEA LEAF CLEAVAGE PLANES, JOINTS, SEAMS, CHEMICAL ALTERATION AND OTHER DEFECTS WHICH WOULD BE LIABLE TO AFFECT ITS STRENGTH, APPEARANCE, DURABILITY AND PERFORMANCE IN THE MARINE ENVIRONMENT.
48. STONEMASONRY SHALL BE CARRIED OUT BY A SKILLED AND EXPERIENCED STONEMASON.
49. TOLERANCE FOR CUTTING AND TRIMMING STONE BLOCKS SHALL BE ± 15mm.
50. BEDDING AND POINTING MORTAR SHALL CONSIST OF FAST ASTER NATURAL HYDRAULIC LIME (NHL) 3.5 MIXED IN THE RATIO 1:2 WITH WELL-GRADED CLEAN SHARP SAND. CARE SHOULD BE TAKEN NOT TO ADD ANY MORE WATER THAN IS ABSOLUTELY NECESSARY AS AN EXCESSIVE AMOUNT OF WATER WILL LEAD TO SHRINKAGE OF THE GROUT ON CURING.
51. JOINT AND BEDDING MORTAR SHALL HAVE A MINIMUM DEPTH OF 20MM.

52. ALL STONE BLOCKS SHALL BE CORRECTLY AND ACCURATELY SET IN A LEVEL AND POSITION IN COURSES ON THEIR NATURAL QUARRY BED.
- IN THE SETTING OF THE STONE BLOCKS CARE SHALL BE TAKEN TO ENSURE THAT NO MORTAR EITHER SPILLS OR FROM OVER FILLING, SHALL COME IN CONTACT WITH THE FACE OF THE STONE. PRIOR TO ANY SPECIFIED MORTAR BEDDING CLEAN THE BED AREA OF DUST AND IMPURITIES AND THOROUGHLY Dampen it down before LAYING THE MORTAR BED. LAY EACH STONE ON A FULL BED OF MORTAR AND TAP HOME PACKERS SHALL NOT BE USED. SOLIDLY FILL AND GROUT JOINTS AND JOGGLES WHERE SPECIFIED AS THE WORK PROCEEDS.
53. TO PROTECT AGAINST DIFFERENTIAL EROSION OF CEMENT MORTARS THAT ARE HARDER THAN THE SANDSTONE SHALL NOT BE USED IN THE WORKS UNLESS AGREED OTHERWISE BY THE SUPERINTENDENT. ALL SAND, CEMENT AND LIME USED IN THE MORTAR MIX SHALL BE IN ACCORDANCE WITH AS 3700. MORTAR STRENGTH AFTER 28 DAYS SHALL BE GREATER THAN 3.5 MPa.
54. MATERIALS INCLUDING CEMENT LIME SAND WATER AND ADMIXTURES SHALL BE SUITABLY PROPORTIONED IN ACCORDANCE WITH THE REQUIREMENTS OF AS 3700. THE RAW MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF AS 3700. PARTICULAR ATTENTION SHALL BE PAID TO THE EXACT MEASUREMENT OF MORTAR CONTENTS AND THE MIXING PROCEDURE. THE COLOUR OF THE MORTAR WHEN DRY SHALL CLOSELY MATCH THE COLOUR OF THE EXISTING MORTAR. SUCH THAT REPAIRS TO THE STONEMASONRY ARE NOT CONSPICUOUS. WITHOUT COMPROMISING MORTAR STRENGTH. A MEND THE MORTAR MIX DESIGN IN CONSULTATION WITH THE SUPERINTENDENT AND THE CITY OF CANADA BAY AS REQUIRED TO ACHIEVE COLOUR REQUIREMENTS.
55. NEW MORTAR JOINTS ARE TO MATCH THE EXISTING OR TO BE AS DIRECTED ON SITE BY THE SUPERINTENDENT. ALL EXISTING JOINT LINES SHALL BE MAINTAINED WHERE IT IS UNCLEAR WHERE EXISTING JOINT LINES ARE. NOTIFY THE SUPERINTENDENT ON SITE FOR A DETERMINATION. RAKE OUT JOINTS TO TAKE POINTING MATERIAL PROVIDE A SRAPE AREA OF ONE SQUARE METRE OF POINTING IN STONEMASONRY FOR APPROVAL. ALL STONE IS TO BE THOROUGHLY DAMPENED BEFORE POINTING BUT SHALL BE FREE OF EXCESS WATER WHEN POINTING IS CARRIED OUT.
57. ON COMPLETION OF LAYING NEW STONES ALL JOINTS SHALL BE RAKED OUT TO A MINIMUM DEPTH OF 3 TIMES THE WIDTH OF THE JOINT AND CLEANED READY TO TAKE POINTING. ALL AS DIRECTED BY THE SUPERINTENDENT.
58. FOLLOWING GROUTING SHALL BE REMOVED AND THE JOINTS REPOINTED AS SPECIFIED ABOVE. NO CLOSED CELL POLYETHYLENE BACKING ROD SHALL REMAIN IN THE JOINTS. POINTING SHALL BE FINISHED FLUSH WITH THE STONEMASONRY BE SLIGHTLY RECESSED WHERE ARRISSES ARE WORN. POINTING TO JOINTS SHALL BE FINISHED WITH A LIGHT BRUSH.
60. FINISHED POINTING MORTAR SHALL BE PROTECTED FROM RAIN AND FROM RAPID DRYING AS THIS CAN LEAD TO LEACHING OF LIME AND INHIBITION OF THE CARBONATION PROCESS RESPECTIVELY RESULTING IN BOTH INSTANCES IN WEAKENING OF THE MORTAR. DIRECT SUN HEAT AND WIND ARE KEY CONTRIBUTORS TO RAPID DRYING.
61. THE WORKS SHALL BE COVERED IN Hessian AND HEAVY DUTY PLASTIC SHEETING AT THE END OF EACH DAY'S WORK TO PREVENT UNWANTED WETTING OR RAPID CURING OF THE MORTAR.


62. ON COMPLETION OF THE STONEMASONRY WORKS THE STONEMASONRY SHALL BE CLEANED DOWN TO REMOVE ALL DUST, DEBRIS AND OTHER GENERAL SOILING USING FRESH WATER. A PRESSURE WASHER MAY BE USED STRICTLY SUBJECT TO THE FOLLOWING LIMITATIONS:
- a. MAXIMUM PRESSURE 430psi (3000kPa)
  - b. MINIMUM DISTANCE OF WASHER HEAD FROM THE SANDSTONE: 200mm.
  - c. THE CONTRACTOR SHALL MEET CONSTRUCTION TOLERANCES FOR THE STONEMASONRY AS DETAILED BELOW:

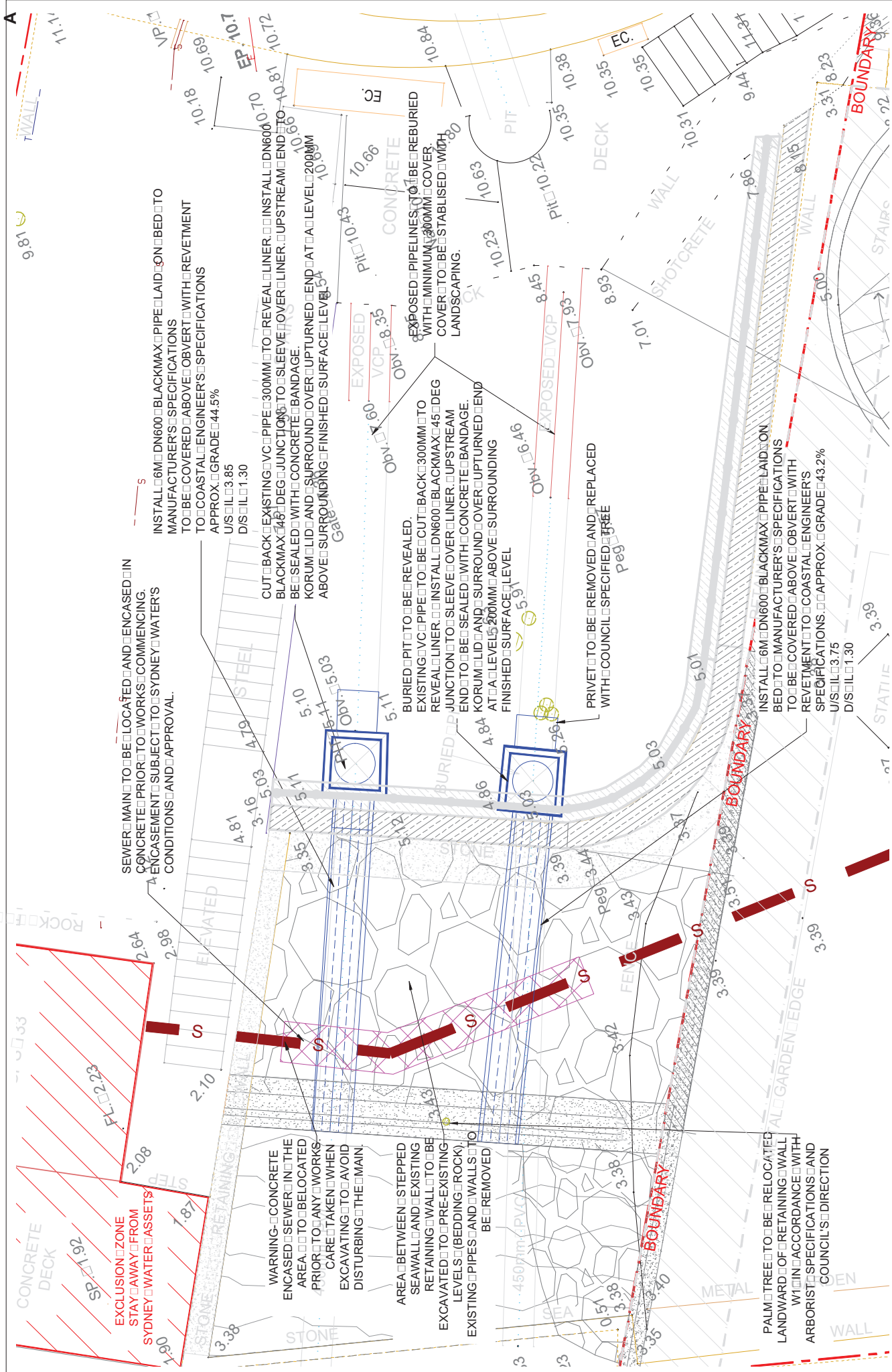
MATERIAL COMPRISING THE FINISHED SURFACE OF THE WORK ITEM	TOLERANCE TO DESIGN LINES AND LEVELS
OUTER FACE OF SEAWALL (WATER SIDE)	HORIZONTAL 25mm VERTICAL -20mm / +20mm
JOINTS	20mm -15mm / +15mm

63. THE CONTRACTOR SHALL MEET CONSTRUCTION TOLERANCES FOR THE STONEMASONRY AS DETAILED BELOW:

### SURVEY

64. ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM (AHD) AND HORIZONTAL POSITIONING TO THE MAP GRID OF AUSTRALIA (MGA).
65. THE CONTRACTOR SHALL CONSIDER THE EXISTING SURVEY AS INDICATIVE ONLY. THE CONTRACTOR SHALL ACCOUNT FOR LEVELS AND SLOPES OF SURFACES AND UNPROTECTED SHORELINES BEING CORRECT AT THE TIME OF SURVEY BUT POTENTIALLY CHANGING OVER TIME DUE TO DEGRADATION AND MOVEMENT OF THE SEAWALL CREST. THE CONTRACTOR SHALL CONFIRM ALL REQUIRED LEVELS PRIOR TO CONSTRUCTION BY UNDERTAKING A PRE-CONSTRUCTION SURVEY.
67. PRIOR TO THE COMMENCEMENT OF ANY WORKS THE CONTRACTOR SHALL ARRANGE FOR SURVEY CROSS-SECTIONS OF THE SITE TO BE UNDERTAKEN AT 10M INTERVALS FOR THE WORKS ON COMPLETION OF THE WORKS AN IDENTICAL SURVEY SHALL BE UNDERTAKEN BY THE CONTRACTOR AT THE SAME CROSS-SECTION LOCATIONS. THE SURVEY CROSS-SECTION SHALL EXTEND THE FULL WIDTH OF THE CONSTRUCTED SEAWALL CREST.
68. SURVEY SHALL BE CARRIED OUT BY A SUITABLY EXPERIENCED AND QUALIFIED REGISTERED SURVEYOR. THE SUPERINTENDENT SHALL BE PROVIDED WITH TWO COPIES OF A1 SIZE DRAWINGS OF THE SURVEY. DETAILING ALL THE CROSS-SECTION LOCATIONS AT SCALE AND PLANS DETAILING CROSS-SECTION LOCATIONS AT 1:200 SCALE. THE CONTRACTOR WILL BE RESPONSIBLE FOR ANY FURTHER SURVEY REQUIRED DUE TO THE WORK BEING INCOMPLETE OR NOT COMPLYING WITH THE DRAWINGS AND SPECIFICATION.

 <p>DESIGNING YOUR FUTURE WITH A LIGHT FOOTPRINT 173 ALISON ROAD M: 0177 410 338 E: info@lturbanengineering.com.au</p>		<p>PROJECT: RETAINING AND SEAWALL BAYVIEW HILL ROAD ROSE BAY</p>	<p>DRAWING TITLE: SEAWALL NOTES &amp; SPECIFICATIONS 102</p>	<p>STATUS: DETAILED DESIGN</p> <p>PROJECT No.: 24-009C</p> <p>DWG No.: 24-009C-04</p> <p>PAPER: A3 ISSUE: 2</p>												
<p>ALL DIMENSIONS TO BE SHOWN ON ONE VIEW UNLESS OTHERWISE NOTED. ANY SHOP DRAWINGS OR CONNECTIONS ANY WORK SHALL BE SHOWN ON SEPARATE DRAWINGS. WORKS TO BE SHOWN SHALL BE SHOWN TO THE WORKS TO BE SHOWN (SIZES WITHIN UNITS ENGINEERING PPT. LTD)</p>		<p>CLIENT:</p> <table border="1"> <tr> <th>NO.</th> <th>REVISION</th> <th>DATE</th> </tr> <tr> <td>1</td> <td>CONCEPT</td> <td>09/07/24</td> </tr> <tr> <td>2</td> <td>DESIGNED</td> <td>09/07/24</td> </tr> <tr> <td>3</td> <td>ISSUED</td> <td>09/07/24</td> </tr> </table>			NO.	REVISION	DATE	1	CONCEPT	09/07/24	2	DESIGNED	09/07/24	3	ISSUED	09/07/24
NO.	REVISION	DATE														
1	CONCEPT	09/07/24														
2	DESIGNED	09/07/24														
3	ISSUED	09/07/24														



SEWER MAIN TO BE LOCATED AND ENCASED IN CONCRETE PRIOR TO WORKS COMMENCING. ENCASEMENT SUBJECT TO SYDNEY WATERS CONDITIONS AND APPROVAL.

INSTALL 6M DN600 BLACKMAX PIPE Laid on BED TO MANUFACTURER'S SPECIFICATIONS TO BE COVERED ABOVE OBVERT WITH REVTMENT TO COASTAL ENGINEER'S SPECIFICATIONS APPROX. GRADE 44.5% U/S ILL 3.85 D/S ILL 1.30

CUT BACK EXISTING VCP PIPE 300MM TO REVEAL LINER. INSTALL DN600 UPSTREAM END TO 10.81 10.72 BLACKMAX 45 DEG JOINTS TO SLEEVE OVER LINER. UPSTREAM END TO 10.81 10.72 KORUM LID AND SURROUND OVER UPTURNED END AT A LEVEL 200MM ABOVE SURROUNDING FINISHED SURFACE LEVEL 5.4

BURIED PIPE TO BE REVEALED. EXISTING VCP PIPE TO BE CUT BACK 300MM TO REVEAL LINER. INSTALL DN600 BLACKMAX 45 DEG JOINTS TO SLEEVE OVER LINER. UPSTREAM END TO BE SEALED WITH CONCRETE BANDAGE. KORUM LID AND SURROUND OVER UPTURNED END AT A LEVEL 200MM ABOVE SURROUNDING FINISHED SURFACE LEVEL

PRIVET TO BE REMOVED AND REPLACED WITH COUNCIL SPECIFIED TREE

INSTALL 6M DN600 BLACKMAX PIPE Laid on BED TO MANUFACTURER'S SPECIFICATIONS TO BE COVERED ABOVE OBVERT WITH REVTMENT TO COASTAL ENGINEER'S SPECIFICATIONS APPROX. GRADE 43.2% U/S ILL 3.75 D/S ILL 1.30

WARNING: CONCRETE ENCASED SEWER IN THE AREA TO BE LOCATED PRIOR TO ANY WORKS. CARE TAKEN WHEN EXCAVATING TO AVOID DISTURBING THE MAIN.

AREA BETWEEN STEPPED SEAWALL AND EXISTING RETAINING WALL TO BE EXCAVATED TO PRE-EXISTING LEVELS (BEDDING ROCK). EXISTING PIPES AND WALLS TO BE REMOVED

PALM TREE TO BE RELOCATED LANDWARD OF RETAINING WALL WITH ACCORDANCE WITH ARBORIST SPECIFICATIONS AND COUNCIL'S DIRECTION

PROJECT		RETAINING AND SEAWALL - BAYVIEW HILL ROAD - ROSE BAY	DRAWING TITLE	LAYOUT PLAN - DRAINAGE
PROJECT		RETAINING AND SEAWALL - BAYVIEW HILL ROAD - ROSE BAY	DRAWING TITLE	LAYOUT PLAN - DRAINAGE
STATUS	DETAILED DESIGN	PROJECT	RETAINING AND SEAWALL - BAYVIEW HILL ROAD - ROSE BAY	DRAWING TITLE
NO.	24-009C	PROJECT	RETAINING AND SEAWALL - BAYVIEW HILL ROAD - ROSE BAY	DRAWING TITLE
DWG	24-009C-10	PROJECT	RETAINING AND SEAWALL - BAYVIEW HILL ROAD - ROSE BAY	DRAWING TITLE
PAPER	A3	PROJECT	RETAINING AND SEAWALL - BAYVIEW HILL ROAD - ROSE BAY	DRAWING TITLE
ISSUE	2	PROJECT	RETAINING AND SEAWALL - BAYVIEW HILL ROAD - ROSE BAY	DRAWING TITLE

CLIENT: [Empty]

NO.	DATE	BY	CHKD	APPD	DATE
1	03/03/25	PT	PT		
2					

HEIGHT DATUM: AUSTRALIAN HEIGHT DATUM AND COORDINATE SYSTEM: MGA - 2020

SCALE: 1:50 (A)

DESIGNING YOUR FUTURE WITH A LIGHT FOOTPRINT

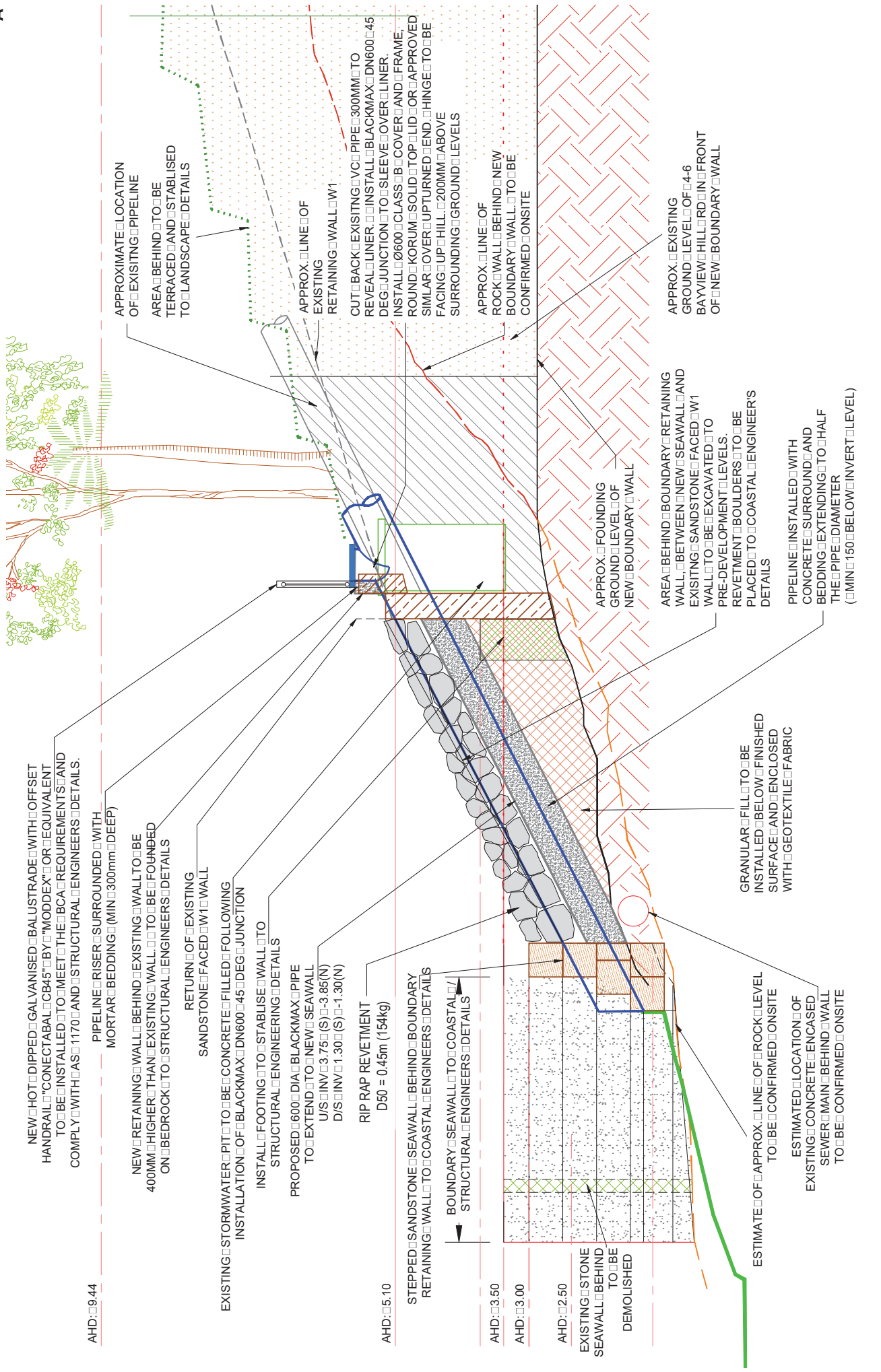
LT Urban ENGINEERING

6.2024@lturbanengineering.com.au

WARRAWONG NSW 2037

FILE LOCATION: C:\Users\mva\l\Urban - Desktop\LT Urban - Work\Council - Project\Woodlawn Bay View\BAYVIEW\_R04.dwg

A



NEW HOT DIPPED GALVANISED BALUSTRADE WITH OFFSET HANDRAIL TO BE CONNECTED BY "MODEX" OR EQUIVALENT TO BE INSTALLED TO MEET THE BCA REQUIREMENTS AND COMPLY WITH AS 1170 AND STRUCTURAL ENGINEERS DETAILS.

PIPELINE RISER SURROUNDED WITH MORTAR BEDDING (MIN 300mm DEEP)

NEW RETAINING WALL BEHIND EXISTING WALL TO BE 400MM HIGHER THAN EXISTING WALL TO BE FOUNDED ON BEDROCK TO STRUCTURAL ENGINEERS DETAILS

RETURN OF EXISTING SANDSTONE FACED W1 WALL

EXISTING STORMWATER PIT TO BE CONCRETE FILLED FOLLOWING INSTALLATION OF BLACKMAX DN600 45 DEG JUNCTION

INSTALL FOOTING TO STABILISE WALL TO STRUCTURAL ENGINEERING DETAILS

PROPOSED 600 DIA BLACKMAX PIPE TO EXTEND TO NEW SEAWALL U/S INV: 3.75 (S) - 3.85 (N) D/S INV: 1.30 (S) - 1.30 (N)

RIP RAP REVETMENT D50 = 0.45m (154kg)

STEPPED SANDSTONE SEAWALL BEHIND BOUNDARY RETAINING WALL TO COASTAL ENGINEERS DETAILS

BOUNDARY SEAWALL TO COASTAL STRUCTURAL ENGINEERS DETAILS

AHD: 3.50

AHD: 3.00

AHD: 2.50

EXISTING SANDSTONE SEAWALL BEHIND TO BE DEMOLISHED

GRANULAR FILL TO BE INSTALLED BELOW FINISHED SURFACE AND ENCLOSED WITH GEOTEXTILE FABRIC

ESTIMATE OF APPROX. LINE OF ROCK LEVEL TO BE CONFIRMED ON SITE

ESTIMATED LOCATION OF EXISTING CONCRETE ENCASED SEWER MAIN BEHIND WALL TO BE CONFIRMED ON SITE

APPROXIMATE LOCATION OF EXISTING PIPELINE AREA BEHIND TO BE TERRACED AND STABILISED TO LANDSCAPE DETAILS

APPROX. LINE OF EXISTING RETAINING WALL W1

CUT BACK EXISTING VC PIPE 300MM TO REVEAL LINER TO INSTALL BLACKMAX DN600 45 DEG JUNCTION TO SLEEVE OVER LINER. INSTALL 600 CLASS B COVER AND FRAME. ROUND KORUM SOLID TOP LID OR APPROVED SIMILAR OVER UP TURNED END. HINGE TO BE FACING UP HILL. 200MM ABOVE SURROUNDING GROUND LEVELS

APPROX. LINE OF ROCK WALL BEHIND NEW BOUNDARY WALL TO BE CONFIRMED ON SITE

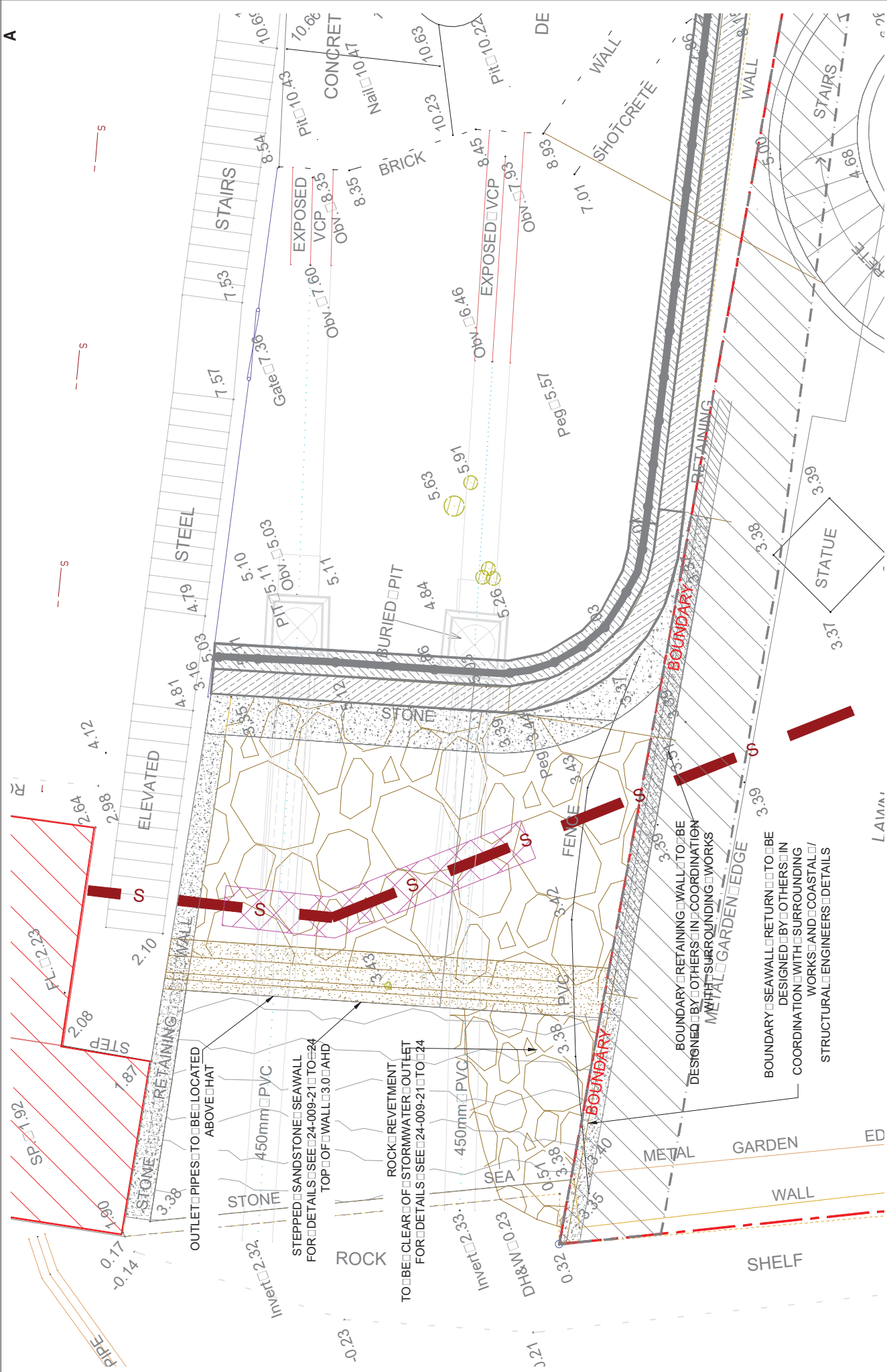
APPROX. EXISTING GROUND LEVEL OF 4-6 BAYVIEW HILL RD IN FRONT OF NEW BOUNDARY WALL

APPROX. FOUNDING GROUND LEVEL OF NEW BOUNDARY WALL

AREA BEHIND BOUNDARY RETAINING WALL BETWEEN NEW SEAWALL AND EXISTING SANDSTONE FACED W1 WALL TO BE EXCAVATED TO PRE-DEVELOPMENT LEVELS. REVETMENT BOULDERS TO BE PLACED TO COASTAL ENGINEERS DETAILS

PIPELINE INSTALLED WITH CONCRETE SURROUND AND BEDDING EXTENDING TO HALF THE PIPE DIAMETER (MIN 150 BELOW INVERT LEVEL)

<p>ALL INFORMATION TO BE VERIFIED ON SITE BEFORE COMMENCING WORK. THIS DRAWING IS TO BE USED FOR CONSTRUCTION PURPOSES ONLY. THE USER OF THIS DRAWING SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND APPROVALS FROM THE APPROPRIATE AUTHORITIES. CONSULT WITH LT URBAN ENGINEERING PTY LTD.</p>		<p>PROJECT: RETAINING AND SEAWALL BAYVIEW HILL ROAD BAY</p>	<p>DRAWING TITLE: NORTH ELEVATION</p>	<p>STATUS: DETAILED DESIGN</p>
<p>SCALE: 1:50 (A3) DESIGNING YOUR FUTURE WITH A LIGHT FOOTPRINT</p>		<p>PROJECT NO.: 24-009C</p>	<p>DWG NO.: 24-009C-11</p>	<p>PAPER: A3 ISSUE: 3</p>
<p>HEIGHT DATUM: AUSTRALIAN HEIGHT DATUM AHD</p>		<p>CLIENT: [Redacted]</p>		
<p>COORDINATE SYSTEM: MGA 2020</p>		<p>DATE: [Redacted]</p>		
<p>1:50</p>		<p>FILE LOCATION: C:\Users\khorw\T\Urban\Dropbox\T\Urban\Team\Folddet\T\Urban\Work\Courts\Projects\KoolahinBay\view.dwg - Rev. 4.</p>		
<p>3. DEVELOPMENT DESIGN</p>	<p>ML</p>	<p>PC</p>	<p>PT</p>	<p>PT</p>
<p>2. DEVELOPMENT DESIGN</p>	<p>ML</p>	<p>PC</p>	<p>PT</p>	<p>PT</p>
<p>1. CONCEPT</p>	<p>ML</p>	<p>PC</p>	<p>PT</p>	<p>PT</p>



**CLIENT**

NAME	DATE
DESIGNER	DATE
DRAWN	DATE
CHECKED	DATE
APPROVED	DATE

**PROJECT**  
 RETAINING AND SEAWALL - BAYVIEW HILL ROAD, ROSE BAY

**DRAWING TITLE**  
 LAYOUT PLAN SEAWALL

**STATUS** DETAILED DESIGN  
**PROJECT No.:** 24-009C  
**DWG No.:** 24-009C-20  
**PAPER:** A3 **ISSUE:** 1

**HT DATE:** MSA - 2020  
**AUSTRALIAN HEIGHT DATUM AND COORDINATE SYSTEM**

**SCALE:** 1:50 (A) DESIGNING YOUR FUTURE WITH A LIGHT FOOTPRINT  
 1:50  
 0 2 4

**UT Urban ENGINEERING**  
 150 WOODSIDE DRIVE, WOODSIDE VIC 3027  
 PH: 03 9488 8888  
 E: info@urbanengineering.com.au

**FILE LOCATION:** C:\Users\mowall.L\Main\_Dropbox\LT Urban\Work\Council\Project\WoodsideBayView\BayView\_R01.dwg

OUTLET PIPES TO BE LOCATED ABOVE HAT

450mm PVC

STEPPED SANDSTONE SEAWALL FOR DETAILS SEE 24-009-21 TO 24-009-24

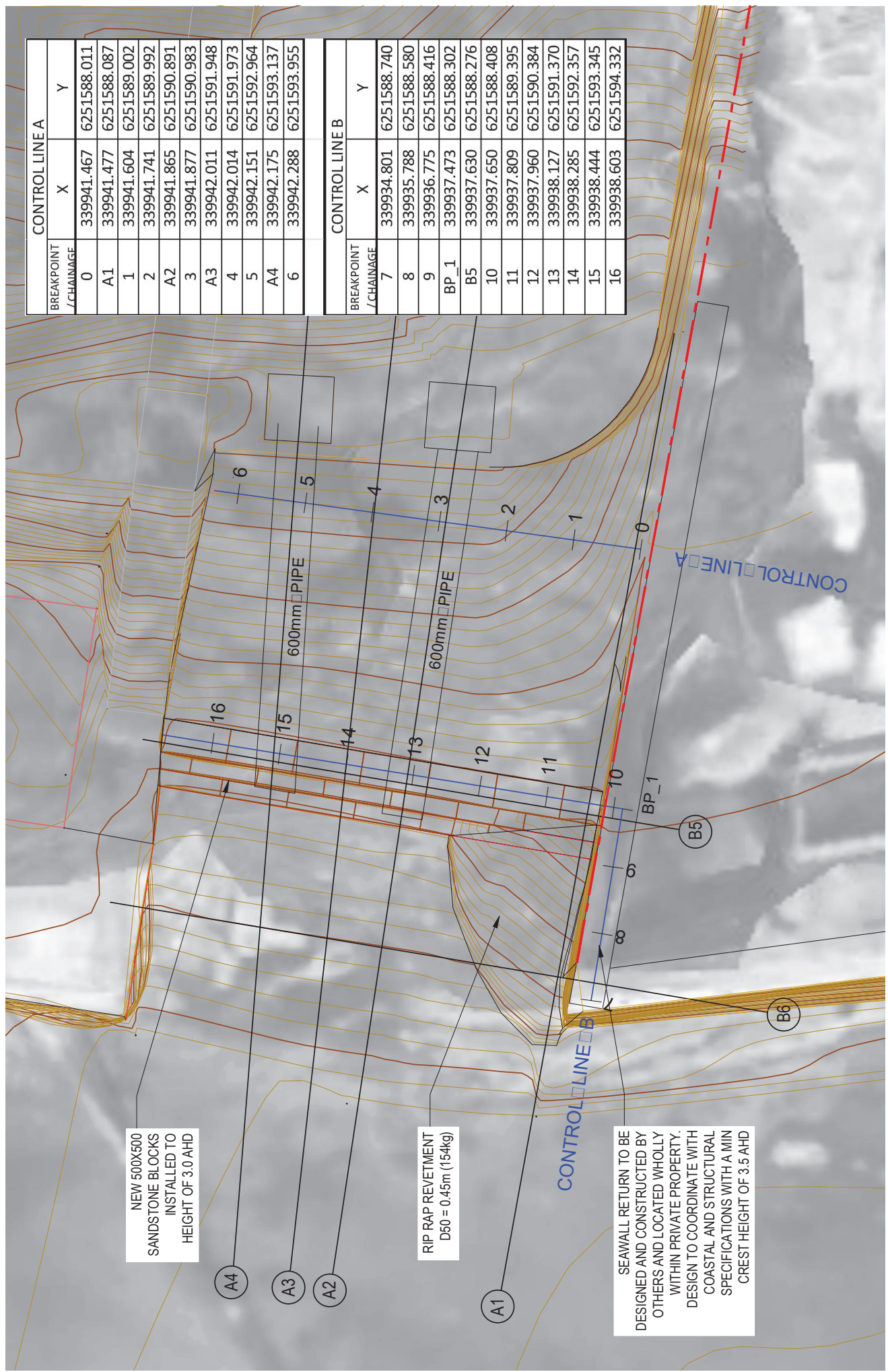
TOP OF WALL 3.0 AHD

ROCK REVETMENT TO BE CLEAR OF STORMWATER OUTLET FOR DETAILS SEE 24-009-21 TO 24-009-24

450mm PVC

BOUNDARY RETAINING WALL TO BE DESIGNED BY OTHERS IN COORDINATION WITH SURROUNDING WORKS

BOUNDARY SEAWALL TO RETURN TO BE DESIGNED BY OTHERS IN COORDINATION WITH SURROUNDING WORKS AND COASTAL STRUCTURAL ENGINEERS DETAILS



CONTROL LINE A			
BREAKPOINT / CHAINAGE	X	Y	
0	339941.467	6251588.011	
A1	339941.477	6251588.087	
1	339941.604	6251589.002	
2	339941.741	6251589.992	
A2	339941.865	6251590.891	
3	339941.877	6251590.983	
A3	339942.011	6251591.948	
4	339942.014	6251591.973	
5	339942.151	6251592.964	
A4	339942.175	6251593.137	
6	339942.288	6251593.955	

CONTROL LINE B			
BREAKPOINT / CHAINAGE	X	Y	
7	339934.801	6251588.740	
8	339935.788	6251588.580	
9	339936.775	6251588.416	
BP_1	339937.473	6251588.302	
B5	339937.630	6251588.276	
10	339937.650	6251588.408	
11	339937.809	6251589.395	
12	339937.960	6251590.384	
13	339938.127	6251591.370	
14	339938.285	6251592.357	
15	339938.444	6251593.345	
16	339938.603	6251594.332	

NEW 500X500 SANDSTONE BLOCKS INSTALLED TO HEIGHT OF 3.0 AHD

RIP RAP REVETMENT D50 = 0.45m (154kg)

SEAWALL RETURN TO BE DESIGNED AND CONSTRUCTED BY OTHERS AND LOCATED WHOLLY WITHIN PRIVATE PROPERTY. DESIGN TO COORDINATE WITH COASTAL AND STRUCTURAL SPECIFICATIONS WITH A MIN CREST HEIGHT OF 3.5 AHD

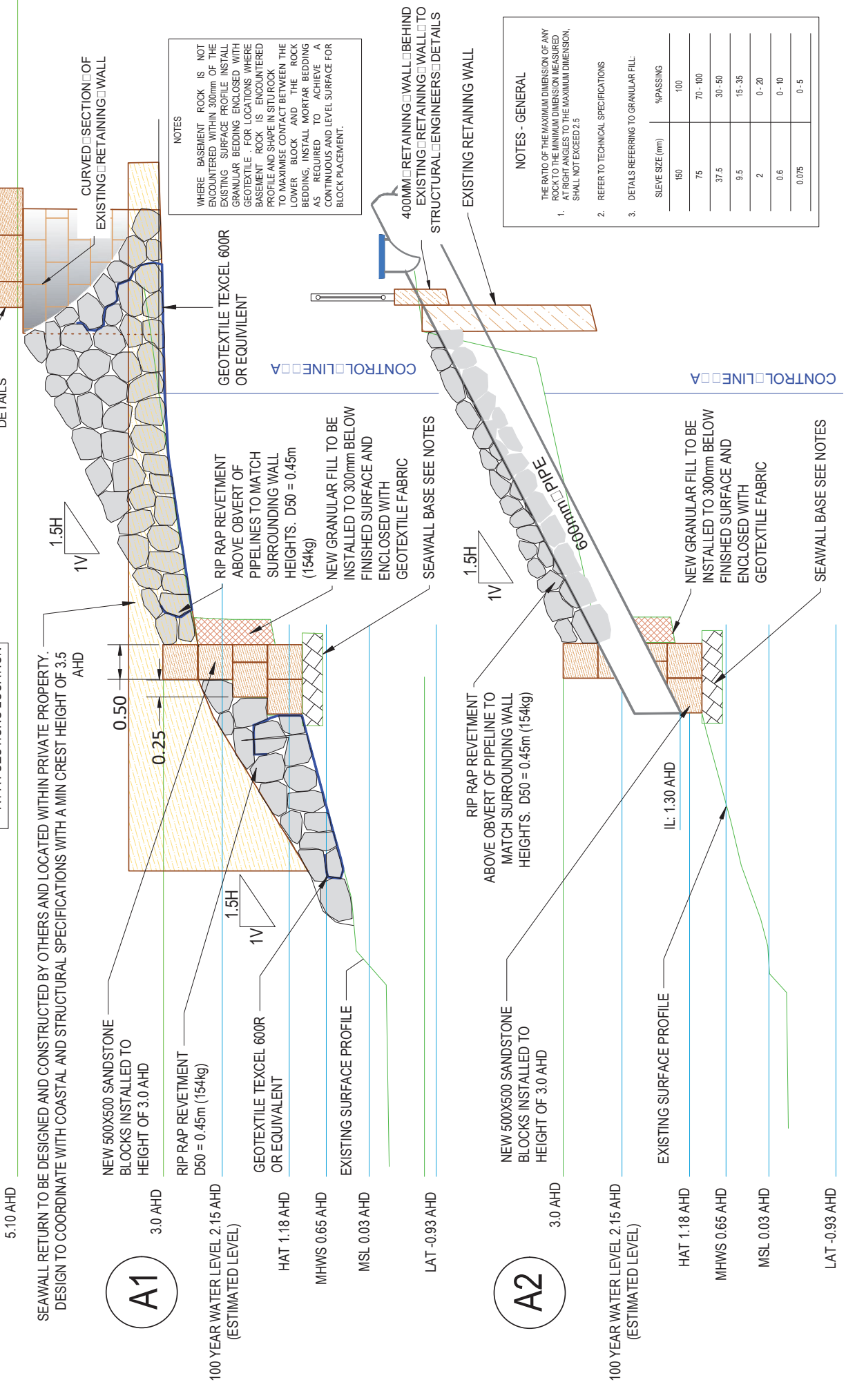
						PROJECT RETAINING AND SEAWALL BAYVIEW HILL ROAD ROSE BAY		DRAWING TITLE SEAWALL SETOUT PLAN		STATUS: DETAILED DESIGN PROJECT No.: 24-009C DWG No.: 24-009C-21 PAPER: A3 ISSUE: 2	
AUSTRALIAN HEIGHT DATUM AND COORDINATE SYSTEM MGA - 2020		SCALE: 1:50 (A3) DESIGNING YOUR FUTURE WITH A LIGHT FOOTPRINT		1500 1000 500 0 500 1000 1500		ALL INFORMATION TO BE CONSIDERED AS THE PROPERTY OF LT Urban Engineering Pty Ltd. THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNLESS THE COPYRIGHT OF THIS DRAWING REMAINS WITH LT Urban Engineering Pty Ltd.		CLIENT PROJECT: Woollahra Council PROJECT: Woollahra Bayview Drive - Rd 4		FILE LOCATION: C:\Users\mwa\LT Urban\Desktop\LT Urban\Team\Projects\Woollahra Council\Project\Woollahra Bayview Drive - Rd 4	
3	DETAILED DESIGN	PC	PC	M	M	03/03/25					
2	CONCEPT / ADDITIONAL SECTION REV. ASSD	PC	PC	M	M	22/02/24					
1	CONCEPT	DESIGN	DRAW	REV'D	APP'D	DATE					



A

REFER TO SEAWALL LAYOUT PLAN (DWG 24-009C-21) FOR A1-A4 SECTIONS LOCATION

400MM RETAINING WALL BEHIND EXISTING RETAINING WALL TO STRUCTURAL ENGINEERS DETAILS



**NOTES**

WHERE BASEMENT ROCK IS NOT ENCOUNTERED WITHIN 300mm OF THE EXISTING SURFACE PROFILE INSTALL GRANULAR BEDDING ENCLOSED WITH GEOTEXTILE. FOR LOCATIONS WHERE BASEMENT ROCK IS ENCOUNTERED TO MAXIMISE CONTACT BETWEEN THE LOWER BLOCK AND THE ROCK BEDDING, INSTALL MORTAR BEDDING AS REQUIRED TO ACHIEVE A CONTINUOUS AND LEVEL SURFACE FOR BLOCK PLACEMENT.

**NOTES - GENERAL**

THE RATIO OF THE MAXIMUM DIMENSION OF ANY ROCK TO THE MINIMUM DIMENSION SHALL BE AS STATED IN THE DRAWING. ALL ROCKS SHALL NOT EXCEED 2.5

- REFER TO TECHNICAL SPECIFICATIONS
- DETAILS REFERRING TO GRANULAR FILL:

SIEVE SIZE (mm)	% PASSING
150	100
75	70 - 100
37.5	30 - 50
9.5	15 - 35
2	0 - 20
0.6	0 - 10
0.075	0 - 5

5.10 AHD

SEAWALL RETURN TO BE DESIGNED AND CONSTRUCTED BY OTHERS AND LOCATED WITHIN PRIVATE PROPERTY. DESIGN TO COORDINATE WITH COASTAL AND STRUCTURAL SPECIFICATIONS WITH A MIN CREST HEIGHT OF 3.5 AHD

**A1**

NEW 500X500 SANDSTONE BLOCKS INSTALLED TO HEIGHT OF 3.0 AHD

RIP RAP REVETMENT D50 = 0.45m (154kg)

GEOTEXTILE TEXCEL 600R OR EQUIVALENT

EXISTING SURFACE PROFILE

LAT -0.93 AHD

100 YEAR WATER LEVEL 2.15 AHD (ESTIMATED LEVEL)

HAT 1.18 AHD

MHWS 0.65 AHD

MSL 0.03 AHD

**A2**

NEW 500X500 SANDSTONE BLOCKS INSTALLED TO HEIGHT OF 3.0 AHD

RIP RAP REVETMENT ABOVE OBVERT OF PIPELINE TO MATCH SURROUNDING WALL HEIGHTS. D50 = 0.45m (154kg)

100 YEAR WATER LEVEL 2.15 AHD (ESTIMATED LEVEL)

HAT 1.18 AHD

MHWS 0.65 AHD

MSL 0.03 AHD

LAT -0.93 AHD

EXISTING SURFACE PROFILE

NEW GRANULAR FILL TO BE INSTALLED TO 300mm BELOW FINISHED SURFACE AND ENCLOSED WITH GEOTEXTILE FABRIC

SEAWALL BASE SEE NOTES

NO.	REVISION	DATE	BY	CHECKED	APPROVED
1	ISSUED FOR PERMIT	2024-08-22	ML	ML	ML
2	ISSUED FOR CONSTRUCTION	2024-08-22	ML	ML	ML
3	ISSUED FOR CONSTRUCTION	2024-08-22	ML	ML	ML

CLIENT	
HEIGHT DATUM	AUSTRALIAN HEIGHT DATUM AHD
COORDINATE SYSTEM	MSA - 2020

SCALE	1:50 (A)
DESIGNING YOUR FUTURE WITH A LIGHT FOOTPRINT	
WZSD03C-NWV-2027	
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PROJECT	RETAINING AND SEAWALL BAYVIEW HILL ROAD ROSE BAY
DRAWING TITLE	SEAWALL SECTION-01
STATUS	DETAILED DESIGN
PROJECT NO.	24-009C
DWG NO.	24-009C-22
PAPER	A3
ISSUE	3

REFER TO SEAWALL LAYOUT PLAN (DWG 24-009C-21) FOR A1-A4 SECTIONS LOCATION

NOTES  
WHERE BASEMENT ROCK IS NOT ENCOUNTERED WITHIN 300mm OF THE EXISTING SURFACE PROFILE INSTALL GRANULAR BEDDING ENCLOSED WITH GEOTEXTILE. FOR LOCATIONS WHERE BASEMENT ROCK IS ENCOUNTERED PROFILE AND SHAPE IN SITU ROCK TO MAXIMISE CONTACT BETWEEN THE LOWER BLOCK AND THE ROCK BEDDING, INSTALL MORTAR BEDDING AS REQUIRED TO ACHIEVE A CONTINUOUS AND LEVEL SURFACE FOR BLOCK PLACEMENT.

NOTES - GENERAL  
THE RATIO OF THE MAXIMUM DIMENSION OF ANY ROCK TO THE MINIMUM DIMENSION MEASURED AT RIGHT ANGLES TO THE MAXIMUM DIMENSION, SHALL NOT EXCEED 2.5  
2. REFER TO TECHNICAL SPECIFICATIONS  
3. DETAILS REFERRING TO GRANULAR FILL:  
SLEEVE SIZE (mm)      % PASSING  
150                      100  
75                        70 - 100  
37.5                     30 - 50  
9.5                      15 - 35  
2                         0 - 20  
0.6                      0 - 10  
0.075                    0 - 5

400MM RETAINING WALL BEHIND EXISTING RETAINING WALL TO STRUCTURAL ENGINEERS DETAILS  
1.5H  
1V

GEOTEXTILE TEXCEL 600R OR EQUIVALENT  
NEW GRANULAR FILL TO BE INSTALLED TO 300mm BELOW FINISHED SURFACE AND ENCLOSED WITH GEOTEXTILE FABRIC  
SEAWALL BASE SEE NOTES

400MM RETAINING WALL BEHIND EXISTING RETAINING WALL TO STRUCTURAL ENGINEERS DETAILS  
1.5H  
1V

600MM PIPE  
NEW GRANULAR FILL TO BE INSTALLED TO 300mm BELOW FINISHED SURFACE AND ENCLOSED WITH GEOTEXTILE FABRIC  
SEAWALL BASE SEE NOTES

RIP RAP REVETMENT ABOVE OBVERT OF PIPELINE TO MATCH SURROUNDING WALL HEIGHTS. D50 = 0.45m (154kg)

NEW 500X500 SANDSTONE BLOCKS INSTALLED TO HEIGHT OF 3.0 AHD



100 YEAR WATER LEVEL 2.15 AHD (ESTIMATED LEVEL)

HAT 1.18 AHD

MHWS 0.65 AHD

MSL 0.03 AHD

LAT -0.93 AHD

NEW 500X500 SANDSTONE BLOCKS INSTALLED TO HEIGHT OF 3.0 AHD



100 YEAR WATER LEVEL 2.15 AHD (ESTIMATED LEVEL)

HAT 1.18 AHD

MHWS 0.65 AHD

MSL 0.03 AHD

LAT -0.93 AHD

REV	DATE	BY	CHK	DESCRIPTION
3	13/03/25	ML	ML	DETAILED DESIGN
2	03/03/25	ML	ML	DETAILED DESIGN
1		ML	ML	CONCEPT DESIGN

CLIENT	
HEIGHT DATUM	AUSTRALIAN HEIGHT DATUM AHD
COORDINATE SYSTEM	MSA - 2020
SCALE	1:50 (A)
DATE	15/03/25

ALL INFORMATION TO BE CONSIDERED AS PRELIMINARY. THIS DRAWING IS TO BE USED FOR CONSTRUCTION PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND CONDITIONS ON SITE. CONSULT THE DRAWING FOR THE LATEST REVISIONS. © 2025 LT Urban Engineering Pty Ltd. 15/03/25

LT Urban Engineering  
DESIGNING YOUR FUTURE WITH A LIGHT FOOTPRINT  
15/03/25  
15/03/25  
15/03/25

STATUS	DETAILED DESIGN
PROJECT No.:	24-009C
DWG No.:	24-009C-23
PAPER	A3
ISSUE	3

DRAWING TITLE  
SEAWALL SECTION 02

PROJECT  
RETAINING AND SEAWALL  
BAYVIEW HILL ROAD ROSE BAY

NEW HOT DIPPED GALVANISED BALUSTRADE WITH OFFSET HANDRAIL "CONNECTABAL CB45" BY "MODDEX" OR EQUIVALENT TO BE INSTALLED TO MEET THE BCA REQUIREMENTS AND COMPLY WITH AS 1170 AND STRUCTURAL ENGINEERS DETAILS.

REVETMENT BETWEEN STEPPED SEAWALL AND EXISTING RETAINING WALL TO COASTAL ENGINEERING SPECIFICATIONS. MATCH LEVELS WITH SURROUNDING WALLS. MAX. GRADE 1V:1.5H

NEW 500X500 SANDSTONE BLOCKS INSTALLED TO HEIGHT OF 3.0 AHD

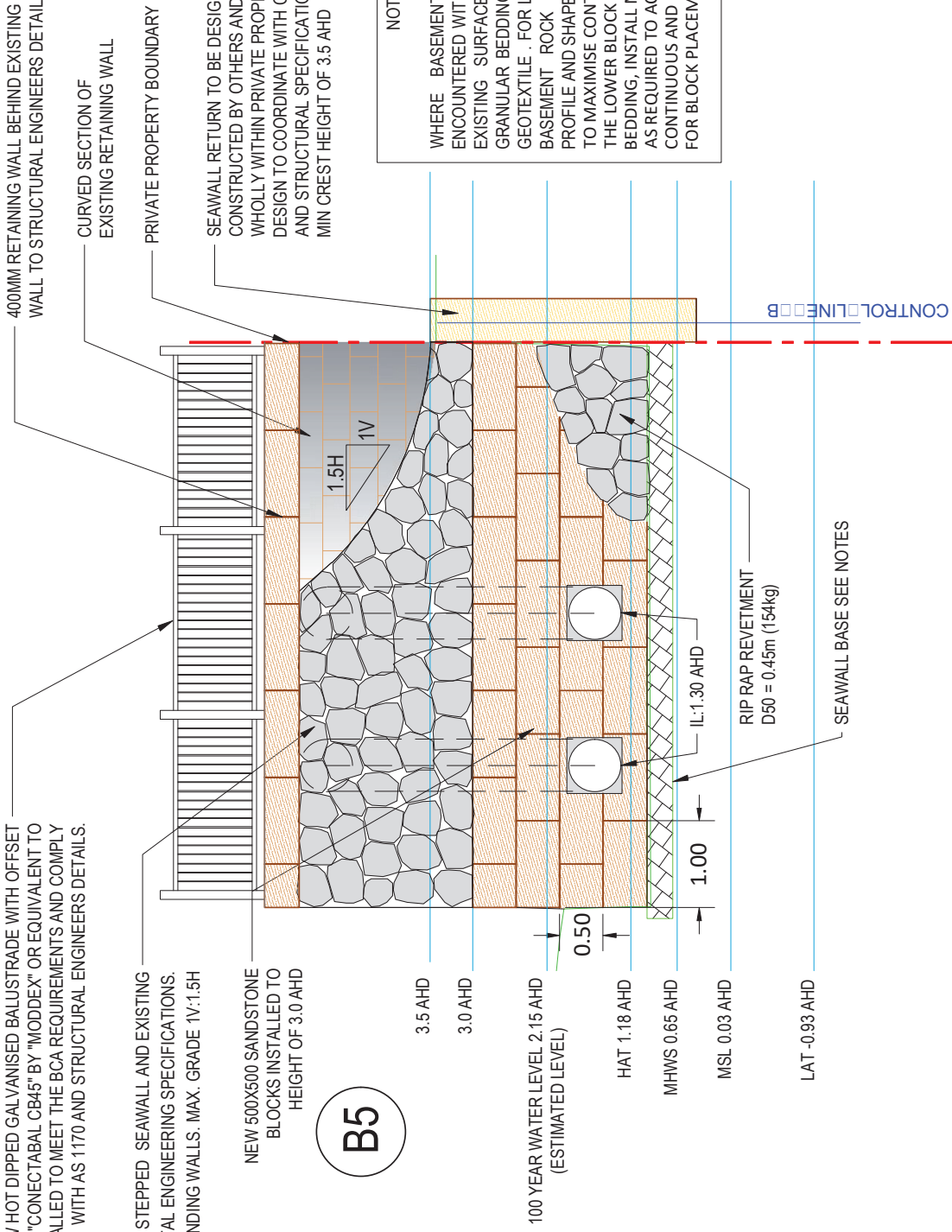
**B5**

NOTES - GENERAL

THE RATIO OF THE MAXIMUM DIMENSION OF ANY ROCK TO THE MINIMUM DIMENSION MEASURED AT RIGHT ANGLES TO THE MAXIMUM DIMENSION, SHALL NOT EXCEED 2.5

- REFER TO TECHNICAL SPECIFICATIONS
- DETAILS REFERRING TO GRANULAR FILL:

SIEVE SIZE (mm)	% PASSING
150	100
75	70 - 100
37.5	30 - 50
9.5	15 - 35
2	0 - 20
0.6	0 - 10
0.075	0 - 5



NOTES

WHERE BASEMENT ROCK IS NOT ENCOUNTERED WITHIN 300mm OF THE EXISTING SURFACE PROFILE INSTALL GRANULAR BEDDING ENCLOSED WITH GEOTEXTILE. FOR LOCATIONS WHERE BASEMENT ROCK IS ENCOUNTERED PROFILE AND SHAPE IN SITU ROCK TO MAXIMISE CONTACT BETWEEN THE LOWER BLOCK AND THE ROCK BEDDING, INSTALL MORTAR BEDDING AS REQUIRED TO ACHIEVE A CONTINUOUS AND LEVEL SURFACE FOR BLOCK PLACEMENT.

CONTROL LINE

RIP RAP REVETMENT D50 = 0.45m (154kg)

SEAWALL BASE SEE NOTES

<p>CLIENT</p> <p>Project: Woodlands Bay View Phase 1</p>		<p>PROJECT</p> <p>RETAINING AND SEAWALL - BAYVIEW HILL ROAD, ROSE BAY</p>	<p>DRAWING TITLE</p> <p>SEAWALL SECTION-03</p>	<p>STATUS: DETAILED DESIGN</p> <p>PROJECT No.: 24-009C</p> <p>DWG No.: 24-009C-24</p> <p>PAPER: A3</p> <p>ISSUE: 3</p>
<p>SCALE: 1:50 (A)</p> <p>DESIGNING YOUR FUTURE WITH A LIGHT FOOTPRINT</p> <p>LT Urban ENGINEERING</p> <p>15/0</p> <p>1:50</p> <p>0 2 4</p> <p>© 2024 LT Urban Engineering Pty Ltd</p> <p>WARRACK, NSW, 2037</p> <p>6. pad@lturbanengineering.com.au</p>		<p>HEIGHT DATUM</p> <p>AUSTRALIAN HEIGHT DATUM AHD</p> <p>COORDINATE SYSTEM</p> <p>MSA - 2020</p>	<p>FILE LOCATION: C:\Users\mwal\T:\Urban\Team\Federal Urban Works Council\Project\Woodlands Bay View\Phase 1\4-</p>	

SEAWALL RETURN TO BE DESIGNED AND CONSTRUCTED BY OTHERS AND LOCATED WHOLLY WITHIN PRIVATE PROPERTY. DESIGN TO COORDINATE WITH COASTAL AND STRUCTURAL SPECIFICATIONS WITH A MIN CREST HEIGHT OF 3.5 AHD

**B6**

NEW 500X500 SANDSTONE BLOCKS INSTALLED TO HEIGHT OF 3.0 AHD

1.00

100 YEAR WATER LEVEL 2.15 AHD

HAT 1.18 AHD

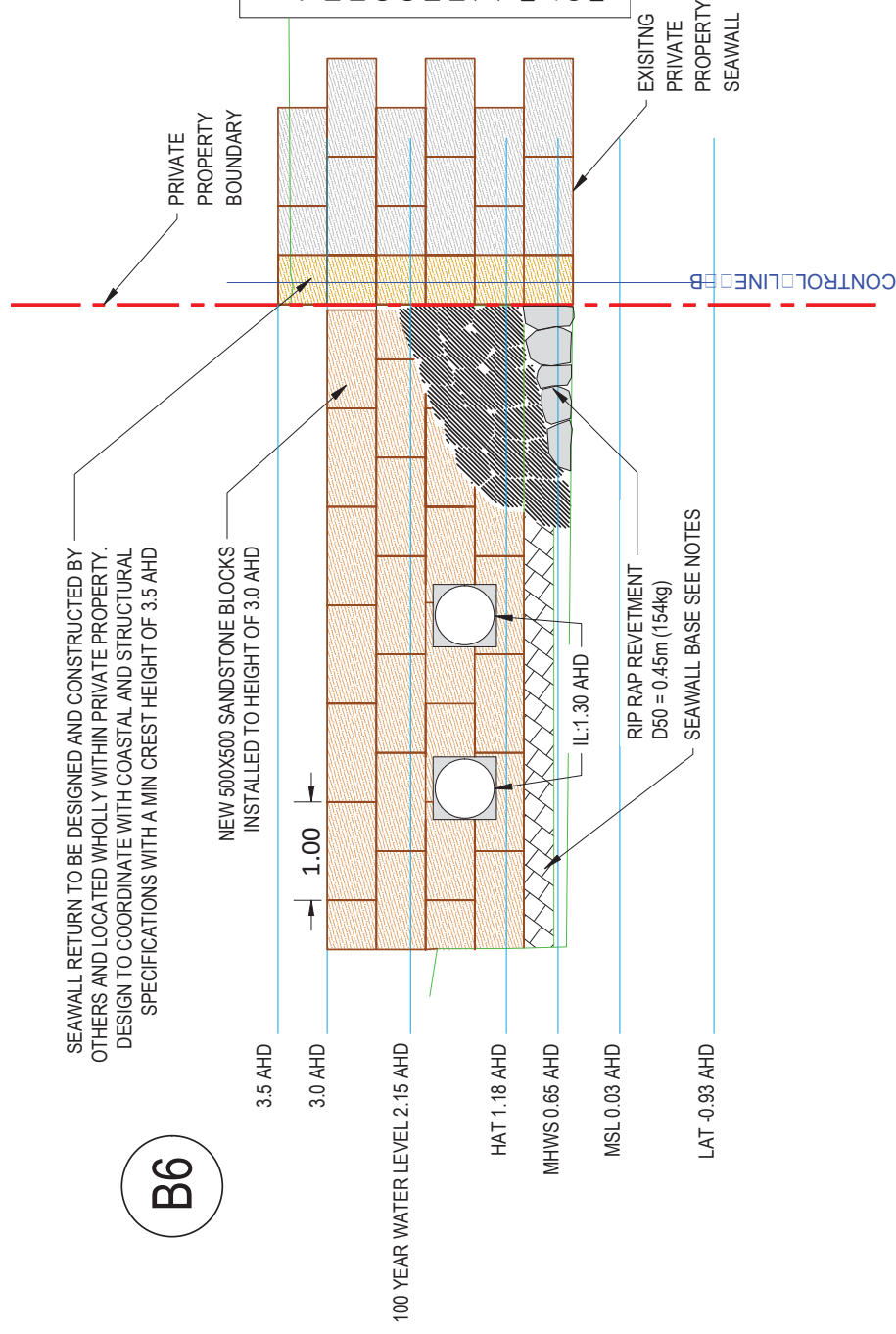
MHWS 0.65 AHD

MSL 0.03 AHD

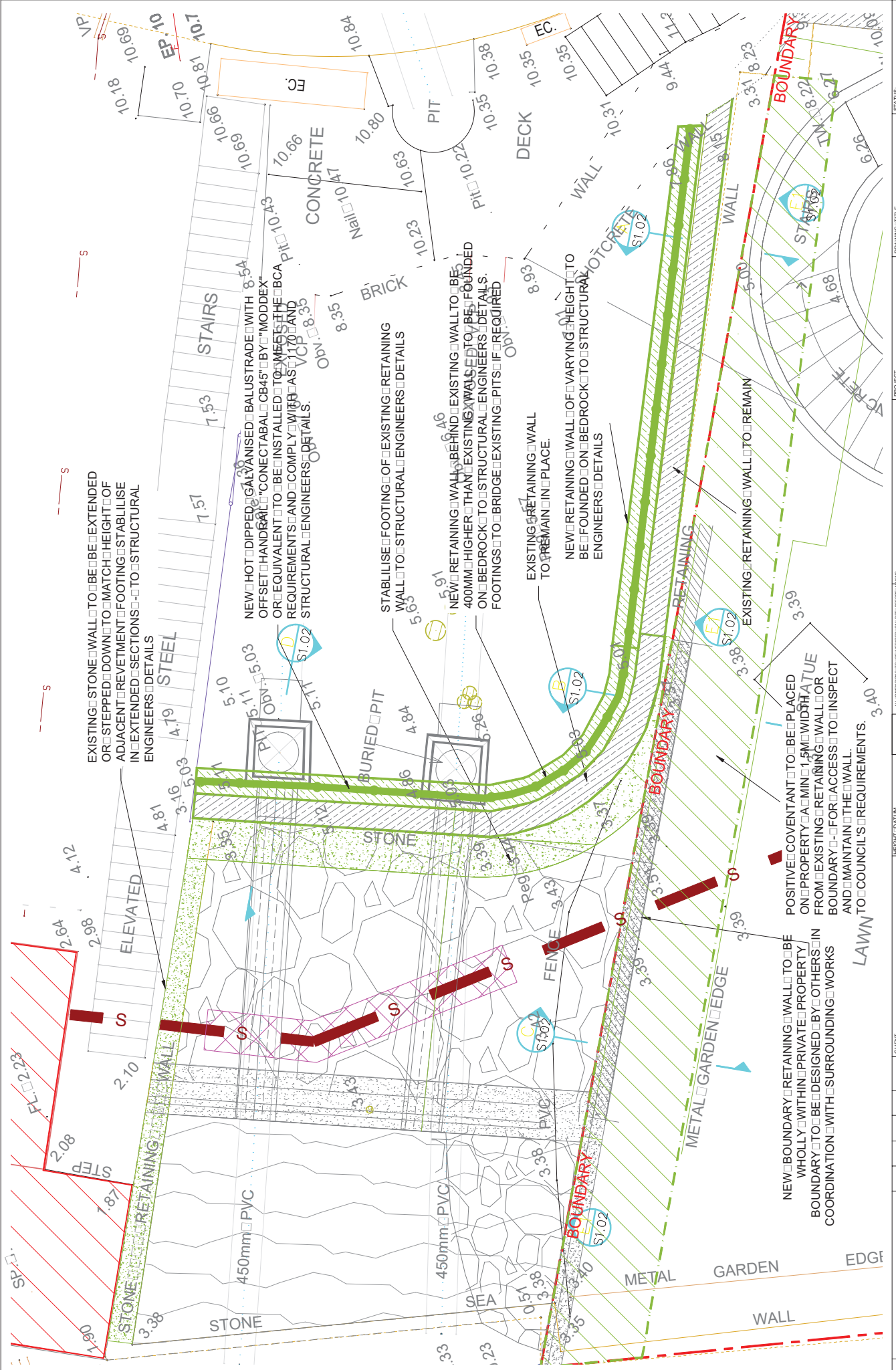
LAT -0.93 AHD

**NOTES**

WHERE BASEMENT ROCK IS NOT ENCOUNTERED WITHIN 300mm OF THE EXISTING SURFACE PROFILE INSTALL GRANULAR BEDDING ENCLOSED WITH GEOTEXTILE. FOR LOCATIONS WHERE BASEMENT ROCK IS ENCOUNTERED PROFILE AND SHAPE IN SITU ROCK TO MAXIMISE CONTACT BETWEEN THE LOWER BLOCK AND THE ROCK BEDDING. INSTALL MORTAR BEDDING AS REQUIRED TO ACHIEVE A CONTINUOUS AND LEVEL SURFACE FOR BLOCK PLACEMENT.



CLIENT PROJECT: RETAINING AND SEAWALL - BAYVIEW HILL ROAD, ROSE BAY DRAWING TITLE: SEAWALL SECTION-04		STATUS: DETAILED DESIGN PROJECT No.: 24-009C DWG No.: 24-009C-25 PAPER: A3 ISSUE: 2
ALL INFORMATION TO BE CONSIDERED AS PRELIMINARY. THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION UNLESS THE APPROVAL OF THE DRAWING ISSUES WITH LT URBAN ENGINEERING PTY LTD.		SCALE: 1:50 (A3) DESIGNED YOUR FUTURE WITH A LIGHT FOOTPRINT WAGSWICK NSW 2037 E: info@lturbanengineering.com.au
AUSTRALIAN HEIGHT DATUM: AHD COORDINATE SYSTEM: MGA-2020	HEIGHT DATUM: AUSTRALIAN HEIGHT DATUM AHD COORDINATE SYSTEM: MGA-2020	1:50 
PROJECT NO.: 24-009C DRAWING NO.: 24-009C-25 SHEET NO.: 04	PROJECT NO.: 24-009C DRAWING NO.: 24-009C-25 SHEET NO.: 04	PROJECT NO.: 24-009C DRAWING NO.: 24-009C-25 SHEET NO.: 04



CLIENT		HEIGHT DATUM		PROJECT		DRAWING TITLE		STATUS	
NO	NAME	NO	DATE	AUSTRALIAN HEIGHT DATUM AND COORDINATE SYSTEM	RETAINING AND SEAWALL - BAYVIEW HILL ROAD - ROSE BAY	LAYOUT PLAN - RETAINING WALLS	CONCEPT	PROJECT No. 24-009C	CONCEPT
1	CONCEPT	1	MSA - 2020	META - 2020				DWG No. 24-009C-30	DWG No. 24-009C-30
2	PRELIMINARY DESIGN							PAPER A3	ISSUE: 3
3	Detailed Design (Net to be Finalised)								
4	Final Design (Net to be Finalised)								

SCALE: 1:50 (A) DESIGNING YOUR FUTURE WITH A LIGHT FOOTPRINT

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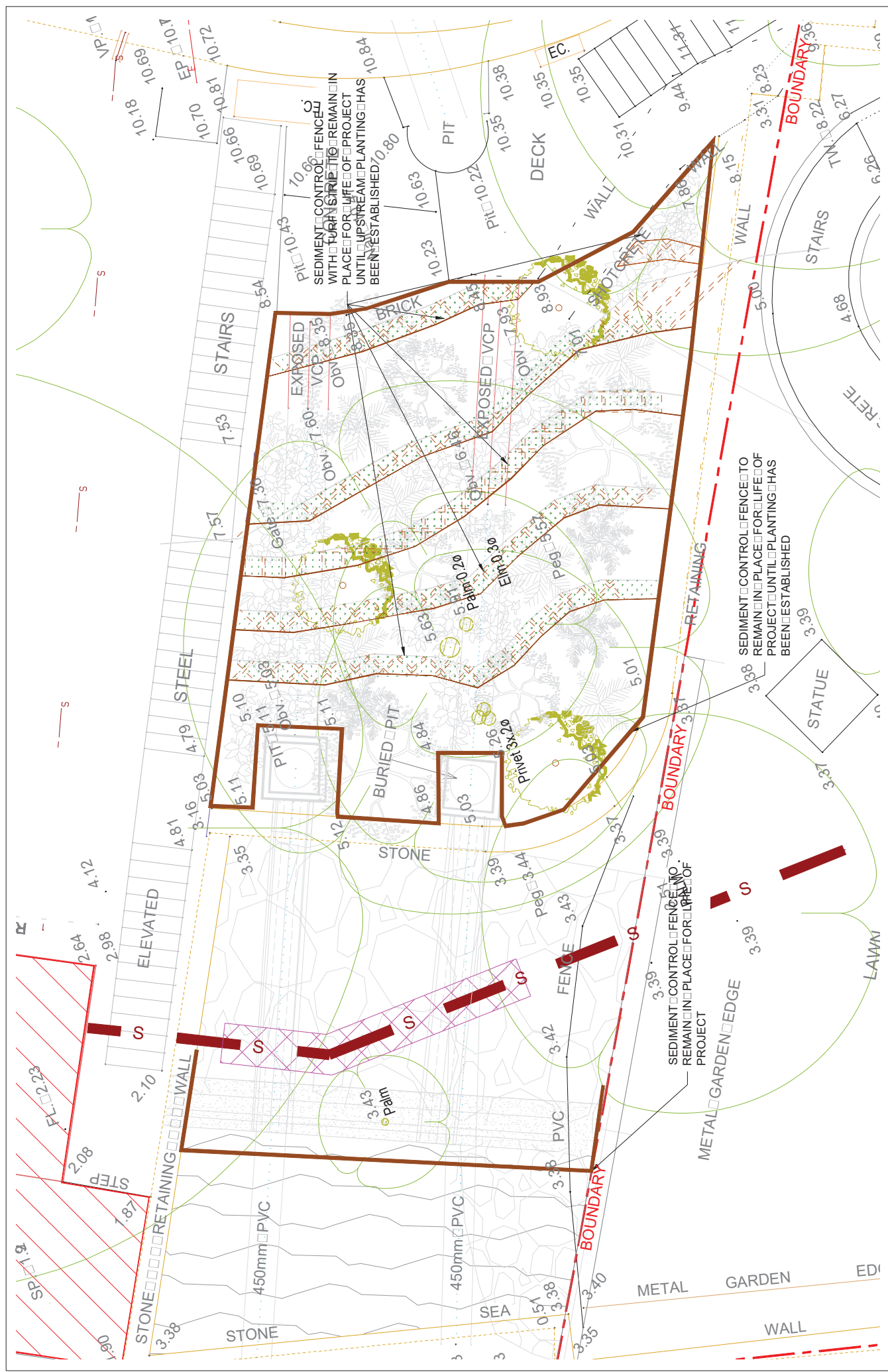
WARRIMOO NSW 2037

6:04@lturbanengineering.com.au

FILE LOCATION: C:\Users\mowal.L\Main\Dropbox.L\Urban\Team\Federal Urban Works\Council Projects\Wooden Bay View\Site - R01 - 4-



A



SEDIMENT CONTROL FENCE TO REMAIN WITH TURN STRIPS TO REMAIN IN PLACE FOR LIFE OF PROJECT UNTIL UPSTREAM PLANTING HAS BEEN ESTABLISHED

SEDIMENT CONTROL FENCE TO REMAIN IN PLACE FOR LIFE OF PROJECT UNTIL PLANTING HAS BEEN ESTABLISHED

SEDIMENT CONTROL FENCE TO REMAIN IN PLACE FOR LIFE OF PROJECT UNTIL PLANTING HAS BEEN ESTABLISHED

NO.	DATE	BY	APPD	DATE
1	15/01/2020	MW		

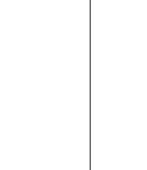
DESCRIPTION	DRAWN	CHECKED	DATE
DETAILED DESIGN	MW		
CONCEPT			

CLIENT	
PROJECT	
DRAWING TITLE	

PROJECT  
 RETAINING AND SEAWALL -  
 BAYVIEW HILL ROAD - ROSE BAY

STATUS: DETAILED DESIGN  
 No.: 24-009C  
 DWG No.: 24-009C-45  
 PAPER: A3 ISSUE: 1

SCALE: 1:50 (A3)  
 DESIGNED FOR FOOTPRINT WITH A LIGHT FOOTPRINT  
 MARCH 2020  
 WWW.LTURBANENGINEERING.COM.AU



LT Urban ENGINEERING  
 67-69 Macquarie Street, Sydney NSW 2000  
 Phone: 02 9231 5151  
 Email: info@lturbanengineering.com.au

### EROSION AND SEDIMENT CONTROL

- GENERAL MEASURES**
  - STOCKPILES SHALL BE CONFINED TO ONE SIDE OF THE ROAD.
  - EROSION CONTROL MEASURES TO BE IN PLACE PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION WORK.
  - MEASURES ARE APPLIED TO PROTECT ADJOINING PROPERTIES FROM EROSION.
  - EROSION CONTROL MEASURES NOT TO BE REMOVED UNTIL CONSTRUCTION IS COMPLETED AND SITE HAS BEEN REHABILITATED.
  - REHABILITATION INCLUDES COMPLETION OF ALL SEEDING OR TURFING OF ALL BATTERS AND FILL AREAS.
  - PIPED DRAINAGE NETWORKS SHOULD BE INSTALLED AND CONNECTED AS EARLY AS POSSIBLE.
  - ALL AREAS NOT SUBJECT TO CONSTRUCTION WORKS SHALL BE RETAINED FREE FROM DISTURBANCE OR DAMAGE DURING THE LIFE OF THE PROJECT.
  - IF ANY AREAS WOULD BECOME DISTURBED OR DAMAGED THEY SHALL BE RE-INSTITATED BY THE CONTRACTOR AT NO COST TO THE PRINCIPAL.

### 2. STABILISATION OF DISTURBED AREAS

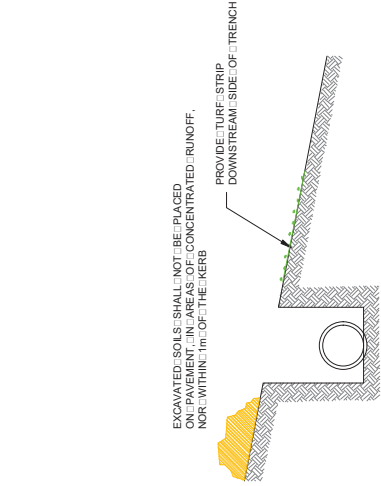
- STABILISATION OF DISTURBED AREAS SHALL BE IN ACCORDANCE WITH COUNCIL'S SPECIFICATION FOR EROSION CONTROL MEASURES.
- LANDSCAPE WORKS THE FOLLOWING SHALL BE APPLIED FOR THE CONTROL OF EROSION AND SEDIMENTATION:
  - STABILISATION OF DENuded AREAS SHALL BE INSTALLED AS EARLY AS POSSIBLE AFTER THE AREAS HAVE BEEN DISTURBED.
  - ALL STABILISATION MEASURES SHALL BE UNDERTAKEN PRIOR TO THE END OF THE MAINTENANCE PERIOD.

### 3. MAINTENANCE

- ALL SEDIMENT AND EROSION CONTROL DEVICES SHALL BE MAINTAINED IN A SATISFACTORY WORKING ORDER THROUGHOUT THE CONTRACT.
- MAINTENANCE AND DEFECTS LIABILITY PERIODS IN RESPECT OF EROSION CONTROL MEASURES HAS BEEN STABILISED AND THE SUPERINTENDENT DIRECTS THAT THE DEVICE BE REMOVED.
- THE CONTRACTOR SHALL INSPECT ALL DEVICES AFTER EACH STORM FOR STRUCTURAL DAMAGE AND WEAR TO THE POINTS OF CONTACT AND MAKE REPAIRS OR REPLACEMENT AS SOON AS PRACTICABLE.

### 4. SEDIMENT CONTROL DEVICES (S.C.D)

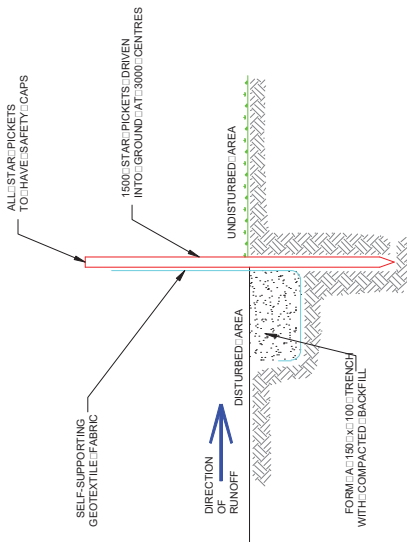
- THESE SHALL BE CONSTRUCTED AT INLETS TO STORMWATER SYSTEMS TO TRAP THE SEDIMENT IN RUN OFF SECTIONS IT3 02/03/04/06 OF THE CONSTRUCTION SPECIFICATION 1989 EDITION. SHALL APPLY.



N.T.S.

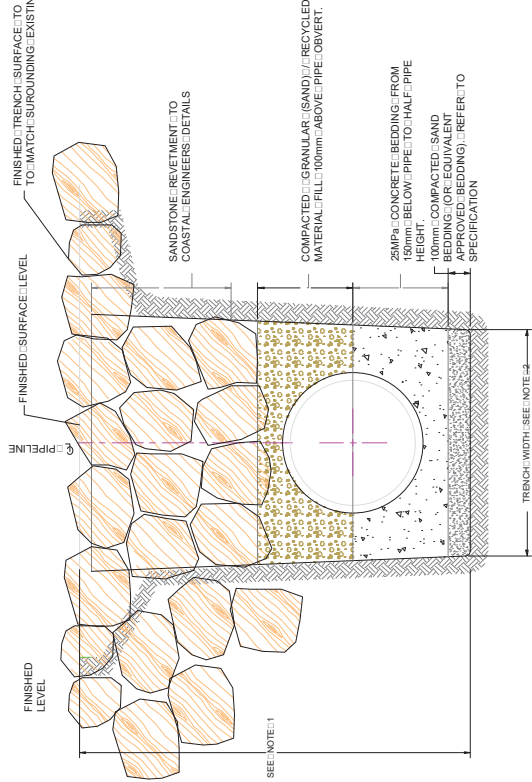
### NOTES:

- IN UNDERTAKING TRENCH EXCAVATION THE CONTRACTOR SHALL PROVIDE ANY NECESSARY SHIELDING TO PROTECT ADJOINING PROPERTIES AND TO COMPLY WITH OH&S REGULATION REQUIREMENTS. THE SIDES SHALL NOT BE LOADED & SHALL BE KEPT CLEAR OF LOOSE MATERIAL ETC. SAFE ACCESS & EGRESS SHALL BE PROVIDED AT ALL TIMES.
- THE TRENCH SHALL BE EXCAVATED TO A WIDTH 1.4 TIMES THE EXTERNAL DIAMETER OF THE PIPE OR TO THE EXTERNAL DIAMETER OF THE PIPE PLUS 300mm ON EACH SIDE, WHICHEVER IS THE GREATER.
- ALL WORKS SHALL BE CONDUCTED IN A SAFE MANNER WITH THE LEAST POSSIBLE OBSTRUCTION TO BOTH VEHICULAR & PEDESTRIAN TRAFFIC. A TRAFFIC CONTROL PLAN SHALL BE SUBMITTED TO COUNCIL INDICATING ALL ACTIVITIES FOR CONTROLLING BOTH VEHICULAR & PEDESTRIAN MOVEMENTS & SHALL BE IN ACCORDANCE WITH AS1742.3 AND THE REQUIREMENTS OF THE RELEVANT STATUTORY AUTHORITIES.
- THE CONTRACTOR SHALL ENSURE THAT ALL NECESSARY SEDIMENT CONTROL MEASURES ARE PROVIDED IN ACCORDANCE WITH THE REQUIREMENTS OF THE RELEVANT STATUTORY AUTHORITIES. ALL SEDIMENT & EROSION CONTROLS SHALL BE MAINTAINED THROUGHOUT THE LIFE OF THE PROJECT. REPAIR AND/OR REPLACEMENT OF DAMAGED SECTIONS INSPECTIONS SHALL BE MADE PERIODICALLY AND AFTER STORM EVENTS FOR DAMAGE.
- ALL LINEMARKING & SIGNPOSTING AFFECTED BY WORKS SHALL BE RE-INSTITATED IN ACCORDANCE WITH AS1742.3 & THE IRMS SPECIFICATIONS.
- ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE SHOWN.



### SECTION THROUGH STAR PICKET AND SEDIMENT FENCE DETAIL

N.T.S.








### TYPICAL SECTION PIPELINE BACKFILL

PROJECT		DRAWING TITLE		STATUS	
RETAINING AND SEAWALL - BAYVIEW HILL ROAD, ROSE BAY		DRAINAGE & SEDIMENT CONTROL DETAILS		DETAILED DESIGN	
CLIENT		PROJECT No.:		24-009C	
DESIGN		DWS No.:		24-009C-50	
DRAWN		PAPER		A3	
DATE		ISSUE		1	



PLANTING SCHEDULE						
GROUP	Botanical Name	Common Name	Pot Size	Comments	QTY	
<b>TREES</b>						
T.la	Tristaniopsis laurina "Luscious"	Water Gum "Luscious"	45L	Cultivar of Locally indigenous species Supplier Note : To provide Single Leader Plant	3	
B.se	Banksia serrata	Old Man Banksia	45L	Cultivar of Locally indigenous species Supplier Note : To provide Single Leader Plant	3	
E.re	Elaeocarpus reticulatus	Blueberry Ash	45L	Cultivar of Locally indigenous species Supplier Note : To provide Single Leader Plant	3	
B.in	Banksia integrifolia	Coast Banksia	45L	Cultivar of Locally indigenous species Supplier Note : To provide Single Leader Plant	3	
<b>SHRUB</b>						
D.ex	Doryanthes excelsa	Gynea Lily	300mm	Cultivar of Locally indigenous species Supplier Note : To provide Single Leader Plant	6	
<b>GROUND COVERS</b>						
W.fr	Westringia fruticosa	Coastal Rosemary		Cultivar of Locally indigenous species Supplier Note : To provide Single Leader Plant	96 (2/m <sup>2</sup> )	
Lom	Lomandra longifolia	Mat Rushes		Deciduous Supplier Note : To provide Single Leader Plant	96 (2/m <sup>2</sup> )	
Iso	Ficinia nodosa	Knobby Club Rush		Cultivar of Locally indigenous species Supplier Note : To provide Single Leader Plant	96 (2/m <sup>2</sup> )	
D.ca	Dianella caerulea	Blue Flax Lily		Deciduous Supplier Note : To provide Single Leader Plant	96 (2/m <sup>2</sup> )	

									
HEIGHT DATUM AUSTRALIAN HEIGHT DATUM AND COORDINATE SYSTEM MGA - 2000		NOT TO SCALE DESIGNING YOUR FUTURE WITH A LIGHT FOOTPRINT 6 road@urbanengineering.com.au 10 WOODSIDE DRIVE, WOODSIDE VIC 3027		PROJECT RETAINING AND SEAWALL BAYVIEW HILL ROAD ROSE BAY		DRAWING TITLE PLANTING SCHEDULE		STATUS: DETAILED DESIGN PROJECT No.: 24-009C DWG No.: 24-009C-51 PAPER: A3 ISSUE: 1	