

PART A INVITATION TO BID

BID NUMBER:	WCNCB 05/07/2026	CLOSING DATE:	31/08/2026	CLOSING TIME:	11H00 AM
DESCRIPTION	Construction of Boardwalk at Stony Point Nature Reserve. Bidders must have a CIDB Grading Requirement of 6 CE or higher.				
THE SUCCESSFUL BIDDER WILL BE REQUIRED TO FILL IN AND SIGN A WRITTEN CONTRACT FORM (WBD7).					

BID RESPONSE DOCUMENTS MAY BE DEPOSITED IN THE BID BOX SITUATED AT CAPENATURE CAPE TOWN OFFICE

CapeNature Cape Town Office PGWC Shared Services Centre 3rd Floor Cnr Bosduif & Volstruis Streets Bridgetown 7764	A COMPULSORY briefing session will be held at Stony Point Nature Reserve on 4 August 2026, at 11h00. Directions to Stony Point Nature Reserve: From Cape Town, take the N2 north. Just before Sir Lowry's Pass, turn right on to Sir Lowry's Pass Road. At the T-junction in Gordon's Bay, turn left on to the R44 (Clarence Drive), following the road along the coast, past Rooi Els and Pringle Bay. Turn right at the first sign for Betty's Bay, on to Porter Road. Follow Porter Road for 2.5km, then turn right on to Crassula Avenue. Turn right on to Disa Road at the four way stop 600m down Crassula Avenue, and then follow the signs to Stony Point, which will be on your left. The trip from Cape Town should take between 70-90 minutes, depending on the traffic in Somerset West. GPS: 34°37'14.21" S 18°89'32.65"E
Tender's Email Address (For submission of bid documents only): tenders@capenature.co.za	

SUPPLIER INFORMATION

NAME OF BIDDER				
POSTAL ADDRESS				
STREET ADDRESS				
TELEPHONE NUMBER	CODE		NUMBER	
CELLPHONE NUMBER				
FACSIMILE NUMBER	CODE		NUMBER	

E-MAIL ADDRESS					
VAT REGISTRATION NUMBER					
	WCSD REGISTRATION No.		AND	CSD No:	
B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE [TICK APPLICABLE BOX]	☐ Yes ☐ No		B-BBEE STATUS LEVEL SWORN AFFIDAVIT		☐ Yes ☐ No
IF YES, WHO WAS THE CERTIFICATE ISSUED BY?	☐	A VERIFICATION AGENCY ACCREDITED BY THE SOUTH AFRICAN ACCREDITATION SYSTEM (SANAS)			
	☐	A REGISTERED AUDITOR			

[A B-BBEE STATUS LEVEL VERIFICATION CERTIFICATE/SWORN AFFIDAVIT (FOR EMEs& QSEs) MUST BE SUBMITTED TOGETHER WITH A COMPLETED 6.1 IN ORDER TO QUALIFY FOR PREFERENCE POINTS FOR B-BBEE]

ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS /SERVICES /WORKS OFFERED?	☐ Yes ☐ No [IF YES ENCLOSE PROOF]	ARE YOU A FOREIGN BASED SUPPLIER FOR THE GOODS /SERVICES /WORKS OFFERED?	☐ Yes ☐ No [IF YES ANSWER PART B:3 BELOW]
SIGNATURE OF BIDDER		DATE	
CAPACITY UNDER WHICH THIS BID IS SIGNED (Attach proof of authority to sign this bid; e.g. resolution of directors, etc.)			
TOTAL NUMBER OF ITEMS OFFERED		TOTAL BID PRICE (ALL INCLUSIVE)	
BIDDING PROCEDURE ENQUIRIES MAY BE DIRECTED TO:		TECHNICAL INFORMATION MAY BE DIRECTED TO:	
DEPARTMENT/ PUBLIC ENTITY	CapeNature	CONTACT PERSON	Ramese Mathews
CONTACT PERSON	Imran Brey	TELEPHONE NUMBER	087 087 3175
TELEPHONE NUMBER	087 087 4103	FACSIMILE NUMBER	N/A
FACSIMILE NUMBER	NA	E-MAIL ADDRESS	rmathews@capenature.co.za
E-MAIL ADDRESS	ibrey@capenature.co.za		

PART B
TERMS AND CONDITIONS FOR BIDDING

1. BID SUBMISSION:

- 1.1. BIDS MUST BE DELIVERED BY THE STIPULATED TIME TO THE CORRECT ADDRESS. LATE BIDS WILL NOT BE ACCEPTED FOR CONSIDERATION.
- 1.2. ALL BIDS MUST BE SUBMITTED ON THE OFFICIAL FORMS PROVIDED–(NOT TO BE RE-TYPED)
- 1.3. BIDDERS MUST REGISTER ON THE CENTRAL SUPPLIER DATABASE (CSD) TO UPLOAD MANDATORY INFORMATION NAMELY: (BUSINESS REGISTRATION/ DIRECTORSHIP/ MEMBERSHIP/IDENTITY NUMBERS; TAX COMPLIANCE STATUS; AND BANKING INFORMATION FOR VERIFICATION PURPOSES). B-BBEE CERTIFICATE OR SWORN AFFIDAVIT FOR B-BBEE MUST BE SUBMITTED TO BIDDING INSTITUTION.
- 1.4. THIS BID IS SUBJECT TO THE PREFERENTIAL PROCUREMENT POLICY FRAMEWORK ACT 2000 AND THE PREFERENTIAL PROCUREMENT REGULATIONS, 2017, THE GENERAL CONDITIONS OF CONTRACT (GCC) AND, IF APPLICABLE, ANY OTHER LEGISLATION OR SPECIAL CONDITIONS OF CONTRACT.

2. TAX COMPLIANCE REQUIREMENTS

- 2.1 BIDDERS MUST ENSURE COMPLIANCE WITH THEIR TAX OBLIGATIONS.
- 2.2 APPLICATION FOR TAX COMPLIANCE STATUS (TCS) MAY ALSO BE MADE VIA E-FILING. IN ORDER TO USE THIS PROVISION, TAXPAYERS WILL NEED TO REGISTER WITH SARS AS E-FILE USER THROUGH THE WEBSITE WWW.SARS.GOV.ZA.
- 2.3 BIDDERS MAY ALSO SUBMIT A PRINTED TCS WITH A RESULT SUMMARY PAGE (DOWNLOADED FROM EFILING) TOGETHER WITH THE BID.
- 2.4 IN BIDS WHERE CONSORTIA / JOINT VENTURES / SUB-CONTRACTORS ARE INVOLVED, EACH PARTY MUST SUBMIT A SEPARATE PROOF OF TCS AS MENTIONED IN 2.3 ABOVE.

3. QUESTIONNAIRE TO BIDDING FOREIGN SUPPLIERS

- 3.1. IS THE BIDDER A RESIDENT OF THE REPUBLIC OF SOUTH AFRICA (RSA)? ☐ YES ☐ NO
- 3.2. DOES THE BIDDER HAVE A BRANCH IN THE RSA? ☐ YES ☐ NO
- 3.3. DOES THE BIDDER HAVE A PERMANENT ESTABLISHMENT IN THE RSA? ☐ YES ☐ NO
- 3.4. DOES THE BIDDER HAVE ANY SOURCE OF INCOME IN THE RSA? ☐ YES ☐ NO

IF THE ANSWER IS “NO” TO ALL OF THE ABOVE, THEN, IT IS NOT A REQUIREMENT TO PROVIDE PROOF OF TAX COMPLIANCE STATUS; NOR OBTAIN A TAX COMPLIANCE STATUS FROM THE SOUTH AFRICAN REVENUE SERVICE (SARS) IF NOT REGISTER AS PER 2.2 ABOVE.

***FAILURE TO PROVIDE ANY OF THE ABOVE PARTICULARS MAY RENDER THE BID INVALID.**

SIGNATURE OF BIDDER:

.....

CAPACITY UNDER WHICH THIS BID IS SIGNED:

.....

(Proof of authority must submitted e.g. company resolution)

DATE:

.....

TAX CLEARANCE REQUIREMENTS

IT IS A CONDITION OF THE TENDER THAT -

1. The taxes of the successful service provider **must** be in order, or that satisfactory arrangements have been made with the Receiver of Revenue to meet his / her tax obligations.
2. Application for tax clearance must be done through the Receiver of Revenue office where the service provider is registered for tax purposes. The Receiver of Revenue will then furnish the Supplier with a Tax Clearance Certificate that will be valid for a period of one year from date of issue.
3. This Tax Clearance Certificate must be submitted in the original together with the tender. Failure to submit the **original** and valid Tax Clearance Certificate **will** invalidate the tender. If a tax clearance certificate was submitted previously to CapeNature please indicate as such.
4. In quotations where Consortia / Joint Ventures / Sub-contractors are involved each party must submit a separate Tax Clearance Certificate. Copies of the Application for Tax Clearance Certificates are available at any Receiver's Office.

HAS A TAX CLEARANCE CERTIFICATE BEEN SUBMITTED	YES	NO
ARE YOU THE ACCREDITED REPRESENTATIVE IN SOUTH AFRICA FOR THE GOODS/SERVICES OFFERED BY YOU? (IF YES ENCLOSE PROOF)	YES	NO

**PART C
PRICING SCHEDULE**

OFFER TO BE VALID FOR **16 WEEKS** FROM THE CLOSING DATE OF THE BID.

STONY POINT BOARDWALK	AMOUNT
TOTAL TENDER AMOUNT (VAT INCLUSIVE)	R

***NOTE:** Please refer to the Bill of Quantities in the specifications for the full pricing breakdown.

PREFERENCE POINTS CLAIM FORM IN TERMS OF THE PREFERENTIAL PROCUREMENT REGULATIONS 2022 AND IN TERMS OF THE WESTERN CAPE GOVERNMENTS INTERIM STRATEGY AS IT RELATES TO PREFERENCE POINTS

This preference form must form part of all bids invited. It contains general information and serves as a claim form for preference points for Broad-Based Black Economic Empowerment (B-BBEE) Status Level of Contribution.

NB: BEFORE COMPLETING THIS FORM, BIDDERS (TENDERERS) MUST STUDY THE GENERAL CONDITIONS, DEFINITIONS AND DIRECTIVES APPLICABLE IN RESPECT OF THE TENDER, PREFERENTIAL PROCUREMENT REGULATIONS, 2022 AND THE BROAD BASED BLACK ECONOMIC EMPOWERMENT ACT AND THE CODES OF GOOD PRACTICE

1. DEFINITIONS

- 1.1 **“acceptable tender”** means any tender which, in all respects, complies with the specifications and conditions of tender as set out in the tender document.
- 1.2 **“affidavit”** is a type of verified statement or showing, or in other words, it contains a verification, meaning it is under oath or penalty of perjury, and this serves as evidence to its veracity and is required for court proceedings.
- 1.3 **“all applicable taxes”** includes value-added tax, pay as you earn, income tax, unemployment insurance fund contributions and skills development levies;
- 1.4 **“B-BBEE”** means broad-based black economic empowerment as defined in section 1 of the Broad-Based Black Economic Empowerment Act;
- 1.5 **“B-BBEE status level of contributor”** means the B-BBEE status of an entity in terms of a code of good practice on black economic empowerment issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act;
- 1.6 **“bid”** means a written offer on the official bid documents or invitation of price quotations and **“tender”** is the act of bidding/tendering;
- 1.7 **“Code of Good Practice”** means the generic codes or the sector codes as the case may be;
- 1.8 **“consortium or joint venture”** means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract;
- 1.9 **“contract”** means the agreement that results from the acceptance of a bid by an organ of state;
- 1.10 **“EME”** is an Exempted Micro Enterprise with an annual total revenue of R10 million or less.
- 1.11 **“Firm price”** means the price that is only subject to adjustments in accordance with the actual increase or decrease resulting from the change, imposition, or abolition of customs or excise duty and any other duty, levy, or tax, which, in terms of the law or regulation, is binding on the contractor and demonstrably has an influence on the price of any supplies, or the rendering costs of any service, for the execution of the contract;
- 1.12 **“Large Enterprise”** is any enterprise with an annual total revenue above R50 million;
- 1.13 **“non-firm prices”** means all prices other than “firm” prices;
- 1.14 **“person”** includes a juristic person;
- 1.15 **“price”** means an amount of money tendered for goods or services, and includes all applicable taxes less all unconditional discounts;

- 1.16 **“proof of B-BBEE status level contributor”** means-
- (a) The B-BBEE status level certificate issued by an authorized body or person;
 - (b) A sworn affidavit as prescribed in terms of the B-BBEE Codes of Good Practice; or
 - (c) Any other requirement prescribed in terms of the Broad-Based Black Economic Empowerment Act.
- 1.17 **QSE** is a Qualifying Small Enterprise with an annual total revenue between R10 million and R50 million;
- 1.18 **“rand value”** means the total estimated value of a contract in Rand, calculated at the time of the tender invitation; and includes all applicable taxes;
- 1.19 **“sub-contract”** means the primary contractor’s assigning, leasing, making out work to, or employing, another person to support such primary contractor in the execution of part of a project in terms of the contract.
- 1.20 **“tender”** means a written offer in the form determined by an organ of state in response to an invitation to provide or services through price quotations, competitive tendering process or any other method envisaged in legislation;
- 1.21 **“tender for income-generating contracts”** means a written offer in the form determined by an organ of state in response to an invitation for the origination of income-generating contracts through any method envisaged in legislation that will result in a legal agreement between the organ of state and a third party that produces revenue for the organ of state, and includes, but is not limited to, leasing and disposal of assets and concession contracts, excluding direct sales and disposal of assets through public auctions;
- 1.22 **“the Act”** means the Preferential Procurement Policy Framework Act, 2000 (Act No. 5 of 2000);
- 1.23 **“the Regulations”** means the Preferential Procurement Regulations, 2022;
- 1.24 **“total revenue”** bears the same meaning assigned to this expression in the Codes of Good Practice on Black Economic Empowerment, issued in terms of section 9(1) of the Broad-Based Black Economic Empowerment Act and promulgated in the Government Gazette on 11 October 2013;
- 1.25 **“trust”** means the arrangement through which the property of one person is made over or bequeathed to a trustee to administer such property for the benefit of another person; and
- 1.26 **“trustee”** means any person, including the founder of a trust, to whom property is bequeathed in order for such property to be administered for the benefit of another person.

2. GENERAL CONDITIONS

- 2.1 The following preference point systems are applicable to all bids:
- the 80/20 system for requirements with a Rand value of up to R50 000 000 (all applicable taxes included); and
 - the 90/10 system for requirements with a Rand value above R50 000 000 (all applicable taxes included).
- 2.2 Preference point system for this bid:
- a) The value of this bid is estimated to not exceed R50 000 000 (all applicable taxes included) and therefore the 80/20 preference point system shall be applicable; or
 - b) The 80/20 preference point system will be applicable to this tender.
- 2.3 Preference points for this bid shall be awarded for:
- a) Price; and
 - b) B-BBEE Status Level of Contribution

- 2.4 The maximum points for this bid are allocated as follows:

	POINTS
PRICE	
B-BBEE STATUS LEVEL OF CONTRIBUTOR	
Total points Price and B-BBEE must not exceed	100

- 2.5 Failure on the part of a bidder to fill in, sign this form and submit in the circumstances prescribed in the Codes of Good Practice either a B-BBEE Verification Certificate issued by a Verification Agency accredited by the South African Accreditation System (SANAS) or an affidavit confirming annual total revenue and level of black ownership together with the bid or an affidavit issued by Companies Intellectual Property Commission, will be interpreted to mean that preference points for B-BBEE status level of contribution are not claimed.
- 2.6 The organ of state reserves the right to require of a bidder, either before a bid is adjudicated or at any time subsequently, to substantiate any claim in regard to preferences, in any manner required by the organ of state.

3. ADJUDICATION USING A POINT SYSTEM

- 3.1 Subject to Section 2(1)(f) of the Preferential Procurement Policy Framework Act, 2000, the bidder obtaining **the highest number of total points** will be awarded the contract.
- 3.2 A tenderer must submit proof of its B-BBEE status level of contributor in order to claim points for B-BBEE.
- 3.3 A tenderer failing to submit proof of B-BBEE status level of contributor or is a non-compliant contributor to B-BBEE will not be disqualified but will only score:
- (a) points out of 80 for price; and
 - (b) 0 points out of 20 for B-BBEE
- 3.4 Points scored must be rounded off to the nearest 2 decimal places.
- 3.5 In the event that two or more bids have scored equal total points, the successful bid must be the one scoring the highest number of preference points for B-BBEE.
- 3.6 As per section 2(1)(f) of the Preferential Procurement Policy Framework Act, 2000, the contract may be awarded to a bidder other than the one scoring the highest number of total points based on objective criteria in addition to those contemplated in paragraphs (d) and (e) of the Preferential Procurement Policy Framework Act, 2000 that justifies the award to another tenderer provided that it has been stipulated upfront in the tendering conditions.
- 3.7 Should two or more bids be equal in all respects; the award shall be decided by the drawing of lots.

4. FORMULAE FOR PROCUREMENT OF GOODS AND SERVICES

4.1 POINTS AWARDED FOR PRICE

4.1.1 THE 80/20 OR 90/10 PREFERENCE POINT SYSTEM

A maximum of 80 or 90 points is allocated for price on the following basis:

80/20

or

90/10

$$Ps = 80 \left(1 - \frac{Pt - Pmin}{Pmin} \right) \quad \text{or} \quad Ps = 90 \left(1 - \frac{Pt - Pmin}{Pmin} \right)$$

Where

Ps = Points scored for price of bid under consideration

Pt = Price of tender under consideration

Pmin = Price of lowest acceptable tender

5. FORMULAE FOR DISPOSAL OR LEASING OF STATE ASSETS AND INCOME GENERATING PROCUREMENT

5.1 POINTS AWARDED FOR PRICE

A maximum of 80 or 90 points is allocated for price on the following basis:

80/20

or

90/10

$$Ps = 80 \left(1 - \frac{Pt - Pmax}{Pmax} \right) \quad \text{or} \quad Ps = 90 \left(1 - \frac{Pt - Pmax}{Pmax} \right)$$

Where

Ps = Points scored for price of bid under consideration

Pt = Price of tender under consideration

Pmax = Price of highest acceptable tender

6. POINTS AWARDED FOR B-BBEE STATUS LEVEL OF CONTRIBUTION

- 6.1 In terms of WCG interim strategy, preference points must be awarded to a bidder for attaining the B-BBEE status level of contribution in accordance with the table below:

B-BBEE Status Level of Contributor	Number of points (90/10 system)	Number of points (80/20 system)
1	10	20
2	9	18
3	6	14
4	5	12
5	4	8
6	3	6
7	2	4
8	1	2
Non-compliant contributor	0	0

- 6.2 An **EME** must submit a valid, originally certified affidavit confirming annual turnover and level of black ownership or an affidavit issued by Companies Intellectual Property Commission.
- 6.3 A **QSE that is less than 51 per cent (50% or less) black owned** must be verified in terms of the QSE scorecard issued via Government Gazette and submit a valid, original or a legible certified copy of a B-BBEE Verification Certificate issued by SANAS.
- 6.4 A **QSE that is at least 51 per cent black owned (51% or higher)** must submit a valid, originally certified affidavit confirming turnover and level of black ownership as well as declare its empowering status or an affidavit issued by Companies Intellectual Property Commission.
- 6.5 A **large enterprise** must submit a valid, original or originally certified copy of a B-BBEE Verification Certificate issued by a verification agency accredited by SANAS.
- 6.6 A trust, consortium or joint venture, will qualify for points for their B-BBEE status level as a legal entity, provided that the entity submits their B-BBEE status level certificate.
- 6.7 A trust, consortium or joint venture (including unincorporated consortia and joint ventures) must submit a consolidated B-BBEE status level verification certificate for every separate tender.
- 6.8 Tertiary institutions and public entities will be required to submit their B-BBEE status level certificates in terms of the specialized scorecard contained in the B-BBEE Codes of Good Practice.

7. BID DECLARATION

- 7.1 Bidders who claim points in respect of B-BBEE Status Level of Contribution must complete the following:

8. B-BBEE STATUS LEVEL OF CONTRIBUTION CLAIMED IN TERMS OF PARAGRAPH 6

- 8.1 B-BBEE Status Level of Contribution = (maximum of 20 points)

(Points claimed in respect of paragraph 7.1 must be in accordance with the table reflected in paragraph 6.1 and must be substantiated by means of a B-BBEE certificate issued by a Verification Agency)

accredited by SANAS or an affidavit confirming annual total revenue and level of black ownership in terms of the relevant sector code applicable to the tender.

9. SUB-CONTRACTING

9.1 Will any portion of the contract be sub-contracted? **YES / NO**

9.1.1 If yes, indicate:

(i) what percentage of the contract will be subcontracted?%

(ii) the name of the sub-contractor?

(iii) the B-BBEE status level of the sub-contractor?

(iv) whether the sub-contractor is an EME or QSE? **YES / NO**

9.1.2 Sub-contracting relates to a **particular** contract and if sub-contracting is applicable, the bidder to state in their response to a particular RFQ that a portion of that contract will be sub-contracted.

10. DECLARATION WITH REGARD TO COMPANY/FIRM

10.1 Name of company/entity :

10.2 VAT registration number :

10.3 Company Registration number :

10.4 TYPE OF COMPANY/FIRM

☐ Partnership/ Joint Venture/ Consortium

☐ One-person business/ sole propriety

☐ Close corporation

☐ Public Company

☐ Personal Liability Company

☐ (Pty) Limited

☐ Non-Profit Company

☐ State Owned Company

[SELECT APPLICABLE ONE]

10.5 I/we, the undersigned, who is / are duly authorised to do so on behalf of the company/firm, certify that the points claimed, based on the B-BBEE status level of contribution indicated in paragraph 7 above, qualifies the company/ firm for the preference(s) shown and I / we acknowledge that:

(a) The Western Cape Government reserves the right to audit the B-BBEE status claim submitted by the bidder.

(b) As set out in Section 130 of the B-BBEE Act as amended, any misrepresentation constitutes a criminal offence. A person commits an offence if that person knowingly:

(i) misrepresents or attempts to misrepresent the B-BBEE status of an enterprise;

(ii) provides false information or misrepresents information to a B-BBEE Verification

Professional in order to secure a particular B-BBEE status or any benefit associated with compliance to the B-BBEE Act;

- (iii) provides false information or misrepresents information relevant to assessing the B-BBEE status of an enterprise to any organ of state or public entity; or
 - (iv) engages in a fronting practice.
- (c) If a B-BBEE verification professional or any procurement officer or other official of an organ of state or public entity becomes aware of the commission of, or any attempt to commit any offence referred to in paragraph 10.5 (a) above will be reported to an appropriate law enforcement agency for investigation.
- (d) Any person convicted of an offence by a court is liable in the case of contravention of 10.5 (b) to a fine or to imprisonment for a period not exceeding 10 years or to both a fine and such imprisonment or, if the convicted person is not a natural person to a fine not exceeding 10 per cent of its annual turnover.
- (e) The purchaser may, if it becomes aware that a bidder may have obtained its B-BBEE status level of contribution on a fraudulent basis, investigate the matter. Should the investigation warrant a restriction be imposed, this will be referred to the National Treasury for investigation, processing and imposing the restriction on the National Treasury's List of Restricted Suppliers. The bidder or contractor, its shareholders and directors, or only the shareholders and directors who acted on a fraudulent basis, may be restricted from obtaining business from any organ of state for a period not exceeding 10 years, after the audi alteram partem (hear the other side) rule has been applied.
- (f) The purchaser may, in addition to any other remedy it may have –
- (i) disqualify the person from the bidding process;
 - (ii) recover costs, losses or damages it has incurred or suffered as a result of that person's conduct;
 - (iii) cancel the contract and claim any damages which it has suffered as a result of having to make less favourable arrangements due to such cancellation; and
 - (iv) forward the matter for criminal prosecution.
- (g) The information furnished is true and correct.
- (h) The preference points claimed are in accordance with the General Conditions as indicated in paragraph 2 of this form.

SIGNATURE(S) OF THE BIDDER(S):

DATE:

ADDRESS:

.....

WITNESSES:

1.

2.

PROVINCIAL GOVERNMENT OF WESTERN CAPE

DECLARATION OF INTERESTS, BIDDERS PAST SCM PRACTICES AND INDEPENDENT BID DETERMINATION

1. To give effect to the requirements of the Western Cape Provincial Treasury Instructions, 2019: Supply Chain Management (Goods and Services), Public Finance Management Act (PFMA) Supply Chain Management (SCM) Instruction No. 3 of 2021/2022 - SBD 4 Declaration of Interest, Section 4 (1)(b)(iii) of the Competition Act No. 89 of 1998 as amended together with its associated regulations, the Prevention and Combating of Corrupt Activities Act No 12 of 2004 and regulations pertaining to the tender defaulters register, Paragraph 16A9 of the National Treasury Regulations and/or any other applicable legislation.
2. Any person (natural or juristic) may make an offer or offers in terms of this invitation to bid. In line with the principles of transparency, accountability, impartiality, and ethics as enshrined in the Constitution of the Republic of South Africa and further expressed in various pieces of legislation, it is required for the bidder to make this declaration in respect of the details required hereunder.
3. All prospective bidders intending to do business with the Institution must be registered on the Central Supplier Database (CSD) and the Western Cape Supplier Evidence Bank (WCSEB) if they wish to do business with the Western Cape Government (WCG) via the electronic Procurement Solution (ePS).
4. The status of enterprises and persons listed on the National Treasury's Register for Tender Defaulters will be housed on the ePS. Institutions may not under any circumstances procure from enterprises and persons listed on the Database of Tender Defaulters.
5. The status of suppliers listed on the National Treasury's Database of Restricted Suppliers will be housed on the ePS; however, it remains incumbent on institutions to check the National Treasury Database of Restricted Suppliers before the conclusion of any procurement process. For suppliers listed as restricted, institutions must apply due diligence and risk assessment before deciding to proceed with procurement from any such supplier.
6. **Definitions**

"bid" means a bidder's response to an institution's invitation to participate in a procurement process which may include a bid, price quotation or proposal;

"Bid rigging (or collusive bidding)" occurs when businesses, that would otherwise be expected to compete, secretly conspire to raise prices or lower the quality of goods and / or services for purchasers who wish to acquire goods and/or services through a bidding process. Bid rigging is, therefore, an agreement between competitors;

"business interest" means -

 - (a) a right or entitlement to share in profits, revenue or assets of an entity;
 - (b) a real or personal right in property;
 - (c) a right to remuneration or any other private gain or benefit, or
 - (d) includes any interest contemplated in paragraphs (a), (b) or (c) acquired through an intermediary and any potential interest in terms of any of those paragraphs;

"Consortium or Joint Venture" means an association of persons for the purpose of combining their expertise, property, capital, efforts, skill and knowledge in an activity for the execution of a contract;

“Controlling interest” means, the power, by one person or a group of persons holding the majority of the equity of an enterprise, alternatively, the person/s having the deciding vote or power to influence or to direct the course and decisions of the enterprise;

“Corruption”- General offences of corruption are defined in the Combating of Corrupt Activities Act, 2004 (Act No 12 of 2004) as:

Any person who directly or indirectly-

- (a) accepts or agrees or offers to accept any gratification from any other person, whether for the benefit of himself or herself or for the benefit of another person; or
- (b) gives or agrees or offers to give to any other person any gratification, whether for the benefit of that other person or for the benefit of another person., in order to act personally or by influencing another person so to act, in a manner—
 - (i) that amounts to the-
 - (aa) illegal. dishonest. unauthorised. incomplete. or biased: or
 - (bb) misuse or selling of information or material acquired in the course of the exercise, carrying out or performance of any powers, duties or functions arising out of a constitutional, statutory, contractual or any other legal obligation:
 - (ii) that amounts to-
 - (aa) the abuse of a position of authority;
 - (bb) a breach of trust; or
 - (cc) the violation of a legal duty or a set of rules;
 - (iii) designed to achieve an unjustified result; or
 - (iv) that amounts to any other unauthorised or improper inducement to do or 45 not to do anything. of the, is guilty of the offence of corruption

“CSD” means the Central Supplier Database maintained by National Treasury;

“employee”, in relation to –

- (a) a department, means a person contemplated in section 8 of the Public Service Act, 1994 but excludes a person appointed in terms of section 12A of that Act; and
- (b) a public entity, means a person employed by the public entity;

“entity” means any -

- (a) association of persons, whether or not incorporated or registered in terms of any law, including a company, corporation, trust, partnership, close corporation, joint venture or consortium; or
- (b) sole proprietorship;

“entity conducting business with the Institution” means an entity that contracts or applies or tenders for the sale, lease or supply of goods or services to the Province;

“Family member” means a person’s -

- (a) spouse; or

- (b) child, parent, brother, sister, whether such a relationship results from birth, marriage or adoption or some other legal arrangement (as the case may be);

“intermediary” means a person through whom an interest is acquired, and includes a representative or agent or any other person who has been granted authority to act on behalf of another person;

“Institution” means –

a provincial department or provincial public entity listed in Schedule 3C of the Act; **“Provincial**

Government Western Cape (PGWC)” means

- (a) the Institution of the Western Cape, and

- (b) a provincial public entity;

“RWOEE” means -

Remunerative Work Outside of the Employee’s Employment

“spouse” means a person’s -

- (a) partner in marriage or civil union according to legislation;

- (b) partner in a customary union according to indigenous law; or

- (c) partner with whom he or she cohabits and who is publicly acknowledged by the person as his or her life partner or permanent companion.

- 7. Regulation 13(c) of the Public Service Regulations (PSR) 2016, effective 1 February 2017, prohibits any employee from conducting business with an organ of state, or holding a directorship in a public or private company doing business with an organ of state unless the employee is a director (in an official capacity) of a company listed in schedules 2 and 3 of the Public Finance Management Act.

- a) Therefore, by 31 January 2017 all employees who are conducting business with an organ of state should either have:

- (i) resigned as an employee of the government institution or;

- (ii) cease conducting business with an organ of state or;

- (iii) resign as a director/shareholder/owner/member of an entity that conducts business with an organ of state.

- 8. Any legal person, or their family members, may make an offer or offers in terms of this invitation to bid. In view of potential conflict of interest, in the event that the resulting bid, or part thereof, be awarded to family members of persons employed by an organ of state, it is required that the bidder or his/her authorised representative declare his/her position in relation to the evaluating/adjudicating authority where the bidder is employed by the Institution

- 9. The bid of any bidder may be disregarded if that bidder or any of its directors abused the institution’s supply chain management system; committed fraud or any other improper conduct in relation to such system; or failed to perform on any previous contract.

- 10. Section 4 (1) (b) (iii) of the Competition Act No. 89 of 1998, as amended, prohibits an agreement between, or concerted practice by firms, or a decision by an association of firms, if it is between parties in a horizontal relationship and if it involves collusive bidding (or bid rigging). Collusive bidding is a per

se prohibition meaning that it cannot be justified under any grounds.

11. Treasury Regulation 16A9 prescribes that accounting officers and accounting authorities must take all reasonable steps to prevent abuse of the supply chain management system and authorises accounting officers and accounting authorities to:
 - (a) disregard the bid of any bidder if that bidder, or any of its directors have abused the institution's supply chain management system and or committed fraud or any other improper conduct in relation to such system.
 - (b) cancel a contract awarded to a supplier of goods and services if the supplier committed any corrupt or fraudulent act during the bidding process or the execution of that contract.
12. Communication between partners in a joint venture or consortium will not be construed as collusive bidding.
13. In addition and without prejudice to any other remedy provided to combat any restrictive practices related to bids and contracts, bids that are suspicious will be reported to the Competition Commission for investigation and possible imposition of administrative penalties in terms of section 59 of the Competition Act No 89 of 1998 and or may be reported to the National Prosecuting Authority (NPA) for criminal investigation and or may be restricted from conducting business with the public sector for a period not exceeding ten (10) years in terms of the Prevention and Combating of Corrupt Activities Act No 12 of 2004 or any other applicable legislation.

SECTION A: DETAILS OF THE ENTITY	
CSD Registration Number	MAAA
Name of the Entity	
Entity registration Number (where applicable)	
Entity Type	
Tax Reference Number	
Full details of directors, shareholder, member, partner, trustee, sole proprietor or any persons with a right or entitlement to share in profits, revenue or assets of the entity should be disclosed in the Table A below.	

TABLE A

FULL NAME	DESIGNATION (Where a director is a shareholder, both should be confirmed)	IDENTITY NUMBER	PERSONAL TAX REFERENCE NO.	PERCENTAGE INTEREST IN THE ENTITY

SECTION B: DECLARATION OF THE BIDDER'S INTEREST

The supply chain management system of an institution must, irrespective of the procurement process followed, prohibit any award to an employee of the state, who either individually or as a director of a public or private company or a member of a close corporation, seek to conduct business with the WCG, unless such employee is in an official capacity a director of a company listed in Schedule 2 or 3 of the PFMA as prescribed by the Public Service Regulation 13 (c).

Furthermore, an employee employed by an organ of state conducting remunerative work outside of the employee's employment should first obtain the necessary approval by the delegated authority (RWOEE), failure to submit proof of such authority, where applicable, may result in disciplinary action.

B1.	Are any persons listed in Table A identified on the CSD as employees of an organ of state? (If yes, refer to Public Service Circular EIM 1/2016 to exercise the listed actions)	NO	YES
B2.	Are any employees of the entity also employees of an organ of state? (If yes complete Table B and attach their approved "RWOEE")	NO	YES
B3.	Are any family members of the persons listed in Table A employees of an organ of state? (If yes complete Table B)	NO	YES

TABLE B

Details of persons (family members) connected to or employees of an organ of state should be disclosed in Table B below.

FULL NAME OF EMPLOYEE	IDENTITY NUMBER	DEPARTMENT/ ENTITY OF EMPLOYMENT	DESIGNATION/ RELATIONSHIP TO BIDDER**	INSTITUTION EMPLOYEE NO./ PERSAL NO. (Indicate if not known)

SECTION C: PERFORMANCE MANAGEMENT AND BIDDER'S PAST SUPPLY CHAIN MANAGEMENT PRACTICES
To enable the prospective bidder to provide evidence of past and current performance.

C1.	Did the entity conduct business with an organ of state in the last twelve months? (If yes complete Table C)	NO	YES
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C2. TABLE C

Complete the below table to the maximum of the last 5 contracts.

NAME OF CONTRACTOR	PROVINCIAL DEPARTMENT OR PROVINCIAL ENTITY	TYPE OF SERVICES OR COMMODITY	CONTRACT/ ORDER NUMBER	PERIOD OF CONTRACT	VALUE OF CONTRACT
C3.	Is the entity or its principals listed on the National Database as companies or persons prohibited from doing business with the public sector?				NO YES
C4.	Is the entity or its principals listed on the National Treasury Register for Tender Defaulters in terms of section 29 of the Prevention and Combating of Corrupt Activities Act (No. 12 of 2004)? (To access this Register enter the National Treasury's website, www.treasury.gov.za , click on the icon "Register for Tender Defaulters" or submit your written request for a hard copy of the Register to facsimile number (012) 326 5445.)				NO YES
C5.	If yes to C3 or C4, were you informed in writing about the listing on the database of restricted suppliers or Register for Tender Defaulters by National Treasury?			NO	YES N/A
C6.	Was the entity or persons listed in Table A convicted for fraud or corruption during the past five years in a court of law (including a court outside the Republic of South Africa)?				NO YES
C7.	Was any contract between the bidder and any organ of state terminated during the past five years on account of failure to perform on or comply with the contract?				NO YES

SECTION D: DULY AUTHORISED REPRESENTATIVE TO DEPOSE TO AFFIDAVIT

This form must be signed by a duly authorised representative of the entity in the presence of a commissioner of oaths.

I, hereby swear/affirm;

- i. that the information disclosed above is true and accurate;
- ii. that I have read understand the content of the document;
- iii. that I have arrived at the accompanying bid independently from, and without consultation, communication, agreement or arrangement with any competitor.
- iv. that the entity undertakes to independently arrive at any offer at any time to the Institution without any consultation, communication, agreement or arrangement with any competitor. In addition, that there will be no consultations, communications, agreements or arrangements with any competitor regarding the quality, quantity, specification, prices, including methods, factors or formulas used to calculate prices, market allocation, the intention or decision to submit or not to submit the bid, bidding with the intention not to win the bid and conditions or delivery particulars of the products or services to which this bid invitation relates;
- v. that the entity or its representative are aware of and undertakes not to disclose the terms of any bid, formal or informal, directly or indirectly, to any competitor, prior to the date and time of the official bid opening or of the awarding of the contract; and
- vi. that there have been no consultations, communications, agreements or arrangements made with any official of the procuring institution in relation to this procurement process prior to and during the bidding process except to provide clarification on the bid submitted where so required by the institution; and that my entity was not involved in the drafting of the specifications or terms of reference for this bid.

.....

DULY AUTHORISED REPRESENTATIVE'S

SIGNATURE

I certify that before administering the oath/affirmation I asked the deponent the following questions and wrote down his/her answers in his/her presence:

- 1.1 Do you know and understand the contents of the declaration? ANSWER:
- 1.2 Do you have any objection to taking the prescribed oath? ANSWER:
- 1.3 Do you consider the prescribed oath to be binding on your conscience? ANSWER:.....
- 1.4 Do you want to make an affirmation? ANSWER:

2. I certify that the deponent has acknowledged that he/she knows and understands the contents of this declaration, which was sworn to/affirmed and the deponent's signature/thumbprint/mark was place thereon in my presence.

.....

SIGNATURE FULL NAMES: Commissioner of Oaths

Designation (rank):.....**ex officio:** Republic of South Africa

Date: **Place:**

Business Address:

Stony Point Boardwalk

CapeNature

Main Contract Tender Document

22 July 2026

Parts A-C CapeNature Supply Chain Returnable Document	Page No.
Part A: Invitation to Bid	2 pages
Part B: Terms and Conditions for Bidding	2 pages
Part C: Pricing Schedule	16 pages
Part 1 TENDER DOCUMENT	Page No.
Part 1.1: Notes to Tenderers	3 pages
Part 1.2: Functionality	3 pages
Part 2 AGREEMENT	
Part 2.1: JBCC Principal Building Agreement (Edition 6.2 - May 2018)	30 pages
Part 2.2: JBCC Principal Building Agreement Contract Data	16 pages
Part 2.3: Amendments to the JBCC Principal Building Agreement	8 pages
Part 2.4: JBCC General Preliminaries (May 2018)	9 pages
Part 2.5: Provisional Bills of Quantities	
Bill No. 1: Preliminaries	Page 1 - Page 4
Bill No. 2: Alterations	Page 5 - Page 7
Bill No. 3: Earthworks	Page 8 - Page 10
Bill No. 4: Concrete, Formwork & Reinforcement	Page 11 - Page 14
Bill No. 5: Carpentry & Joinery	Page 15 - Page 18
Bill No. 6: Structural Steel	Page 19 - Page 21
Bill No. 7: Metalwork	Page 22 - Page 27
Bill No. 9: Paintwork	Page 28 - Page 30
Summary	Page 31
Part 2.6: Drawings:	
Architectural Drawings	62 Drawings
Engineering Drawings	10 Drawings
Part 2.7: Waiver of Contractor's Lien	1 page
Part 2.8: Guarantee for Construction	3 pages
Part 2.9: Guarantee for Advance Payment	2 pages
Part 2.10: Methodology Statement	11 pages
Part 2.11: Decking Installation Guide	2 pages
Part 2.12: Health and Safety Specification	43 pages
Part 2.13: Environmental Management Plan	22 pages

Part 1.1

Notes to Tenderer

1. Professional Team

Consultant	Company	Contact Person	Telephone
Principal Agent	Lyners	Rudolph Schoonwinkel	021 914 0300
Quantity Surveyor	SPD Quantity Surveyors	Willem Visser	087 073 8015
Structural Engineer	Lyners	Lucas Bosch	021 914 0300
Civil Engineer	Lyners	Rudolph Schoonwinkel	021 914 0300
Health & Safety	TBC	TBC	TBC
Environmental	TBC	TBC	TBC

Note: Any reference made to the "architect" shall be deemed to refer to the "Principal Agent"

2. Tender Documentation

The Tenderer shall check that the page numbers correspond to the contents page and should any be missing or duplicated, or the reproduction be indistinct, or if any doubt exists as to the full intent and meaning of any description, or this document contains any obvious errors, the Tenderer shall notify the Quantity Surveyor at once for rectification. No liability whatsoever will be admitted in respect of errors in any tender due to the above-mentioned causes.

3. Scope of Works Overview

The removal of the existing timber walkway and construction of a new structural steel and timber walkway, consisting of concrete support columns, steel beam structure, steel balustrades. In addition to all other contractual requirements, it is highlighted that the works are to be executed in accordance to Proposed New Boardwalk Methodology Statement and the Environmental Management Plan (part of this tender document)

4. Inspection of Site and Drawings

It is a condition that the Tenderer shall have carried out a full and detailed inspection of the site, all Consultant's drawings and all tender documents, prior to the submission of tenders. By such an inspection the Tenderer shall be deemed to be fully informed as to the nature and degree of complexity of the project, the constructional problems related thereto, the conditions under which the work is to be carried out, the means of access to the site and generally of all matters which may influence his tender. No claim whatsoever will be considered after the submission of tenders, due to the failure on the part of the Tenderer to fulfil his obligation.

5. Drawings Issued with Bills

In order to obviate lengthy descriptions, references have been made in certain items in the Bills of Quantities to particular drawings by the drawing number. In these cases the respective drawings shall be taken and read together with the particular bill items concerned and the rates and prices shall include for providing all labour, materials, equipment, services and for performing all operations required for the complete installation of the items described and shown on the drawings.

The insertion of particular drawing references in the bills shall in no way relieve the Tenderer of his responsibility to study all drawings.

6. General Preambles for Trades

Except where otherwise stated, these Bills of Quantities have been prepared in accordance with the General Preambles for Trades (2017 Edition) as recommended and published by the Association of South African Quantity Surveyors. Tenderers are advised to study the General Preambles before pricing these bills.

7. Method of Measurement

Standard System

Except where otherwise stated, these Bills of Quantities have been prepared in accordance with the Seventh Edition of the Standard System of Measuring Builder's Work issued by the Association of South African Quantity Surveyors, and hereinafter termed "the Standard System".

Qualifications

Notwithstanding the provisions of the Standard System, any amendments in respect of these Bills of Quantities are included in the relevant trades

Generally

Wherever the words "shall be included in the description", "shall be stated" or words having the same effect appear within the Standard System, it shall be deemed that descriptions in these Bills of Quantities incorporate such inclusions and statements.

8. Payment

Payment for the works will be dealt with strictly in accordance with Clause 25.0 of the agreement (Part 2.1)

9. Contractual Documentation

All construction drawings will be formally issued electronically only and should the contractor wish to print hard copies of the drawings all necessary arrangements and costs must be provided for in "Bill no. 1 Preliminaries".

10. As-built Drawings

Where required, the Contractor shall prepare an updated set of as-built drawings. At completion of the contract the contractor shall hand these drawings to the principal agent for reproducing onto the originals for handing over to the employer

11. Agreement Conditions & Tender Qualification

Tenderers are advised that any contractual qualifications made may result in qualified tenders being rejected. Tenders are to be submitted strictly in accordance with the conditions indicated in the tender documents.

12. Tender Instructions

The tenderers are requested to review the Architecture and Engineering drawings and submit a priced bills of quantities for the scope of works stated in item no. 3 above. The successful tenderer will enter into a formal contract agreement (Part 2 of this document).

Tenderers shall as part of their tender provide the compulsory documents as per the "List of Returnables" in item 13 below.

Value Added Tax (VAT) shall be added as a lump sum inserted against the appropriate item in Part 2.2 on the Contract Data [CD] item E3.0

Tenders shall hold good for a period of 16 weeks from the date of closing of tenders and shall not be altered, amended or withdrawn during that period.

The lowest, or any, or portion of any tender will not necessarily be accepted.

13. CIDB Grading Requirement

Tenderers must have a CIDB contractor grading of **6 CE or higher**.

14. Compulsory Briefing Session

A **COMPULSORY** briefing session will be held at Stony Point Nature Reserve on 4 August 2026, at 11h00 .

Directions to Stony Point Nature Reserve:

From Cape Town, take the N2 north. Just before Sir Lowry's Pass, turn right on to Sir Lowry's Pass Road. At the T-junction in Gordon's Bay, turn left on to the R44 (Clarence Drive), following the road along the coast, past Rooi Els and Pringle Bay. Turn right at the first sign for Betty's Bay, on to Porter Road. Follow Porter Road for 2.5km, then turn right on to Crassula Avenue. Turn right on to Disa Road at the four way stop 600m down Crassula Avenue, and then follow the signs to Stony Point, which will be on your left. The trip from Cape Town should take between 70-90 minutes, depending on the traffic in Somerset West.

GPS: 34°37'14.21" S 18°89'32.65"E

15. Submission of Tender

The closing time for receipt of tenders is **11h00 on Monday 31 August 2026**, at the CapeNature Cape Town Office, PGWC Shared Services Centre, 3rd Floor, Corner Bosduif & Volstruis Streets, Bridgetown, Gatesville, 7766.

Tenders may also be emailed to tenders@capenature.co.za before the above mentioned closing time.

16. List of Returnables

- CapeNature Supply Chain Returnable Documents (Parts A - C)
- A valid Tax Clearance Certificate/Pin from SARS
- A valid and completed Declaration of Interest form (WCBD 4) that has been signed and commissioned by a Commissioner of Oaths
- A valid BBBEE Certificate/Sworn Affidavit that has been certified by a Commissioner of Oaths
- Functionality (Part 1.2) - incl. associated documentation
- Contract Data (Part 2.2)
- Priced BoQ (Part 2.5)

17. Rejection of Quotes/Proposals

Any effort by a bidder to influence the bid evaluation, comparisons, or award decisions in any manner, may result in rejection of the bid. CapeNature shall reject a bid if the bidder has committed a proven corrupt or fraudulent act in competing for a particular contract. CapeNature may disregard any bid if the bidder or any of its subcontractors:

- Is not tax compliant
- Have abused the Supply Chain Management (SCM) system of a department or any other government department, agency, or entity.
- Have committed proven fraud or any other improper conduct in relation to such a system.
- Have failed to fulfil any previous contract.
- Supplied incorrect information in the bid documentation.
- CSD Registration.
- Valid Declaration of Interest.

18. Disclaimer

Details of the award will be published (on the e-tender portal/ other media) by CapeNature under National Treasury Instruction No. 1 of 2015/2016.

Part 1.2

Functionality

Part 1.2: Functionality

Notes: In terms of Method 2 (functionality, price and preference) described in the Conditions of Tender for evaluation of this tender, the tenderer must complete this Functionality Schedule. The information required must be provided as additional pages appended to this Schedule, with the number of appended pages specified and the Schedule signed by the authorised signatory in the spaces provided below. ALSO NOTE: The information provided by the tenderer is subject to verification and if any form of falsification or misrepresentation of any of the required details is found, the tender will be disqualified.

The functionality table below shows the fully transparent criteria for functionality evaluation and scoring. PLEASE DO NOT score any items in the table, this will be done by the *Client* during tender adjudication upon scrutiny and verification of the information pages appended to this Schedule.

Definition of Functionality:

“Functionality” means the measurement according to the predetermined norms of a service or commodity designed to be practical and useful, working or operating, taking into account quality, reliability, viability and durability of a service and technical capacity and ability of a tenderer.

Evaluation of the Tenders:

The evaluation of the tenders will be conducted in the following two stages:

- Stage 1. Firstly, the assessment of functionality will be done in terms of information made available by the tenderer according to the criteria in the Functionality Table below, where a total of 100 points are awarded, broken down as per the items listed in the table. The minimum qualifying threshold will be **70%** of the 100 points awarded for functionality. Tenders failing to attain this threshold will be disqualified without consideration of the other criteria of the CIDB Method 2 evaluation (price and preference).
- Stage 2. Thereafter, only the tenders qualifying with a score of **70%** and above will be evaluated in terms of points scored for financial offer and preferences in the applicable ratio as stated in the Conditions of Tender (80:20 or 90:10)



Functionality Table

NO	ITEM	POINTS
1	Relevant Project Experience and Capability (total of items 1.1 and 1.2)	20
1.1	References Provide favourable letters of reference from customers for the number of completed contracts exceeding a value of R5m (five million rand). <i>Total scoring: 5 letters=10 points; 3-4 letters=5 points; 1-2 letters=3 points; No letters=0 points</i>	10
1.2	Structural steel and decking contracting experience Provide a list of all contracts where the structural steel and timber decking work undertaken each exceeded a value of R2m (two million rand) per contract respectively, which are currently in progress and undertaken during the last 5 years. <i>Total scoring: 1 point each per listed contract, up to a maximum of 5 points each for structural steel and timber decking respectively, to add up to a maximum of 10 points</i>	10
2	Resources (total of items 2.1 to 2.3)	50
2.1	Company Organogram Provide a detailed organogram of the leadership and management structure you intend to mobilize on a substantially full time basis on this contract. <i>Scoring – add up the following: Personnel qualification details=4 points; Personnel experience details=4 points; Client's adequacy rating of organogram=2 points.</i>	10
2.2	Company Infrastructure Provide detailed information about infrastructure capacity available locally for your company with specific reference to both skilled labour resources and technical expertise, as well as your proven maximum rate of work execution and delivery during past projects, expressed in monetary value earned per month. <i>Total scoring: Infrastructure capacity to deliver at a rate of R1.5m per month=20 points; R1m per month=15 points; R0.7m per month=10 points; Less than R0.7m per month=0 points</i>	20



2.3	CV's of key personnel Provide CV's of the key personnel to be employed substantially full time on this contract and in key supporting roles. (Should key personnel indicated in the returnable schedule not be available once the contract is awarded they will have to be replaced by an equivalently qualified and experienced staff member. If this is not possible then the contract may be terminated). <i>Scoring – add up the following: Formal tertiary construction management qualification=10 points; More than 5 years fulltime contract management experience=10 points; Less than 5 years fulltime contract management experience=5 points.</i>	20
3	Guarantee for advanced payment	20
3.1	Material off site Confirmation that the contractor will be able to provide a guarantee for advanced payment to sufficiently cover the value of materials and goods to be manufacture and stored off site <i>Total scoring: Guarantee to the value of R10m =20 points; R7.5m =15 points; R5m =10 points; R2.5m =5 points; no guarantee =0 points</i>	20
4	Relevant Projects valued in excess of R10m during the last 5 years	10
4.1	Provide a list of all environmental sensitive contracts undertaken and successfully completed (letter of reference) during the last 5 years where the value of any single contract exceeded a value of R10m (ten million rand). <i>Total scoring: One or more projects=10 points; No projects=0 points.</i>	10
	TOTAL POINTS FOR FUNCTIONALITY	100



Part 2.1

JBCC Principal Building Agreement
(Edition 6.2 - May 2018)

(will be included on contract award)

Part 2.2

JBCC Principal Building Agreement Contract Data



PRINCIPAL BUILDING AGREEMENT: CONTRACT DATA

Project : Stony Point Boardwalk

Employer : CapeNature

Contractor :

Contract Date :

File Code : WCNCB 05/07/2026 - Stony Point

The Joint Building Contracts Committee® - NPC
CONTRACT DATA
Principal Building Agreement
Edition 6.2 - May 2018

JBCC®

The Joint Building Contracts Committee® NPC (JBCC®) is representative of building owners and developers, professional consultants and general and specialist contractors who contribute their knowledge and experience to the compilation of the JBCC® documents. The JBCC® documents portray the consensus view of the constituent members and are published in the interests of standardisation and good practice with an equitable distribution of contractual risk

Application of JBCC® agreements

The definitions contained in the JBCC® Principal Building Agreement apply to this document. A word or phrase in bold type in the text has the same meaning assigned to it in the definitions of such agreement. Where a word or phrase is not in bold type it has the meaning consistent with the context of its use

This contract data contains unique requirements applicable to the project and variables referred to in the JBCC® Principal Building Agreement and the JBCC® General Preliminaries. The information provided in this document by the principal agent is complete and accurate at the time of calling for tenders. Where additional information becomes available, all tenderers will be informed in writing. Reference to clause numbers in the JBCC® Principal Building Agreement are shown in [square brackets] in this contract data eg [3.2.1]. Spaces requiring information must be filled in, or marked as 'not applicable' but not left blank

This contract data, when completed and submitted by the contractor, becomes the form of tender. Where the contractor is appointed, the contract documents comprise the signed JBCC® Principal Building Agreement, this completed contract data, the priced document, drawings and other listed documents

Warning!

The JBCC® Principal Building Agreement Edition 6.2 has been coordinated with the JBCC® Nominated/Selected Subcontract Agreement Edition 6.2, the JBCC® General Preliminaries and the JBCC® certificate forms and support documents. Forms from previous editions are not compatible with the JBCC® Principal Building Agreement Edition 6.2

Persons entering into or preparing contracts using the JBCC® suite of contract agreements and support documents are warned of the dangers inherent in modifying any part of it

Experience has shown that changes drafted by others, including members of the building professions, often have unintended results that may be prejudicial to either, or both, parties

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A PROJECT INFORMATION

A 1.0 Works [1.1]

Project name	Stony Point Boardwalk
Reference number	WCNCB 05/07/2026
Works description	The removal of the existing timber walkway and construction of a new structural steel and timber walkway, consisting of concrete support columns, steel beam structure, steel balustrades. In addition to all other contractual requirements, it is highlighted that the works are to be executed in accordance to Proposed New Boardwalk Methodology Statement and the Environmental Management Plan (part of this tender document)

A 2.0 Site [1.1]

Erf / stand number	Erf 2411 & 2412
Township / Suburb	Betty's Bay
Site address	2411 Wallers Road, Betty's Bay
Local authority	Overstrand

A 3.0 Employer [1.1]

Name	CapeNature		
Legal entity of above		Contact person	Ramese Mathews
Business registration number		Telephone number	087 087 9262
VAT/GST number		Mobile number	
Country		E-mail	rmathews@capenature.co.za
Postal address		Postal code	
Physical address	PGWC Building, corner of Bosduif & Volstruis Roads, Bridgetown		
		Postal code	7769

A 4.0 Principal agent [1.1]

Name	Neil Lyners & Associates (Pty) Ltd		
Legal entity of above		Contact person	Rudolph Schoonwinkel
Practice number		Telephone number	021 914 0300
		Mobile number	082 807 2826
Country		E-mail	rudolph@lynerns.co.za
Postal address		Postal code	
Physical address	Ground Floor, South Gate Business Park, South Gate Entrance, Carl Cronje Drive,		
		Postal code	7530



A 5.0 Agent [1.1; 6.2]	Discipline	Civil Engineers
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Name	Neil Lyners & Associates (Pty) Ltd		
Legal entity of above		Contact person	Rudolph Schoonwinkel
Practice number		Telephone number	021 914 0300
		Mobile number	082 807 2826
Country		E-mail	rudolph@lyners.co.za
Postal address		Postal code	
Physical address	Ground Floor, South Gate Business Park, South Gate Entrance, Carl Cronje Drive		
		Postal code	7530

A 6.0 Agent [1.1; 6.2]	Discipline	Structural Engineers
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Name	Neil Lyners & Associates (Pty) Ltd		
Legal entity of above		Contact person	Lucas Bosch
Practice number		Telephone number	021 914 0300
		Mobile number	083 626 2298
Country		E-mail	lucas@lyners.co.za
Postal address		Postal code	
Physical address	Ground Floor, South Gate Business Park, South Gate Entrance, Carl Cronje Drive		
		Postal code	7530

A 7.0 Agent [1.1; 6.2]	Discipline	Quantity Surveyor
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Name	SPD Quantity Surveyors		
Legal entity of above		Contact person	Willem Visser
Practice number		Telephone number	087 073 8015
		Mobile number	084 508 1361
Country		E-mail	willem@spdqs.com
Postal address	-	Postal code	
Physical address	98 Dorp Street, 1st Floor, Stellenbosch		
		Postal code	7600

A 8.0 Agent [1.1; 6.2]	Discipline	Health & Safety
-------------------------------	------------	-----------------

Name	TBC		
Legal entity of above		Contact person	
Practice number		Telephone number	
		Mobile number	
Country		E-mail	
Postal address		Postal code	
Physical address		Postal code	



A 9.0 Agent [1.1; 6.2]

Discipline	Environmental Consultant
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Name	TBC		
Legal entity of above		Contact person	
Practice number		Telephone number	
		Mobile number	
Country		E-mail	
Postal address			
		Postal code	
Physical address			
		Postal code	

A 10.0 Agent [1.1; 6.2]

Discipline	
------------	--

Name			
Legal entity of above		Contact person	
Practice number		Telephone number	
		Mobile number	
Country		E-mail	
Postal address			
		Postal code	
Physical address			
		Postal code	

A 11.0 Agent [1.1; 6.2]

Discipline	
------------	--

Name			
Legal entity of above		Contact person	
Practice number		Telephone number	
		Mobile number	
Country		E-mail	
Postal address			
		Postal code	
Physical address			
		Postal code	

A 12.0 Agent [1.1; 6.2]

Discipline	
------------	--

Name			
Legal entity of above		Contact person	
Practice number		Telephone number	
		Mobile number	
Country		E-mail	
Postal address			
		Postal code	
Physical address			
		Postal code	



B CONTRACT INFORMATION

B 1.0 Definitions [1.1]

Bills of quantities: System/Method of measurement	Standard System of Measuring Building Works (7th Edition)
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B 2.0 Law, regulations and notices [2.0]

Law applicable to the works , state country [2.1]	South African
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B 3.0 Offer and acceptance [3.0]

Currency applicable to this agreement [3.2]	South African Rands
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B 4.0 Documents [5.0]

The original signed agreement is to be held by the principal agent [5.2], if not, indicate by whom	Principal Agent
Number of copies of construction information issued to the contractor at no cost [5.6]	Electronically only

Documents comprising the agreement	Page numbers
The JBCC ® Principal Building Agreement, Edition 6.2 May 2018	1 to 30
The JBCC ® Principal Building Agreement - Contract Data, Edition 6.2 May 2018	1 to 14
The JBCC ® General Preliminaries for use with the JBCC ® Principal Building Agreement, Edition 6.2 May 2018	1 to 7
Amendments to Contract	
Cape Nature Supply Chain tender document	
All other documents contained in Part 2 (refer to content page)	

Contract drawings – description	Number	Revision	Date
Refer to Part 2.6			



B 5.0 Employer’s agents [6.0]

Authority is delegated to the following agents to issue contract instructions and perform duties for specific aspects of the works [6.2]
Health & Safety Consultant Environmental Consultant

Principal agent’s and agents’ interest or involvement in the works other than a professional interest [6.3]
N/A

B 6.0 Insurances [10.0]

Insurances by employer			Amount including tax	Deductible amount including tax
Contract works insurance:			By Contractor	
	New works [10.1.1] (contract sum or amount)			
or	Works with practical completion in sections [10.2] (contract sum or amount)			
or	Works with alterations and additions [10.3] (reinstatement value of existing structures with or including new works)			
	Direct contractors [10.1.1; 10.2] where applicable, to be included in the contract works insurance			
	Free issue [10.1.1; 10.2] where applicable, to be included in the contract works insurance			
	Escalation, professional fees and reinstatement costs if not included above			
Total of the above contract works insurance amount				
Supplementary insurance [10.1.2; 10.2]				
Public liability insurance [10.1.3; 10.2]				
Removal of lateral support insurance [10.1.4; 10.2]				
Other insurances [10.1.5]				
Yes/no?		If yes, description 1		
Yes/no?		If yes, description 2		



and/or

Insurances by contractor			Amount including tax	Deductible amount including tax
Contract works insurance:				
	New works [10.1.1] (contract sum or amount)		Contract sum +15%	
	Direct contractors [10.1.1; 10.2] where applicable, to be included in the contract works insurance			
	Free issue [10.1.1; 10.2] where applicable, to be included in the contract works insurance			
	Escalation, professional fees and reinstatement costs if not included above		15% of Contr sum	
Total of the above contract works insurance amount			130% of Contr sum	
Supplementary insurance [10.1.2]			Same as above	
Public liability insurance [10.1.3]			R10m	
Removal of lateral support insurance [10.1.4]				
Other insurances [10.1.5]:				
Yes/no?		If yes, description 1		
Yes/no?		If yes, description 2		

B 7.0 Obligations of the employer [12.1]

Existing premises will be in use and occupied [12.1.2]		Yes/no?	Yes
If yes, description	The Contractor to regard the entire Nature Reserve as operational at all times during the construction phase.		
Restriction of working hours [12.1.2]		Yes/no?	Yes
If yes, description	Refer to Methodology Statement & Environmental Management Plan		
Natural features and known services to be preserved by the contractor [12.1.3]		Yes/no?	Yes
If yes, description	Refer to Methodology Statement & Environmental Management Plan & as pointed out at inspection meeting		
Restrictions to the site or areas that the contractor may not occupy [12.1.4]		Yes/no?	Yes
If yes, description	Refer to Methodology Statement & Environmental Management Plan & as pointed out at inspection meeting		
Supply of free issue [12.1.10]		Yes/no?	No
If yes, description			



B 8.0 Nominated subcontractors [14.0]

Specialisation 1	
Specialisation 2	
Specialisation 3	
Specialisation 4	
Specialisation 5	

B 9.0 Direct contractors [16.0]

Extent of work [12.1.11]	
Extent of work [12.1.11]	
Extent of work [12.1.11]	
Extent of work [12.1.11]	
Extent of work [12.1.11]	

B 10.0 Description of sections [20.1]

Section 1	
Section 2	
Section 3	
Section 4	
Section 5	
Section 6	
Section 7	
Section 8	
Section	Remainder of the works

B 11.0 Possession of site [12.1.5], practical completion[19.0;20.0] and penalties [24.0]

Practical completion for the works as a whole	Intended date of possession of the site [12.1.5]	Period for inspection by the principal agent [19.3]	Date for practical completion [12.2.7; 24.1]	Penalty [24.1]
	Date	working days	Date	Penalty amount per calendar day excl. TAX
		5		R6,000.00



or where **sections** are applicable

Practical completion of a section of the works	Intended date of possession of a section [12.1.5]	Period for inspection by the principal agent [19.3]	Date for practical completion [12.2.7; 24.1]	Penalty [24.1]
	Date	working days	Date	Penalty amount per calendar day excl. TAX
Section 1				
Section 2				
Section 3				
Section 4				
Section 5				
Section 6				
Section 7				
Section 8				
Remainder of the works				

Criteria to achieve practical completion not covered in the definition of practical completion

B 12.0 Payment [25.0]

Date of month for issue of regular payment certificates [25.2]	7th of every month		
Cost fluctuations [25.3.4; 26.9.5]	Yes/no?	No	
If yes, method to calculate	N/A		

B 13.0 Dispute resolution [30.0]

Adjudication [30.6.1; 30.10] Name of nominating body	JBCC
Applicable rules for adjudication [30.6.2]	JBCC Adjudication Rules
Arbitration [30.7.4; 30.10] Name of nominating body	AFSA
Applicable rules for arbitration [30.7.5]	AFSA Rules



B 14.0 JBCC® General Preliminaries – selections

Provisional bills of quantities [P2.2]		Yes/no?	Yes	
Availability of construction information [P2.3]		Yes/no?	Yes	
Previous work - dimensional accuracy - details of previous contract(s) [P3.1]		No additional specifications required		
Previous work - defects - details of previous contract(s) [P3.2]		No additional specifications required		
Inspection of adjoining properties - details [P3.3]		Comprehensive inspection to be carried out and documented by Contractor.		
Handover of site in stages - specific requirements [P4.1]		Refer to Methodology Statement & EMP, with specific requirements to be agreed prior to construction		
Enclosure of the works - specific requirements [P4.2]		Refer to Methodology Statement & EMP, with specific requirements to be agreed prior to construction		
Geotechnical and other investigations - specific requirements [P4.3]		Refer to Methodology Statement		
Existing premises occupied - details [P4.5]		Uninterrupted access to CapeNature staff, Service vehicles and the Public (as allowed from time to time)		
Services - known - specific requirements [P4.6]		No known services		
Water [P8.1]	By contractor	Yes/no?	Yes	
	By employer	Yes/no?	No	
	By employer – metered	Yes/no?	No	
Electricity [P8.2]	By contractor	Yes/no?	Yes	
	By employer	Yes/no?	No	
	By employer – metered	Yes/no?	No	
Ablution and welfare facilities [P8.3]	By contractor	Yes/no?	Yes	
	By employer	Yes/no?	No	
Communication facilities - specific requirements [P8.4]		No additional specifications required		
Protection of the works - specific requirements [P11.1]		Refer to Methodology Statement & Environmental Management Plan, with specific requirements to be workshopped & agreed prior to construction		
Protection / isolation of existing works and works occupied in sections - specific requirements [P11.2]		Refer to Methodology Statement & Environmental Management Plan, with specific requirements to be workshopped & agreed prior to construction		
Disturbance - specific requirements [P11.5]		Refer to Methodology Statement & Environmental Management Plan, with specific requirements to be workshopped & agreed prior to construction		
Environmental disturbance - specific requirements [P11.6]		Refer to Methodology Statement & Environmental Management Plan, with specific requirements to be workshopped & agreed prior to construction		



B 15.0 Changes made to JBCC® documentation

Reference may be made to other documents forming part of this **agreement**

Refer to Part 2.3 - "Amendments to the Principal Building Agreement 6.2"



C TENDER CLOSING

Tender closing date	31 August 2026	Time	11:00 AM
Tender submission address	CapeNature Head Office, PGWC Shared Services Centre, Corner Bosduif & Volstruis Streets, Bridgetown, Gatesville, Cape Town 7766		
Tender may be submitted by e-mail	yes/no?	Yes	E-mail tenders@capenature.co.za

D TENDERER'S SELECTIONS

D 1.0 Securities [11.0]

Guarantee for construction: Select Option A or B ☐

Option A	Guarantee for construction (variable) by contractor [11.1.1]
----------	--

Option B	Guarantee for construction (fixed) by contractor [11.1.2]
----------	---

Guarantee for payment by employer [11.5.1; 11.10]	Amount	
---	--------	--

Advance payment, subject to a guarantee for advance payment [11.2.2; 11.3]	Amount	
--	--------	--

D 2.0 Contractor's annual holiday periods during the construction period

Year 1 contractor's annual holiday period	start date		end date	
Year 2 contractor's annual holiday period	start date		end date	
Year 3 contractor's annual holiday period	start date		end date	

D 3.0 Payment of preliminaries [25.0]

Contractor's selection

Select Option A or B ☐

Where the contractor does not select an option, Option A shall apply

Option A	The preliminaries shall be paid in accordance with an amount prorated to the value of the works executed in the same ratio as the amount of the preliminaries to the contract sum, which contract sum shall exclude the amount of preliminaries. Contingency sum(s) and any provision for cost fluctuations shall be excluded for the calculation of the aforesaid ratio
----------	--

Option B	The preliminaries shall be paid in accordance with an amount agreed by the principal agent and the contractor in terms of the priced document to identify an initial establishment charge, a time-related charge and a final dis-establishment charge. Payment of the time-related charge shall be assessed by the principal agent and adjusted from time to time as may be necessary to take into account the rate of progress of the works
----------	--

Lump sum contract

Where the amount of preliminaries is not provided it shall be taken as 7.5% (seven and a half per cent) of the contract sum, excluding contingency sum(s) and any provision for cost fluctuations

D 4.0 Adjustment of preliminaries [26.9.4]

Contractor's selection

Select Option A or B ☐

Where the contractor does not select an option, Option A shall apply



Provision of particulars

The **contractor** shall provide the particulars for the purpose of the adjustment of **preliminaries** in terms of his selection. Where completion in **sections** is required, the **contractor** shall provide an apportionment of **preliminaries** per **section**

Option A	An allocation of the preliminaries amounts into Fixed, Value-related and Time-related amounts as defined for adjustment method Option A below, within fifteen (15) working days of the date of acceptance of the tender
Option B	A detailed breakdown of the preliminaries amounts within fifteen (15) working days of possession of the site . Such breakdown shall include, inter alia, the administrative and supervisory staff, the use of construction equipment , establishment and dis-establishment charges, insurances and guarantees, all in terms of the programme

Adjustment methods

The amount of **preliminaries** shall be adjusted to take account of the effect which changes in time and/or value have on **preliminaries**. Such adjustment shall be based on the particulars provided by the **contractor** for this purpose in terms of Options A or B, shall preclude any further adjustment of the amount of **preliminaries** and shall apply notwithstanding the actual employment of resources by the **contractor** in the execution of the **works**

Option A	The preliminaries shall be adjusted in accordance with the allocation of preliminaries amounts provided by the contractor, apportioned to sections where completion in sections is required Fixed - An amount which shall not be varied Value-related - An amount varied in proportion to the contract value as compared to the contract sum. Both the contract sum and the contract value shall exclude the amount of preliminaries, contingency sum(s) and any provision for cost fluctuations Time-related - An amount varied in proportion to the number of calendar days extension to the date of practical completion to which the contractor is entitled with an adjustment of the contract value [23.2; 23.3] as compared to the number of calendar days in the initial construction period [26.9.4]
Option B	The adjustment of preliminaries shall be based on the number of calendar days extension to the date of practical completion to which the contractor is entitled with an adjustment of the contract value [23.2; 23.3] as compared to the number of calendar days in the initial construction period [26.9.4] The adjustment shall take into account the resources as set out in the detailed breakdown of the preliminaries for the period of construction during which the delay occurred

Failure to provide particulars within the period stated

Option A	Where the allocation of preliminaries amounts for Option A is not provided, the following allocation of preliminaries amounts shall apply: Fixed - Ten per cent (10%) Value-related - Fifteen per cent (15%) Time-related - Seventy-five per cent (75%) Where the apportionment of the preliminaries per section is not provided, the categorised amounts shall be prorated to the cost of each section within the contract sum as determined by the principal agent
Option B	Where the detailed breakdown of preliminaries amounts for Option B is not provided, Option A shall apply

Lump sum contract

Where the amount of **preliminaries** is not provided it shall be taken as 7.5% (seven and a half per cent) of the **contract sum**, excluding contingency sum(s) and any provision for cost fluctuations



E FORM OF TENDER

E 1.0 Tenderer’s details

Name			
Legal entity of above		Contact person	
Business registration number		Telephone number	
VAT/GST number		Mobile number	
Country		E-mail	
Postal address			
		Postal code	
Physical address			
		Postal code	

E 2.0 Acceptance of tender conditions

By submission of this tender to the **employer** the tenderer offers and agrees to execute and complete the **works** and to remedy any **defects** in conformity with the specification for the tender amount stated

The tender shall remain in full legal force for **sixteen (16) weeks** from the closing date of the tender. The tenderer accepts liability for loss or damages that may be suffered by the **employer** should the tender validity period not be honoured

The lowest or any tender will not necessarily be accepted by the **employer** nor will reasons be given for such a decision

E 3.0 Tender amount compilation

			Amount		
Tenderer’s work excluding tax					
Tax		%			
Total tender amount including tax					
Total tender amount including tax , in words					

Signature	Tenderer who by signature hereto warrants authority		Place		
Name		Capacity		Date	

Signature	Witness		Place		
Name				Date	



E 4.0 Tender qualifications



Part 2.3

Amendments to the JBCC Principal Building Agreement

AMENDMENTS TO THE STANDARD JBCC PRINCIPAL BUILDING AGREEMENT 6.2

BUILDING AGREEMENT AND PRELIMINARIES

The JBCC Principal Building **Agreement** (Edition 6.2 - May 2018) prepared by the Joint Building Contracts Committee shall be the applicable building **agreement**, amended as hereinafter described

The JBCC Principal Building **Agreement** contract data form an integral part of this **agreement**

The JBCC General Preliminaries (May 2018) published by the Joint Building Contracts Committee for use with the JBCC Principal Building **Agreement** (Edition 6.2 - May 2018) shall be deemed to be incorporated in these bills of quantities, amended as hereinafter described

The **contractor** is deemed to have referred to the abovementioned documents for the full intent and meaning of each clause

STRUCTURE

Section A : Changes made to the standard clauses in the aforementioned JBCC Principal Building **Agreement**

Section B : Changes made to the standard clauses in the aforementioned JBCC General Preliminaries

Section C : Any additional special clauses to meet the particular circumstances of the project

SECTION A: PRINCIPAL BUILDING AGREEMENT

INTERPRETATION

1.0 DEFINITIONS AND INTERPRETATION

Pricing of bills of quantities

The **contractor** is to allow opposite each item for all costs in connection therewith. All prices to include, unless otherwise stated, for all materials, fabrication, conveyance and delivery, unloading, storing, unpacking, hoisting, labour, setting, fitting and fixing in position, cutting and waste (except where to be measured in accordance with the standard system of measurement), patterns, models and templates, plant, temporary works, returning of packaging, duties, taxes (other than Value Added Tax), imposts, establishment charges, overheads, profit and all other obligations arising out of this **agreement**. Value Added Tax (VAT) is to be separately stated on the summary page of these **bills of quantities**

Items left unpriced will be deemed to be covered in prices against other items throughout these **bills of quantities** and no claim for any extras arising out of the **contractor's** omission to price any item will be entertained

Prices for all **construction equipment**, temporary works, services and other items shall include for the supply, maintenance, operating cost and subsequent removal and making good as necessary

Abbreviated descriptions

The items in these **bills of quantities** utilize abbreviated descriptions. It is the intention that the abbreviated descriptions be fully described when read with the applicable measuring system and the relevant preambles and/or specifications. However, should the full intent and meaning of any description not be clear, the **contractor** shall, before submission of his tender, call for a written directive from the **principal agent**, failing which it shall be assumed that the **contractor** has allowed in his pricing for materials and workmanship in terms of international best practice

Legal status of contractor

If the **contractor** constitutes a joint venture, consortium or other unincorporated grouping of two or more persons then:

1. These persons are deemed to be jointly and severally liable to the **employer** for the performance of this **agreement**
2. These persons shall notify the **employer** of their leader who has assigned authority to bind the **contractor** and each of these persons
3. The **contractor** shall not alter its composition or legal status without the prior written consent of the **employer**

1.1 DEFINITIONS

PROGRAMME is amended as follows:

Amend the definition by the addition of "in Microsoft Projects software and PDF format" at the end of the sentence.

1.2 INTERPRETATION

Additional Clauses:

- 1.2.6 Written' or 'in writing' means hand-written, type-written, printed or electronically made, and resulting in a permanent record.
- 1.2.7 The term "**Contractor's** personnel" shall include all personnel directly or indirectly employed by the **Contractor**, including **subcontractors** and their personnel, unless the context indicates otherwise.
- 1.2.8 References to any amount shall mean that amount exclusive of value-added tax ("**VAT**") levied in terms of the Value-added Tax Act, 89 of 1991, as amended, unless the amount expressly includes **VAT**.

2.0 LAW, REGULATIONS AND NOTICES

Additional Clause:

- 2.5 Without limiting the generality of the provisions of clause 2.0, the **contractor's** attention is drawn to the provisions of Construction Regulations issued in terms of the Occupational Health and Safety Act, 1993. It is specifically stated that the **employer** shall prepare a documented health and safety specification for the **works** and that the **employer** shall ensure that the **contractor** has made provision for the cost of health and safety measures during the execution of the **works**. The **contractor** shall price an allowance in its Preliminaries for compliance with the act and the regulations and the provisions of the aforementioned health and safety specification

The **contractor** shall:

- 2.5.1 Comply with the health and safety specification for the **works**
- 2.5.2 Prepare and agree with the health and safety consultant the health and safety plan for the **works**
- 2.5.3 Co-operate with the health and safety consultant in all respects
- 2.5.4 Manage the compliance of all **subcontractors** with the regulations and with the health and safety plan and specifications
- 2.5.5 Conform to the conditions contained in the **employer's** safety specification

5.0 DOCUMENTS

Clause 5.6 is amended as follows:

- 5.6 Amend Clause by deleting "at no cost" and replacing it with "electronically".

INSURANCES AND SECURITIES

11.0 SECURITIES

Delete clauses 11.5.1 to 11.7 in its entirety

Additional Clause:

- 11.5.1 Not provide any **guarantee for payment** even if required in the accepted tender [CD].

Clause 11.10 is amended as follows:

- 11.10 The **contractor** shall waive his lien or right of continuing possession of the **works**. The **contractor** shall ensure that a waiver of lien is included in all **n/s subcontractors** and that the **works** executed on the site are kept free of all liens and other encumbrances at all times

EXECUTION

12.0 OBLIGATIONS OF THE PARTIES

Notice board

The **contractor** shall erect in a position approved by the **principal agent**, maintain and remove on **practical completion** a notice board recommended by the South African Institute of Architects and as approved by the **principal agent** listing the names and logos of the **employer**, the **contractor** and the professional consultants. No **subcontractor** or supplier notice boards may be erected unless permission is granted by the **principal agent** for such notice boards to be erected

Statutory and other notices

The **contractor** shall submit and/or comply with all statutory and other notices that may be required by any local or other authority in order not to cause any delay to the commencement of the **works** by the **contractor** in respect of such obligations that rests with the **contractor**. The **contractor** shall pay all deposits or fees in this regard

It is, however, specifically recorded that the **employer** shall be responsible for the timeous approval of building plans by any local or other authorities and the payment of any fees or charges related thereto

Additional words at end of clause:

- 12.2.6 "including showing interfaces with other **contractors**, allowances for normal inclement weather, remedial work, the assumed timing of receipt of design drawings, float and logic."

Additional Clause:

- 12.2.22 Make provision to print their own hard copy drawings issued by the professional team. The **principal agent** and/or **agents** will not provide printed hard copies of drawings or any other **construction information to the principal contractor** or any **N/S subcontractors**
- 12.2.24 Submit bi-weekly reports to the **principal agent** detailing the progress of the project, the numbers of local labour/smmes etc employed as well as the value of such employment in accordance local norms and standards in the South African construction industry. The format of ESG, employment and labour reporting will be provided by the Principal Agent.

17.0 CONTRACT INSTRUCTIONS

Additional Clause:

- 17.1.21 Acceleration (irrespective of whether or not the **principal agent** rules that the **contractor** is entitled to a revision of the date for **practical completion** but provided that the **contract instruction** to accelerate by the **contractor**, be issued at a time when it would be reasonable for an experienced **contractor** to achieve the required acceleration given the available remaining period)

Additional Clause:

- 17.6 Contract instructions issued on site are to be recorded in a triplicate contract instruction book which is to be supplied by the contractor and maintained on site by the contractor. Such contract instructions will be scanned by the contractor, scanned and emailed to the Professional Team.

COMPLETION

19.0 PRACTICAL COMPLETION

Additional Clause:

- 19.3.5 Notwithstanding the provisions of Clause 19.3.1 and 19.3.2 any **defects** occurring after the issue of the **list for practical completion** requiring remedial work that will in the opinion of the **principal agent** cause material disruption to occupation, will cause the issue of the **certificate of practical completion** to be withheld until such **defects** have been rectified to the satisfaction of the **principal agent**

PAYMENT

25.0 PAYMENT

Clause 25.10 is amended as follows:

- 25.10 Amend Clause by deleting “fourteen (14) calendar days” and replacing it with “thirty (30) calendar days”.

Additional Clause:

- 25.18 All fluctuations in costs, with the exception of fluctuations in the rate of Value Added Tax, shall be for the account of the contractor
- 25.19 Where prices are submitted by the contractor or subcontractor during the progress of the works in respect of contract instructions or in regard to a claim under the terms of this agreement and notwithstanding the fact that such prices may be used in an interim payment certificate, there is to be no presumption of acceptance. Should the principal agent wish to accept any such prices prior to the issue of the certificate of final completion, it shall be in writing

26.0 ADJUSTMENT OF THE CONTRACT VALUE AND FINAL ACCOUNT

Delete clause 26.9.5 in its entirety

Additional Clause:

- 26.9.5 All fluctuations in costs, with the exception of fluctuations in the rate of Value Added Tax, shall be for the account of the **contractor**
- Additional Clause:
- 26.14 All costs incurred by the contractor in the preparation of claims shall be borne by the contractor. This provision shall not preclude an adjudicator or an arbitrator appointed in terms of this agreement [30.6 & 7] from making a determination on costs
- 26.15 The contractor shall review, assess and adjudicate any claims received by him from any subcontractor and thereafter submit same to the principal agent with a recommendation in order to assist the principal agent in adjudicating the claim

SUSPENSION AND TERMINATION

29.0 TERMINATION

Additional Clause:

- 29.1.4 If the **Contractor** is placed under business rescue or in liquidation, whether provisionally or finally

SECTION B: GENERAL PRELIMINARIES

Edition 6.2 – May 2018

*Note: All clauses marked with an asterisk (★) will be applicable unless otherwise stated herein or in The JBCC Principal Building **Agreement** contract data.*

Attendance on Subcontractors

10.1 General attendance

Additional clause in the N/S Subcontract Agreement, Edition 6.2 – May 2018:

12.2.23 – Shall timeously provide all **subcontract construction information** issued on the ACC to the **subcontractor** at no additional cost.

General

11.3 Security of the Works

No additional specific requirements.

11.4 Notice Before Covering Work

Additional Clause:

The Contractor will remain responsible to notify and ensure the Municipal Building Inspectors are advised of any inspections and provide proof of inspection.

11.5 Disturbance

Additional Clause:

- 11.5a All work is to be carried out in such a manner as to cause no unacceptable or unreasonable dust, noise, vibrations, nuisance, inconvenience, annoyance and the like to the public, others, other properties and traffic in so far as they exceed the permissible limitations set by government legislation or by the local authority. Any delays, stoppages and the like arising from or in order to comply with the above will not constitute grounds for an adjustment to the **construction period** or **contract value** whatsoever.

11.6 Environmental disturbance

Additional Clause:

- 11.6a The **contractor** shall be responsible for and take all precautions in controlling by whatever means necessary all forms of pollution emanating from the **site** during the **construction period** due inter alia to noise, artificial light, wind-blown sand, dust, deposits of mud, etc.

The **contractor** is to ensure that all roads which border the **site** and are used by the **contractor** during the execution of the **works** are kept clean and free of any dirt or debris caused by the execution of the **works**

SECTION C: SPECIFIC PRELIMINARIES

Warranties for materials and workmanship

Where warranties for materials and/or workmanship are called for, the **contractor** shall obtain a written warranty, addressed to the **employer**, from the entity supplying the materials and/or executing the work and shall deliver same to the **principal agent** on **final completion** of the contract

The warranty shall state that workmanship, materials and installation are warranted for a specific period from the date of **practical completion** and that any **defects** that may arise during the specified period shall be made good at the expense of the entity supplying the materials and/or doing the work, upon written **notice** to do so

The warranty will not be enforced if the work is damaged by **defects** in the execution of the **works**, in which case the responsibility for replacement shall rest entirely with the **contractor**

Overtime

Should overtime be required to be worked for any reason whatsoever, the cost of such overtime is to be borne by the **contractor** unless the **principal agent** has specifically authorized, prior to execution thereof, that costs for such overtime are to be borne by the **employer**

Cooperation of the contractor for cost management

It is specifically agreed that the **contractor** accepts the obligation of assisting the **principal agent** in implementing proper cost management. The **contractor** will be advised by the **principal agent** of all cost management procedures which will be implemented to ensure that the **contract value** does not exceed the budget

Overloading

The **contractor** shall take all necessary steps to ensure that no damage occurs due to overloading of any portion of the **works** or temporary works e.g. scaffolding, etc. Any damage caused to the **works** by overloading shall be made good by the **contractor** at his sole expense

Health and safety

Without limiting the generality of the provisions of clause 2.0, the **contractor's** attention is drawn to the provisions of the Construction Regulations issued in terms of the Occupational Health and Safety Act, 1993 as amended. It is specifically stated that the **employer** shall prepare a documented health and safety specification for the **works** and that the **employer** shall ensure that the **contractor** has made provision for the cost of health and safety measures during the execution of the **works** **which does not in any way diminish the obligation of the Contractor to comply with the applicable health and safety regulations**. The **contractor** shall price opposite this item for compliance with the act and the regulations and the reasonable provisions of the aforementioned health and safety specification

Confidentiality

The **contractor** undertakes to maintain in confidence any and all information regarding this project and shall obtain appropriate similar undertakings from all **subcontractors** and suppliers. Such information shall not be used in any way except in connection with the execution of the **works**

No information regarding this project shall be published or disclosed without the prior written consent of the **employer**

Media releases

All rights of publication of articles in the media, together with any advertising relating thereto or in any way connected with this project, shall vest with the **employer**

The **contractor** together with his **subcontractors** shall not, without the prior written consent of the **employer**, cause any statement or advertisement connected with this project to be printed, screened or aired by the media

Part 2.4

JBCC General Preliminaries
(May 2018)



GENERAL PRELIMINARIES

The Joint Building Contracts Committee® - NPC

General Preliminaries

Edition 6.2 – May 2018

JBCC®

EXPLANATORY NOTES AND INSTRUCTIONS

Introduction

The Joint Building Contracts Committee (JBCC®) has compiled the JBCC® General Preliminaries in the interest of standardisation of documentation and good practice in the building industry. The document generally covers all aspects of preliminaries for most types of projects and should consequently simplify the procurement for and the administration of building projects and produce economic advantages to all concerned. Users should note that the JBCC® General Preliminaries has been specifically formulated for use with the May 2018 edition of the JBCC® agreements (PBA and NSSA Edition 6.2, MWA Edition 5.2)

How the document is structured

The JBCC® General Preliminaries is part of the building agreement and subcontract documentation to be referred to in the priced document. It is intended that the JBCC® General Preliminaries (May 2018) be used by reference only in the preparation of the priced document. The project specific preliminaries comprises the following:

- Section A** A recital of the headings of the individual clauses in the JBCC® Principal Building Agreement (PBA), JBCC® N/S Subcontract Agreement (NSSA) or JBCC® Minor Works Agreement (MWA). Modifications to the standard clauses should be avoided. Amendments, modifications, corrections or supplements to the aforementioned agreements may be recorded in the space provided in the relevant JBCC® Contract Data or against the relevant clause numbers in this section
- Section B** A recital of the headings of the individual clauses in the JBCC® General Preliminaries. Changes to the standard clauses should be avoided. Any modifications should be recorded against the relevant clause numbers in this section
- Section C** Any special clauses to meet the particular circumstances of a specific project are embodied in this section

The JBCC® agreements are for use with or without bills of quantities. This brings a consistency in the contractual language used and the administrative procedures required in building agreements

Preface to the project specific preliminaries

- 1 The project specific preliminaries of the priced document should contain the following introduction: "The JBCC® General Preliminaries (May 2018) published by the Joint Building Contracts Committee for use with the JBCC® Principal Building Agreement Edition 6.2 / JBCC® N/S Subcontract Agreement Edition 6.2 / JBCC® Minor Works Agreement Edition 5.2 shall be deemed to be incorporated in these bills of quantities / this lump sum document, amended as hereinafter described

The contractor is deemed to have referred to such document for the full intent and meaning of each clause

The clauses in the document are hereinafter referred to by clause number and heading only

Where standard clauses or alternatives are not entirely applicable to the agreement such amendments, modifications, corrections or supplements as will apply are given under each relevant clause heading and such amendments, modifications, corrections or supplements shall take precedence notwithstanding anything to the contrary contained in the JBCC® General Preliminaries (May 2018)"

- 2 Clauses marked with an asterisk (★) are optional clauses or clauses requiring information relating to the specific project, selection and details of which are to be included in the JBCC® Contract Data

- 3 Where clauses are not used for the specific project these should nevertheless be listed in the preliminaries of the bills of quantities / project specific preliminaries of the lump sum document but marked “Not applicable” or “N/A”

Disclaimer

While the Joint Building Contracts Committee aims to ensure that its publications represent best practice, the Joint Building Contracts Committee does not accept or assume any liability or responsibility for any events or consequences which derive from the use of the General Preliminaries

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GENERAL PRELIMINARIES

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1.0 DEFINITIONS AND INTERPRETATION

1.1 Definitions

A word or phrase in bold type in the **JBCC**[®] General Preliminaries shall have the meaning assigned to it in the definitions listed in the **JBCC**[®] Principal Building Agreement, the **JBCC**[®] N/S Subcontract Agreement or the **JBCC**[®] Minor Works Agreement as the case may be. A word or phrase not in bold type shall be interpreted in the context of its usage

The **JBCC**[®] General Preliminaries applies with the necessary changes made to the **JBCC**[®] N/S Subcontract Agreement

1.2 Interpretation

- 1.2.1 In the **JBCC**[®] General Preliminaries, unless inconsistent with the context, the words “accept, allow, appoint, approve, authorise, certify, decide, demand, designate, grant, instruct, issue, list, **notice**, notify, object, record, reduce, refuse, request, state” and their derivatives, require such acts to be in writing
- 1.2.2 The masculine gender includes the feminine and neuter genders and vice versa, the singular includes the plural and vice versa and a person includes juristic or artificial persons
- 1.2.3 The headings of clauses are for information only and shall not be used in interpretation
- 1.2.4 Documents and legislation referred to in the **JBCC**[®] General Preliminaries shall mean the current edition thereof with all amendments thereto at the date of submission of the tender unless otherwise stated
- 1.2.5 Clauses marked with an asterisk (★) are optional clauses or clauses requiring information relating to the specific project, selection and details of which are to be included in the **JBCC**[®] Contract Data

2.0 DOCUMENTS

2.1 Checking of documents

The tenderer shall check the numbers of the pages of the tender documents and should any be missing or duplicated, or the reproduction is indistinct, or if any doubt exists as to the intent or meaning of any description, or where the **agreement** contains any obvious errors, the tenderer shall give **notice** to the **principal agent** forthwith thereof and the **principal agent** shall promptly give a written directive

2.2 ★ Provisional bills of quantities

The quantities in provisional bills of quantities are an indication of the works to be executed and are subject to remeasurement

2.3 ★ Availability of construction information

Where the **construction information** for the **works** is incomplete and will only be completed during the **construction period** the **contractor** and **principal agent** shall work together to identify the requirements for the provision of **construction information**. The **contractor** and **principal agent** shall agree the dates that are reasonable by when the **contractor** is to be provided with each outstanding item of the **construction information** in terms of the **programme**

The **contractor** and **subcontractor** shall agree dates by when the **subcontractor** is to be provided with each item of the outstanding information in terms of the **programme**

2.4 Ordering of materials and goods

Should the **contractor** use the quantities in the **priced document** for the ordering of **materials and goods**, the **contractor** does so at his own risk

3.0 PREVIOUS WORK AND ADJOINING PROPERTIES

3.1 ★ Previous work - dimensional accuracy

In successive contracts the **contractor** shall within ten per cent (10%) of the initial **construction period** or twenty (20) **working days** after taking possession of the **site**, whichever is the lesser, check the existing levels, lines, profiles and the like affecting the **works** and satisfy himself as to the dimensional accuracy of work previously executed. The **contractor** shall forthwith give **notice** to the **principal agent** and request a **contract instruction** regarding any dimensional inaccuracy found in work previously executed

3.2 ★ Previous work - defects

In successive contracts the **contractor**, on becoming aware of a **defect** in work previously executed which affects the **works**, shall forthwith give notice to the **principal agent** and request a **contract instruction** regarding such a **defect**

3.3 ★ Inspection of adjoining properties

Before commencing the **works** the **principal agent** and the **contractor** shall arrange with the owners of adjacent buildings and properties and representatives of local authorities to inspect, inter alia, the buildings, structures, pavings, kerbs, channels and fences. The **contractor** shall record all conditions that the **works** could affect and copy the **principal agent** accordingly. The **contractor** shall pay particular attention to cracks, **defects** and existing levels related to structures, pavings, kerbs, channels and fences which later could be claimed to have been caused or disturbed by the **works**

Where instructed by the **principal agent**, levels and photographs shall be taken by the **contractor** and the cost thereof shall be for the **employer's** account. Certified copies shall be lodged with the **principal agent**

4.0 THE SITE

4.1 ★ Handover of site in stages

Handover of the **site** to the **contractor** is to be done in stages

4.2 ★ Enclosure of the works

The **contractor** shall erect, maintain and remove at completion hoardings with gantries, fans, safety screens, elements thereof, all for the protection of the public and others. Specific hoarding requirements are described in the **contract data**

4.3 ★ Geotechnical and other investigations

Information relating to geotechnical and/or other investigations are recorded in the **contract data** or issued with the **agreement**

4.4 Encroachments

The **contractor** shall give **notice** to the **principal agent** within ten per cent (10%) of the initial **construction period** or twenty (20) **working days** after taking possession of the **site**, whichever is the lesser, if any encroachments of adjoining buildings, structures, pavements, boundaries, services, etc exist in order that the necessary arrangements may be made for the rectification of any encroachments

4.5 ★ Existing premises occupied

Existing premises will be in use and occupied during the execution of the **works**. The **contractor** shall execute the works in a manner to cause the least interfere with the general routine of the occupants of the premises and minimise any nuisance from dust, noise or other causes with due regard for the safety of the occupants

4.6 ★ **Services - known**

All known existing services are described in the **contract data** indicating whether such services are to be terminated, diverted or continued in use either temporarily or permanently

5.0 **MANAGEMENT OF CONTRACT**

5.1 **Management of the works**

The **contractor** is responsible for the management of the sequence for carrying out of the **works** to avoid, inter alia, subsequent cutting or patching of finished work

5.2 **Progress meetings**

The **principal agent** and **contractor** shall hold meetings related to the progress of the **works** at regular intervals and at such other times as may be necessary. **Subcontractors** shall not be present at progress meetings unless specifically requested by the **contractor** or **principal agent**. The **principal agent** shall record and distribute the minutes of the meetings

5.3 **Technical meetings**

At the instance of the **principal agent** or the **contractor**, meetings shall be held to deal with technical and **subcontractors'** coordination matters

6.0 **SAMPLES, SHOP DRAWINGS AND MANUFACTURER'S INSTRUCTIONS**

6.1 **Samples of materials**

The **contractor** shall furnish at his cost samples of materials and specimens of finishes as may be called for by the **principal agent** for his approval

6.2 **Workmanship samples**

The **principal agent** may instruct the **contractor** to furnish samples of workmanship for his approval. Where the **principal agent** requires an assembly of various elements of the building or installation which is not incorporated in the **works**, the **contractor** shall arrange such an assembly at the **employer's** expense. The **contract value** shall be adjusted accordingly

6.3 **Shop drawings**

Shop drawings are drawings, diagrams, designs, illustrations, schedules, performance charts, brochures, setting out drawings, shop details and other data which are prepared by the **contractor**, **subcontractor**, manufacturer, supplier or distributor which illustrate manufacturing details and methods of execution of work

Only shop drawings and/or samples submitted for review shall be considered by the **principal agent**. The **principal agent's** approval of shop drawings and/or samples shall be limited to checking for general conformity with design and specification and shall not alter the design responsibilities in terms of the **agreement**. The **principal agent** may refer shop drawings and/or samples to the relevant **agent** for revision and/or approval

Where shop drawings are called for:

6.3.1 The **contractor** shall:

- Prepare or ensure that a **subcontractor**, manufacturer, supplier or distributor prepares shop drawings at his/their own expense
- Submit two (2) copies of shop drawings to the **principal agent** for approval
- Allow the **principal agent** reasonable time to approve shop drawings
- Keep a record of all shop drawings submitted to the **principal agent**
- Ensure that shop drawings conform to the dimensions of built work

- Submit two (2) copies of the approved shop drawings to the **principal agent** for his use and for use in the **works**
- Ensure that work is not executed from shop drawings that have not been approved by the **principal agent** and/or **agents**
- Not be entitled to payment for elements of the **works** (for example steel roof truss components such as members, gussets, connection plates and the like) for which shop drawings may have been approved by the **principal agent** and/or the relevant **agent** but which are in excess of the design parameters stipulated by the relevant agent. Payment shall be based on the design parameters stipulated by the relevant **agent**

6.3.2 **The principal agent shall:**

- Check timeously the shop drawings submitted by the **contractor**
- Give **notice** to the **contractor** timeously where shop drawings are approved or are to be revised and resubmitted

6.4 **Compliance with manufacturer's instructions**

The **contractor** shall take delivery of, handle, store, use, apply and fix all products in strict accordance with the manufacturer's instructions

7.0 **DEPOSITS AND FEES**

7.1 **Deposits and fees**

The **contractor** shall arrange for and pay all deposits, fees and charges according to law, regulation or bylaw of any local or other authorities that relate to hoardings, the use of pavements, street encroachment or crossings, permission for the suspension of parking facilities and the like

8.0 **TEMPORARY SERVICES**

8.1 **★ Water**

The **employer** does not warrant that any water supply that may exist is adequate for the proper execution of the **works**. Where such supply is inadequate, the **contractor** shall provide an adequate supply at his own expense. Water for the **works**, as stated in the **contract data** shall be provided by:

8.1.1 **Option A**

The **contractor** including necessary temporary plumbing

8.1.2 **Option B**

The **employer** free of charge to the **contractor**. The **contractor** shall connect to the existing water supply at approved points and execute any necessary temporary plumbing

8.1.3 **Option C**

The **employer** to the **contractor**. The **contractor** shall connect to the existing water supply at approved points, supply and install meters and execute any necessary temporary work. The **employer** shall meter the consumption and invoice the **contractor** for payment thereof

8.2 **★ Electricity**

The **employer** does not warrant that any electricity supply that may exist is adequate for the proper execution of the **works**. Where such supply is inadequate, the **contractor** shall provide an adequate supply at his own expense. Electricity for the **works**, as stated in the **contract data** shall be provided by:

8.2.1 **Option A**

The **contractor** including necessary temporary installation work

8.2.2 **Option B**

The **employer** free of charge to the **contractor**. The **contractor** shall connect to the existing electricity supply at approved points and execute the necessary temporary installation

8.2.3 **Option C**

The **employer** to the **contractor**. The **contractor** shall connect to the existing electricity supply at approved points, supply and install meters and execute necessary temporary work. The **employer** shall meter the consumption and invoice the **contractor** for payment thereof

8.3 **★ Ablution and welfare facilities**

Ablution and welfare facilities, as stated in the **contract data** shall be provided for the use of all persons on the **site** by:

8.3.1 **Option A**

The **contractor** who shall maintain such facilities in a thoroughly clean and tidy condition

8.3.2 **Option B**

The **employer** who shall permit the use of existing facilities. The **contractor** shall maintain such facilities in a thoroughly clean and tidy condition and make good any damage thereto at his own expense

8.4 **★ Communication facilities**

Communication facilities, as stated in the **contract data**, shall be provided by the **contractor** who shall be entitled to recover usage costs from the users thereof

9.0 **PRIME COST AMOUNTS**

9.1 **Responsibility for prime cost amounts**

All **prime cost amounts** are for **materials and goods** delivered to the **site**. The **priced document** shall make provision for the **contractor** to separately price for overheads and profit and for taking delivery, unloading, checking against invoices and/or delivery notes, unpacking, storing, hoisting and fixing of such **materials and goods**. The **contractor** shall check the quantity and condition of all **materials and goods** on taking delivery as any **materials and goods** subsequently found missing or damaged shall be replaced at the **contractor's** expense

10.0 **ATTENDANCE ON SUBCONTRACTORS**

10.1 **General attendance**

General attendance duties of the **contractor** are listed in clause 12.2 of the **JBCC®** N/S Subcontract Agreement

10.2 **Special attendance**

The **priced document** shall make provision for the **contractor** to separately price for special attendance on each **subcontractor**. Special attendance such as unloading, storing, placing in position, providing special power supplies, specific hoisting, use of cranes and scaffolding requirements, provision of temporary casing and/or other specific protection of the **works**, special security and clearing away rubbish are described in detail in the **priced document**

11.0 GENERAL

11.1 ★ Protection of the works

Where specific protection of the **works** is required this shall be described in the **contract data**

11.2 ★ Protection/isolation of existing works and works occupied in sections

The **contractor** shall provide all reasonable temporary measures to protect/isolate the existing and/or **sections** of the occupied **works** and remove such measures on **practical completion**

11.3 Security of the works

The **contractor** shall take all appropriate measures for general security of the **works**

11.4 Notice before covering work

The **contractor** shall give adequate **notice** to the **principal agent** whenever any work or material such as foundations, plumbing, drainage and the like which is subject to inspection or remeasurement is to be covered or concealed in any way. In default of such a **notice** being received timeously by the **principal agent** such work shall be exposed and later made good at the **contractor's** expense

11.5 ★ Disturbance

The **contractor** shall execute the **works** with a minimum of disturbance to adjoining premises, any parts of the **works** already handed over and the occupants of those premises and/or parts

11.6 ★ Environmental disturbance

The **contractor** shall execute the **works** without any unreasonable adverse effect on the environment

11.7 Works cleaning and clearing

The contractor shall regularly clean and clear away all rubbish and excess materials as the works proceed and leave the works in a clean and satisfactory state for use and occupation in terms of the **agreement**

11.8 Vermin

The **contractor** shall take all necessary precautions to keep the **works** and the **site** free from vermin and shall leave the **works** vermin-free on completion

11.9 Overhand work

No provision has been made for overhand work. Where necessary, the **contractor** shall make his own arrangements with the owners of adjoining properties to execute such work

11.10 Tenant installations

On **practical completion** of a **section** of the **works** and where the **principal agent** instructs that tenant installation work is to be executed by others, then:

11.10.1 The **contractor** shall allow reasonable access

11.10.2 The **contractor** shall not receive any mark-up for overheads and profit on any omissions in this regard. Claims for loss of profit shall not be entertained

11.10.3 The **principal agent** shall carry out an inspection of such areas where tenant installation work is to be executed and record the state of completion and issue a list of **defects** pertaining to such areas

11.11 Advertising

All advertising rights on the **site** and the hoardings are reserved exclusively for the **employer**

Part 2.5

Provisional Bills of Quantities



Item No	Quantity	Rate	Amount
<u>BILL NO. 1</u>			
<u>PRELIMINARIES</u>			
Note: Tenderers are advised to study the General Preambles for Trades before pricing this Bill			
Note: Unless otherwise stated herein, all items in this Bill shall be deemed to be a fixed price for the duration of this project			
<u>PREAMBLES FOR TRADES</u>			
The General Preambles for Trades 2017 published by the Association of South African Quantity Surveyors shall be deemed to be incorporated in these bills of quantities and no claims arising from brevity of description of items fully described in the said General Preambles will be entertained Supplementary preambles and/or specifications are incorporated in these bills of quantities to satisfy the requirements of this project. Such supplementary preambles and/or specifications shall take precedence over the provisions of the General Preambles The contractor's prices for all items throughout these bills of quantities shall take account of and include where applicable for all of the obligations, requirements and specifications given in the General Preambles and in any supplementary preambles and/or specifications <u>Supplementary Preamble</u> Tenderers are advised that this BOQ or any items within this bill or any combination of the other bills or items may be omitted from the principal contract should their tender be successful. Rates should therefore allow for the possibility that the principal contract might only consist of this bill or any combination of some of these bills or items. No claim whatsoever will be entertained for change of scope resulting from adjudicating the bills individually			
Carried to Collection			
Bill No. 1 Preliminaries Stony Point Boardwalk C2605-022			
		R	

METHOD OF MEASUREMENT

Standard System

Except where otherwise stated, these Bills of Quantities have been prepared in accordance with the Seventh Edition of the Standard System of Measuring Builder's Work issued by the Association of South African Quantity Surveyors and hereinafter termed "the Standard System".

Qualifications

Notwithstanding the provisions of the Standard System, any amendments in respect of these Bills of Quantities are included in the relevant trades.

Generally

Wherever the word "shall be included in the description", "shall be stated" or words having the same effect appear within the Standard System, it shall be deemed that descriptions in these Bills of Quantities incorporate such inclusions and statements.

PRELIMINARIES

Should the Contractor select Option A in the Contractor Data for payment of Preliminaries, the amount entered against the item will be paid accordingly

Option A

A Preliminaries Amount

Item

Or

Should the **Contractor** select Option B in "D3.0 Payment of Preliminaries" in the **Contractor Data** for payment of **Preliminaries**

Option B

B Establishment - Initial

No

1

C Time - on site (calendar days)

Days

300

Carried to Collection

R

Bill No. 1
 Preliminaries
Stony Point Boardwalk
C2605-022

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Item No	Quantity	Rate	Amount
<u>BILL NO. 2</u>			
<u>ALTERATIONS</u>			
Note: Tenderers are advised to study the General Preambles for Trades before pricing this Bill			
<u>SUPPLEMENTARY PREAMBLES</u>			
<u>Environmental Management Plan</u>			
All work shall be carried out in accordance with the principles laid out in the Environmental Management Plan, annexed to these bills of quantities. No claim for any variations of the contract sum in respect of the nature and extent of the work will be entertained			
<u>Engineer's Methodology Statement</u>			
All work shall be carried out in accordance with the principles laid out in the Engineer's Methodology Statement, annexed to these bills of quantities. No claim for any variations of the contract sum in respect of the nature and extent of the work will be entertained			
<u>View site</u>			
Before submitting his tender the contractor shall visit the site and satisfy himself as to the nature and extent of the work to be done and the value of the materials contained in the buildings or portions of the buildings to be demolished. No claim for any variations of the contract sum in respect of the nature and extent of the work or of inferior or damaged materials will be entertained			
<u>Explosives</u>			
No explosives whatsoever may be used for demolition purposes unless otherwise stated			
Carried to Collection			R
Bill No. 2 Alterations Stony Point Boardwalk C2605-022			

General

The contractor shall carry out the whole of the works with as little mess and noise as possible and with a minimum of disturbance to adjoining premises and their tenants. He shall provide proper protection and provide, erect and remove when directed, any temporary tarpaulins that may be necessary during the progress of the works, all to the satisfaction of the principal agent

Items described as being removed or removing shall deemed to be include for carting away of site

REMOVAL OF EXISTING WORK

Taking down and removing existing timber walkway in accordance with the engineers requirements annexed to theses Bills of Quantities: (Methodology Statement - Part 2.4)

A	1,300mm Wide timber walkway with timber posts at approximately 2,500mm centres including removal of concrete footings, taking of timber handrails, wire mesh sides etc in sections as new walkway progresses	m	280
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Carried to Collection

R

Bill No. 2
 Alterations
**Stony Point Boardwalk
 C2605-022**

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Item No		Quantity	Rate	Amount
	BILL NO. 3			
	EARTHWORKS			
	Note: Tenderers are advised to study the General Preambles for Trades before pricing this Bill			
	SUPPLEMENTARY PREAMBLES			
	<u>Nature of ground</u>			
	The nature of the ground is assumed to loose sand with a very shallow rock bed			
	<u>Subterranean water</u>			
	No subterranean water is expected			
	<u>Carting away of excavated material</u>			
	Descriptions of carting away of excavated material shall be deemed to include loading excavated material onto trucks directly from the excavations or, alternatively, from stock piles situated on the building site			
	<u>Filling</u>			
	Notwithstanding the reference to prescribed multiple handling in clause 1.3 page 10 of the Standard System of Measuring Building Work, prices for filling and backfilling shall include for all selection and any necessary multiple handling of material			
	<u>Testing</u>			
	Prices for filling are to include for all necessary density tests in accordance with SANS 1200D			
	<u>EXCAVATION, FILLING, ETC</u>			
	<u>EXCAVATIONS ETC</u>			
	<u>Excavation in earth not exceeding 2m deep</u>			
A	Holes	m³	5	
	Carried to Collection		R	
	Bill No. 3 Earthworks Stony Point Boardwalk C2605-022			

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Item No	Quantity	Rate	Amount
<u>BILL NO. 4</u>			
<u>CONCRETE, FORMWORK AND REINFORCEMENT</u>			
Note: Tenderers are advised to study the General Preambles for Trades before pricing this Bill			
<u>SUPPLEMENTARY PREAMBLES</u>			
<u>Environmental Management Plan</u>			
All work shall be carried out in accordance with the principles laid out in the Environmental Management Plan, annexed to these bills of quantities. No claim for any variations of the contract sum in respect of the nature and extent of the work will be entertained			
<u>Engineer's Methodology Statement</u>			
All work shall be carried out in accordance with the principles laid out in the Engineer's Methodology Statement, annexed to these bills of quantities. No claim for any variations of the contract sum in respect of the nature and extent of the work will be entertained			
<u>Cost of tests</u>			
The costs of making, storing and testing of concrete test cubes as required under clause 7, "Tests" of SANS 1200 G, shall include the cost of providing cube moulds necessary for the purpose, for testing costs and for submitting reports on the tests to the principal agent. The testing shall be undertaken by an independent firm or institution nominated by the contractor to the approval of the principal agent. (Test cubes are measured separately)			
<u>Formwork</u>			
Descriptions of formwork shall be deemed to include use and waste only (except where described as "left in" or "permanent"), for fitting together in the required forms, wedging, plumbing and fixing to true angles and surfaces as necessary to ensure easy release during stripping and for reconditioning as necessary before re-use			
Carried to Collection			R
Bill No. 4 Concrete, Formwork & Reinforcement Stony Point Boardwalk C2605-022			

The vertical strutting shall be carried down to such construction as is sufficiently strong to afford the required support without damage and shall remain in position until the newly constructed work is able to support itself

REINFORCED CONCRETE CAST IN FORMWORK

30MPa/19mm concrete

A	Columns	m ³	35
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REINFORCED CONCRETE CAST AGAINST EXCAVATED SURFACES

30MPa/19mm concrete

B	Bases	m ³	1
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REINFORCED CONCRETE CAST ON UNEVEN ROCK SURFACES

30MPa/19mm concrete

C	Plinth	m ³	17
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TEST CUBES

D	Making and testing 150 x 150 x 150mm concrete strength test cubes	No	90
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CONCRETE SUNDRIES

Bush-hammering (scabble) of natural rock surfaces

E	Underside of columns	m ²	30
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30MPa non-shrink grout

F	Bedding approximately 25mm thick under 450 x 250mm base plate including chamfered edges all round	No	144
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SMOOTH FORMWORK (DEGREE OF ACCURACY II)

Carried to Collection

Bill No. 4
 Concrete, Formwork & Reinforcement
 Stony Point Boardwalk
 C2605-022

R

<u>Smooth formwork to sides</u>		
A	Edges, risers, ends and reveals not exceeding 300mm high or wide	m 294
<u>Smooth formwork to columns</u>		
B	Irregular shaped column 300 x 700mm extreme with semi-circular ends each with 125mm radius, 500mm high	No 14
C	Irregular shaped column 300 x 700mm extreme with semi-circular ends each with 125mm radius, 1,000mm high	No 27
D	Irregular shaped column 300 x 700mm extreme with semi-circular ends each with 125mm radius, 1,500mm high	No 59
E	Irregular shaped column 300 x 700mm extreme with semi-circular ends each with 125mm radius, 2,000mm high	No 20
F	Irregular shaped column 300 x 700mm extreme with semi-circular ends each with 125mm radius, 2,500mm high	No 18
G	Irregular shaped column 300 x 700mm extreme with semi-circular ends each with 125mm radius, 3,000mm high	No 2
H	Irregular shaped column 300 x 700mm extreme with semi-circular ends each with 125mm radius, 3,500mm high	No 4
<u>Boxing in smooth formwork to form</u>		
J	25 x 25mm High horizontal projections to sides along top edges	m 294
<u>GALVANIZED REINFORCEMENT</u>		
<u>High tensile steel reinforcement to structural concrete work</u>		
K	20mm Diameter bars	t 5.33
<u>Dowelling of reinforcement into rock bed</u>		
L	Bottom 250mm length of 20mm diameter bar reinforcement (steel elsewhere) dowelled and epoxy fixed into natural rock bed	No 864

Carried to Collection

R

Bill No. 4
 Concrete, Formwork & Reinforcement
Stony Point Boardwalk
C2605-022

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Item No	Quantity	Rate	Amount
<u>BILL NO. 5</u>			
<u>CARPENTRY AND JOINERY</u>			
Note: Tenderers are advised to study the General Preambles for Trades before pricing this Bill			
<u>SUPPLEMENTARY PREAMBLES</u>			
<u>Environmental Management Plan</u>			
All work shall be carried out in accordance with the principles laid out in the Environmental Management Plan, annexed to these bills of quantities. No claim for any variations of the contract sum in respect of the nature and extent of the work will be entertained			
<u>Engineer's Methodology Statement</u>			
All work shall be carried out in accordance with the principles laid out in the Engineer's Methodology Statement, annexed to these bills of quantities. No claim for any variations of the contract sum in respect of the nature and extent of the work will be entertained			
<u>Fixing</u>			
Refer to the "Decking Installation Guideline" annexed to these Bills of Quantities for guidelines for the installation of "Rhinowood" or equal approved decking			
Refer to Architects drawing no "1805-254" annexed to these Bills of Quantities for decking configuration details			
All board edges against steel channel sections to have a 5mm neat and even gap all along the channel section parallel with the channel section as per architects specifications			
<u>Guarantees</u>			
Timber decking installation shall carry a ten year guarantee on the material and installation			
<u>WALKWAYS ETC</u>			
Carried to Collection			R
Bill No. 5 Carpentry & Joinery Stony Point Boardwalk C2605-022			

	<u>"Rhino Wood" or equal approved</u>		
A	150 x 95mm Bearers in lengths not exceeding 2.4m	m	374
B	150 x 95mm Bearers in lengths exceeding 2.4m and not exceeding 3.9m	m	1,546
	<u>"Rhino Wood" or equal approved</u>		
C	Reeded decking of 140 x 27mm boarding fixed to timber sub-structure with 100mm long stainless steel decking screws at maximum 600mm centres and minimum 5mm gaps between planks (sub-structure elsewhere)	m ²	980
D	Circular cutting	m	149

BENCHES ETC**SUPPLEMENTARY PREAMBLES**General

The following bench have been given as a complete unit, i.e. the components of the unit have not been given separately. Descriptions of such units shall, therefore, be deemed to include all components, assembling, housing, cutting grooves, notching, glueing, blocking, planting-on, and screwing with countersunk screws, edge strips, and metalwork, etc

References

References given in descriptions refer to the bench detailed on the architect's drawing numbered (1805-401) annexed to these bills of quantities

Wrought "Rhino Wood" or equal approved

E	3,000mm Long x 650 x 450mm timber bench with 30mm radius rounded corners in all round for full length and fixed to and including two 100 x 50 x 8kg/m steel channels	No	4
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RUBBISH BINS ETC**Carried to Collection****R**

Bill No. 5
 Carpentry & Joinery
Stony Point Boardwalk
C2605-022

General

The following bins have been given as a complete unit, i.e. the components of the units have not been given separately. Descriptions of such units shall, therefore, be deemed to include all components, mild steel hot dip galvanized round mesh structure, fixing of timber slats to steel, treating of timber slats, glueing, assembling, sundry metalwork, etc

References

References given in descriptions refer to the rubbish bins detailed on "SA Bins catalogue" annexed to these bills of quantities

"SA Bins" or equal approved

A	700 x 480mm Wooden round bins fixed to timber decking	No	5
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Carried to Collection

Bill No. 5
 Carpentry & Joinery
Stony Point Boardwalk
C2605-022

R

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Item No	Quantity	Rate	Amount
<u>BILL NO. 6</u>			
<u>STRUCTURAL STEELWORK</u>			
Note: Tenderers are advised to study the General Preambles for Trades before pricing this Bill			
<u>SUPPLEMENTARY PREAMBLES</u>			
<u>Environmental Management Plan</u>			
All work shall be carried out in accordance with the principles laid out in the Environmental Management Plan, annexed to these bills of quantities. No claim for any variations of the contract sum in respect of the nature and extent of the work will be entertained			
<u>Engineer's Methodology Statement</u>			
All work shall be carried out in accordance with the principles laid out in the Engineer's Methodology Statement, annexed to these bills of quantities. No claim for any variations of the contract sum in respect of the nature and extent of the work will be entertained			
<u>Descriptions</u>			
Descriptions of bolts shall be deemed to include nuts and washers			
Descriptions of expansion anchors and bolts, and chemical anchors and bolts shall be deemed to include nuts, washers and mortices in brickwork or concrete			
<u>Unit of measurement</u>			
Notwithstanding paragraph 3, Clause 2, page 37 of the Standard System of Measuring Building Work Seventh Editions 2015, welding, holes, black bolts, nuts, washers, rivets, bolting and riveting integral with structural steelwork shall be deemed to be included in the descriptions of the relevant work			
<u>GALVANISED STEEL COLUMNS AND BEAMS</u>			
Carried to Collection			R
Bill No. 6 Structural Steelwork Stony Point Boardwalk C2605-022			

Welded beams in single lengths with flat bearer and connection plates, bolted to steel

A	152 x 152mm x 37kg/m H-section beams	t	15.58
B	152 x 76 x 17.9kg/m Taper flange channel beams	t	11.55
C	152 x 76 x 17.9kg/m Taper flange channel beams, circular to a 1,000mm radius	t	0.11
D	152 x 76 x 17.9kg/m Taper flange channel beams, circular to a 1,500mm radius	t	0.19
E	152 x 76 x 17.9kg/m Taper flange channel beams, circular to a 2,000mm radius	t	0.14
F	152 x 76 x 17.9kg/m Taper flange channel beams, circular to a 5,500mm radius	t	0.52
G	152 x 76 x 17.9kg/m Taper flange channel beams, circular to a 7,000mm radius	t	0.49
H	152 x 76 x 17.9kg/m Taper flange channel beams, circular to a 8,000mm radius	t	0.78
J	152 x 76 x 17.9kg/m Taper flange channel beams, circular to a 9,500mm radius	t	0.49

GALVANISED BOLTS, FASTENERS, ETC

K	20mm Diameter anchor bolt, 250mm long with one end fixed 200mm deep in concrete	No	576
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PAINTING

Two coats epoxy primer and two coats heavy duty marine quality epoxy/polyurethane paint, on galvanised steel, in accordance with engineer's "corrosion protection" specification on drawing no 18139-C-009 to be approved by the engineer

L	On structural galvanised steel columns, beams, etc	m ²	766
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Carried to Collection

Bill No. 6
 Structural Steelwork
 Stony Point Boardwalk
 C2605-022

R

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Item No	Quantity	Rate	Amount
<u>BILL NO. 7</u>			
<u>METALWORK</u>			
Note: Tenderers are advised to study the General Preambles for Trades before pricing this Bill			
<u>SUPPLEMENTARY PREAMBLES</u>			
<u>Environmental Management Plan</u>			
All work shall be carried out in accordance with the principles laid out in the Environmental Management Plan, annexed to these bills of quantities. No claim for any variations of the contract sum in respect of the nature and extent of the work will be entertained			
<u>Engineer's Methodology Statement</u>			
All work shall be carried out in accordance with the principles laid out in the Engineer's Methodology Statement, annexed to these bills of quantities. No claim for any variations of the contract sum in respect of the nature and extent of the work will be entertained			
<u>Descriptions of bolts, anchors, etc</u>			
Descriptions of bolts shall be deemed to include nuts and washers			
Items described as "holed for bolt(s)" or "bolted" shall be deemed to include the bolts unless otherwise described			
All steel elements to be galvanised and painted as per engineer's specifications & no, drilling, cutting, filling or any form of structural adjustment will be allowed after the completion of the galvanising process or when assembling on site			
All bolts and nuts to be stainless steel and all washers to be black nylon as per architect specifications			
<u>GALVANISED STEEL BALUSTRADES</u>			
Carried to Collection			R
Bill No. 7 Metalwork Stony Point Boardwalk C2605-022			

<u>Reference</u>					
References given in descriptions refer to the respective steel balustrade panel types detailed on the architect's drawings numbered "1805-203 to 1805-253" and to included all fixing plates as per drawings numbered "1805-301 to 1805-305" annexed to these bills of quantities for tender purposes					
<u>Welded balustrades 1,000mm high, of 38mm external diameter solid steel rod pipe handrail, 80 x 20mm flat section top and bottom rails including pre-drilled slotted holes, 20mm solid rod posts at approximately 100mm centres with 90 x 50 x 8mm footplates bolted to steel</u>					
A	Horizontal balustrades (Panel Types 1: 159No, 19: 8No, 26: 2No & 29: 2No) (171No panels in total) (Drawing No. 1805-203, 1805-204, 1805-228, 1805-237 & 1805-241)	m	164		
B	Horizontal balustrades including pre-drilled slotted holes for signage panels (signage panels elsewhere) (applicable to signage panels only Panel Type 2: 96No) (Drawing No. 1805-204)	m	105		
C	Raking balustrades not exceeding 5degree slope (Panel Types 3: 20No, 4: 10No, 5: 81No, 6: 42No, 7: 76No, 8: 40No, 9: 4No & 10: 2No) (275No panels in total) (Drawing No. 1805-206, 1805-207, 1805-209, 1805-210, 1805-212, 1805-213, 1805-215 & 1805-216)	m	276		
D	Horizontal balustrades circular on plan to approximately 1,000mm radius (Panel Types 20: 4No, 31: 1No & 32: 1No) (6No panels in total) (Drawing No.1805-229, 1805-243 & 1805-244)	m	7		
E	Horizontal balustrades circular on plan to approximately 1,500mm radius (Panel Types 18: 4No & 25: 4No) (8No panels in total) (Drawing No.1805-227 & 1805-236)	m	11		
F	Horizontal balustrades circular on plan to approximately 2,000mm radius (Panel Types 23: 2No, 24: 1No, 27: 1No, 28: 1No & 30: 1No) (6No panels in total) (Drawing No. 1805-234, 1805-235, 1805-238, 1805-240 & 1805-241)	m	9		
G	Horizontal balustrades circular on plan to approximately 5,500mm radius (inner radius of Panel Types 11: 40No) (Drawing No. 1805-218)	m	33		
Carried to Collection				R	
Bill No. 7 Metalwork Stony Point Boardwalk C2605-022					

A	Horizontal balustrades circular on plan to approximately 8,000mm radius (outer radius of Panel Types 12: 18No & 13: 18No) (36No panels in total) (Drawing No. 1805-219 & 1805-220)	m	43
B	Horizontal balustrades circular on plan to approximately 7,000mm radius (inner radius of Panel Types 14: 13No & 15: 13No) (26No panels in total) (Drawing No. 1805-222 & 1805-223)	m	24
C	Horizontal balustrades circular on plan to approximately 9,500mm radius (outer radius of Panel Types 16: 22No) (Drawing No. 1805-224)	m	27
	<u>Welded balustrades to temporary access ramp, 1,000mm high, of 38mm external diameter solid steel rod continuous pipe handrail, 80 x 20mm flat section continuous top and bottom rails including pre-drilled slotted holes, 20mm solid rod posts at approximately 100mm centres with 90 x 50 x 8mm footplates bolted to steel</u>		
D	Horizontal balustrades (Panel Types 33: 1No, 34: 5No, 35: 1No, 36: 2No, 37: 2No & 38: 2No) (13No panels in total) (Drawing No. 1805-247, 1805-248, 1805-249, 1805-250, 1805-251, 1805-252 & 1805-253)	m	14
E	Raking balustrades not exceeding 5degree slope (Panel Types 39: 2No) (Drawing No. 1805-253)	m	7
F	Extra over for 90 degree bend	No	10
G	Extra over for ramp bend not exceeding 5 degrees	No	12
H	Extra over for end closure to raking balustrade	No	2
	<u>Welded balustrade gate panels 1,000mm high, of 38mm external diameter solid steel rod continuous pipe handrail, 80 x 20mm flat section continuous top and bottom rails including pre-drilled slotted holes, 20mm solid rod posts at approximately 100mm centres with 90 x 50 x 8mm footplates bolted to steel and 75 x 20mm intermediate vertical balusters at edges of panels between top and bottom rails including ironmongery, hinges and locks</u>		
J	Horizontal balustrades gate panels welded to walkways (Gate Panels Type 1, 2 & 3) (Drawing No. 1805-245)	m	3

GALVANISED STEEL SUBFRAMES

Carried to Collection

R

Bill No. 7
 Metalwork
 Stony Point Boardwalk
 C2605-022

-25-

Reference

References given in descriptions refer to the respective steel cat ladder detailed on the architect's drawings numbered "1805-245" annexed to these bills of quantities for tender purposes

Welded cat ladder 600mm wide and 1,000mm high overall to side of walkway

- A Welded cat ladder 600mm wide and 1,000mm high overall to sides of walkway, of 25mm solid steel rod section stringers and 25mm diameter solid steel rod rungs 600mm long at approximately 250mm centres, including flat and angle section connections bolted to steel

kg

92

ANODISED ALUMINIUM SIGNAGE PANELSReference

Refer to drawing no. "1805-402 & 1805-404" for details of signage panels annexed to these bills of quantities

Aluminium panels fixed to steel subframe (subframe elsewhere)

- B 1,200 x 2,300 x 3mm Thick panel with 35mm turn-ups all around

No

1

Carried to Collection

R

Bill No. 7
 Metalwork
**Stony Point Boardwalk
 C2605-022**

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Item No	Quantity	Rate	Amount
BILL NO. 9			
PAINTWORK			
Note: Tenderers are advised to study the General Preambles for Trades before pricing this Bill			
SUPPLEMENTARY PREAMBLES			
<u>Environmental Management Plan</u>			
All work shall be carried out in accordance with the principles laid out in the Environmental Management Plan, annexed to these bills of quantities. No claim for any variations of the contract sum in respect of the nature and extent of the work will be entertained			
<u>Engineer's Methodology Statement</u>			
All work shall be carried out in accordance with the principles laid out in the Engineer's Methodology Statement, annexed to these bills of quantities. No claim for any variations of the contract sum in respect of the nature and extent of the work will be entertained			
PAINT SPECIFICATIONS			
All painting shall be done in accordance with the engineer's specifications unless otherwise described			
COLOURS			
Unless otherwise described all paintwork shall be deemed to have a colour value in excess of 7 on the Munsell system in accordance with SANS 1091			
PAINTWORK ETC TO NEW WORK			
ON NATURAL ROCK SURFACES			
<u>Two coats "Epidermix 344" or equal approved wet-to-dry epoxy</u>			
A	Natural rock	m²	38
Carried to Collection			R
Bill No. 8 Paintwork Stony Point Boardwalk C2605-022			

ON METAL SURFACES

Two coats epoxy primer and two coats heavy duty marine quality epoxy/polyurethane paint, on galvanised steel, in accordance with engineer's "corrosion protection" specification on drawing no 18139-C-009 to be approved by the engineer

A	Gates, grilles, burglar screens, balustrades, etc (both sides measured over the full flat area)	m ²	1,446
B	Rails, bars, pipes, etc not exceeding 300mm girth	m	856

Carried to Collection**R**

Bill No. 8
 Paintwork
**Stony Point Boardwalk
 C2605-022**

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Part 2.6

Drawings

CI000689 - STONY POINT NATURE RESERVE - BOARDWALK - TENDER DOCUMENTATION



DRAWING REGISTER - STAGE 4

2020/09/25 DATE RECEIVED:

SIGNED:

DRAWINGS					
DRAWING NO.:	DRAWING DESCRIPTION	PRINT SIZE	REVISION	SCALE	DATE ISSUED
0.00	balustrade panel and fixing plate register	A3		N/A	2020/09/07
200	segment location plan	A1		NTS	2020/09/07
201	typical elevation on straight segment	A3		1:20	2020/09/07
202	segment location plan panels T1 +T 2	A1		NTS	2020/09/07
203	Panel Type 1	A3		1:20	2020/09/07
204	Panel Type 2	A3		1:20	2020/09/07
205	segment location plan panels T3 +T4	A1		NTS	2020/09/07
206	Panel type 3	A3		1:20	2020/09/07
207	Panel type 4	A3		1:20	2020/09/07
208	segment location plan panels T5 +T6	A1		NTS	2020/09/07
209	panel type 5	A3		1:20	2020/09/07
210	panel type 6	A3		1:20	2020/09/07
211	segment location plan panels T7 +T8	A1		NTS	2020/09/07
212	panel type 7	A3		1:20	2020/09/07
213	panel type 8	A3		1:20	2020/09/07
214	segment location plan panels T9 +T10	A1		NTS	2020/09/07
215	panel type 9	A3		1:20	2020/09/07
216	panel type 10	A3		1:20	2020/09/07
217	segment location plan panels T11 + T12 + T13	A1		NTS	2020/09/07
218	panel type 11	A3		1:20	2020/09/07
219	panel type 12	A3		1:20	2020/09/07
220	panel type 13	A3		1:20	2020/09/07
221	segment location plan panels T14 + T15 + T16	A1		NTS	2020/09/07
222	panel type 14	A3		1:20	2020/09/07
223	panel type 15	A3		1:20	2020/09/07
224	panel type 16	A3		1:20	2020/09/07
225	temporary entrance and embayments location plan	A1		NTS	2020/09/07
226	embayments 1 & 2 key	A3		1:50	2020/09/07
227	embayments 1 & 2 - panel type 18	A3		1:20	2020/09/07
228	embayments 1 & 2 - panel type 19	A3		1:50	2020/09/07
229	embayments 1 & 2 - panel type 20	A3		1:20	2020/09/07
232	embayment 3 key	A3		1:50	2020/09/07
234	embayment 3 - panel type 23	A3		1:50	2020/09/07
235	embayment 3 - panel type 24	A3		1:20	2020/09/07
236	embayment 3 - panel type 25	A3		1:20	2020/09/07
237	embayment 3 - panel type 26	A3		1:20	2020/09/07
238	embayment 3 - panel type 27	A3		1:20	2020/09/07
239	embayment 4 key	A3		1:50	2020/09/07
240	embayment 4 - panel type 28	A3		1:50	2020/09/07
241	embayment 4 - panel type 29	A3		1:20	2020/09/07
242	embayment 4 - panel type 30	A3		1:20	2020/09/07
243	embayment 4 - panel type 31	A3		1:20	2020/09/07
244	embayment 4 - panel type 32	A3		1:20	2020/09/07
245	gate panel	A3		1:20	2020/09/07
246	temporary ramp key	A3		1:50	2020/09/07
247	ramp - panel type 33	A3		1:20	2020/09/07
248	ramp - panel type 34	A3		1:20	2020/09/07
249	ramp - panel type 35	A3		1:20	2020/09/07
250	ramp - panel type 36	A3		1:20	2020/09/07
251	ramp - panel type 37	A3		1:20	2020/09/07
252	ramp - panel type 38	A3		1:20	2020/09/07
253	ramp - panle type 39	A3		1:20	2020/09/07
254	decking details	A3		1:100	2020/09/07
301	fixing plate drawing F1	A3		1:2	2020/09/07
302	fixing plate drawing F2	A3		1:2	2020/09/07
303	fixing plate drawing F3	A3		1:2	2020/09/07
304	fixing plate drawing F4	A3		1:2	2020/09/07
305	fixing plate drawing F5	A3		1:2	2020/09/07
400	signage panel details	A1		1:10	2020/09/07
401	seating details	A1		1:10	2020/09/07
402	ticket kiosk details	A1		1:20	2020/09/07

[illegible]

DATE:

STONY POINT : BOARDWALK PANEL TYPE AND FIXING PLATE REGISTER

PANEL TYPE REGISTER

PANEL TYPE REGISTER

PANEL TYPES

DRAWING NO.

QUANTITY

PANEL TYPES

DRAWING NO.

QUANTITY

PANEL TYPE 1

1805-203

159

PANEL TYPE 2

1805-204

96

PANEL TYPE 3

1805-206

20

PANEL TYPE 4

1805-207

10

PANEL TYPE 5

1805-209

81

PANEL TYPE 6

1805-210

42

PANEL TYPE 7

1805-212

76

PANEL TYPE 8

1805-213

40

PANEL TYPE 9

1805-215

4

PANEL TYPE 10

1805-216

2

PANEL TYPE 11

1805-218

40

PANEL TYPE 12

1805-219

18

PANEL TYPE 13

1805-220

18

PANEL TYPE 14

1805-222

13

PANEL TYPE 15

1805-223

13

PANEL TYPE 16

1805-224

22

PANEL TYPE 18

1805-227

4

PANEL TYPE 19

1805-228

8

PANEL TYPE 20

1805-229

4

PANEL TYPE 23

1805-234

2

PANEL TYPE 24

1805-235

1

PANEL TYPE 25

1805-236

4

PANEL TYPE 26

1805-237

2

PANEL TYPE 27

1805-238

1

PANEL TYPE 28

1805-240

1

PANEL TYPE 29

1805-241

2

PANEL TYPE 30

1805-242

1

PANEL TYPE 31

1805-243

1

PANEL TYPE 32

1805-244

1

GATE PANEL

1805-245

3 SETS

PANEL TYPE 33

1805-247

1

PANEL TYPE 34

1805-248

5

PANEL TYPE 35

1805-249

1

PANEL TYPE 36

1805-250

2

PANEL TYPE 37

1805-251

2

PANEL TYPE 38

1805-252

2

PANEL TYPE 39

1805-243

2

FIXING PLATE SCHEDULE

PLATE TYPES:

DRAWING NO.

QUANTITY

FIXING PLATE TYPE 1

301

1298

FIXING PLATE TYPE 2

302

18

FIXING PLATE TYPE 3

303

16

FIXING PLATE TYPE 4

304

8

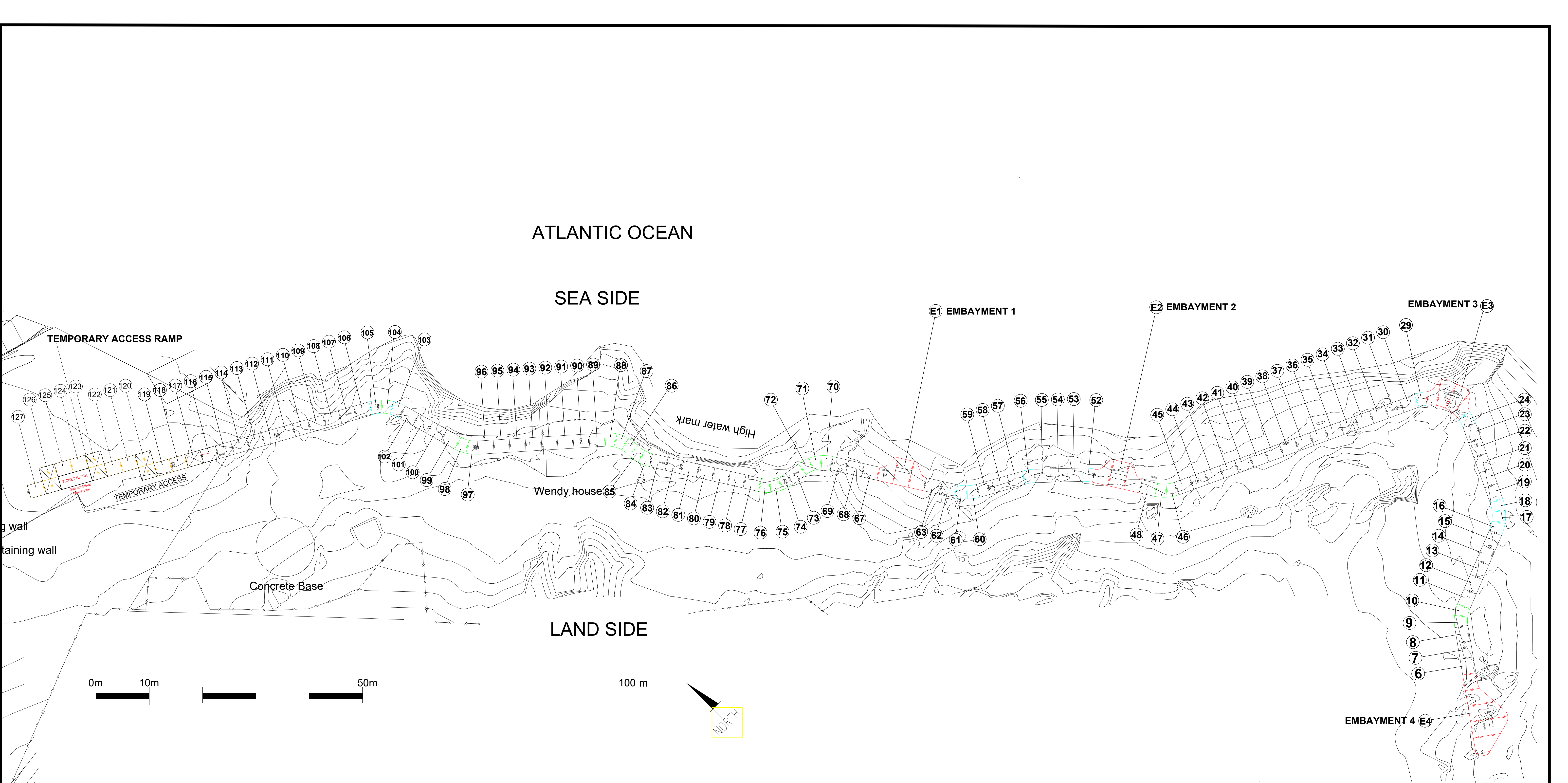
FIXING PLATE TYPE 5

305

54

ALL QUANTITIES TO BE CROSS CHECKED
WITH THE FULL SET OF DRAWINGS AND
VERIFIED BY THE CONTRACTOR

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SEGMENT LOCATION PLAN

NOTES:
SAMPLES:

- **SAMPLES TO BE APPROVED BY THE ARCHITECT PRIOR TO MANUFACTURE**
- **SAMPLES REQUIRED:**
- **SAMPLE 1: TYPICAL LEVEL 3000mm BALUSTRADE SEGMENT**
- **SAMPLE 2: TYPICAL 5500mm RADIUS CURVED SEGMENT**
- **SAMPLE 3: TYPICAL 7000mm RADIUS CURVED SEGMENT**
- **SAMPLE 4: GATE SEGMENT**
- **SAMPLE 5: TYPICAL CORNER BALUSTRADE PANEL**
- **ANY ADDITIONAL SAMPLES REQUESTED**

SHOPDRAWINGS:
SHOPDRAWING OF ALL PANELS TO BE APPROVED PRIOR TO MANUFACTURE

Project Number:		CI000689	COPYRIGHT NOTICE		General Notes		Revisions		NOTES: - NO DRILLING, CUTTING, FILLING OR ANY FORM OF STRUCTURAL ADJUSTMENT ALLOWED AFTER THE COMPLETION OF THE GALVANISING PROCESS OR WHEN ASSEMBLING ON SITE. FIT OF ALL ELEMENTS TO BE CHECKED PRIOR TO GALVANISING. - ALL STEEL ELEMENTS TO BE GALVANISED AND PAINTED AS PER SPECIFICATION - ALL BOLTS AND NUTS TO BE STAINLESS STEEL - ALL WASHERS TO BE BLACK NYLON WASHERS - ALL STEEL ELEMENTS TO BE PROTECTED AT ALL TIMES AFTER GALVANISING AND PAINTING HAS BEEN COMPLETED UNTIL AFTER ASSEMBLY ON SITE IS COMPLETE.		Client:		Project:		Drawing Title:			
 Western Cape Government				Copyright © Urba		no. date description checked signed		CapeNature			STONY POINT NATURE RESERVE : PHASE 1 - BOARDWALK UPGRADE		GENERAL SEGMENT LOCATION PLAN					
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Requests and enquiries concerning this drawing and the rights subsisting therein should be addressed to the copyright owner.												DRAWN		CHECKED	DATE	SCALE	PAGE SIZE	
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														This drawing to be read in conjunction with drawing no:				
														Drawing Number				
														DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE
														AR		180520000		T

NOTES:
NO DRILLING OR WELDING ON SITE.

ALL COMPONENTS HAVE TO BE WELDED AND DRILLED PRIOR TO GALVANISING.

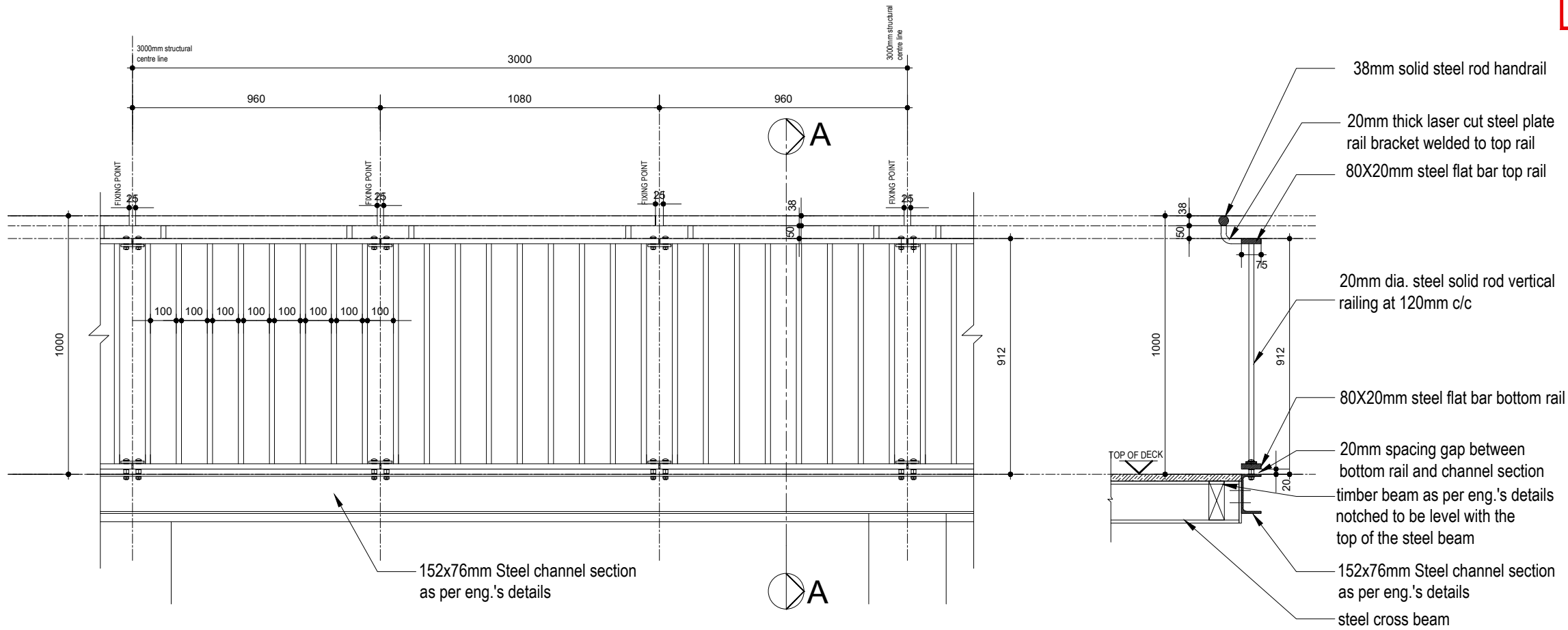
FIT OF ALL COMPONENTS TO BE CHECKED PRIOR TO GALVANISING AND FINAL FINISH

NO ADJUSTMENTS OR REMEDIAL WORK TO BE DONE AFTER GALVANISING AND FINAL FINISH HAVE BEEN COMPLETED.

FINAL FINISH TO BE PROTECTED THROUGHOUT THE ASSEMBLY PROCESS ON SITE.

REQUIRED SAMPLES TO BE APPROVED PRIOR TO MANUFACTURE

SHOPDRAWINGS TO BE APPROVED PRIOR TO MANUFACTURE



ELEVATION: TYPICAL 3000mm SEGMENT
scale 1: 20

SECTION AA
scale 1: 20

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no.	date	description	checked	signed																																			
			FOR TENDER ONLY										<table><thead><tr><th>DRAWN</th><th>CHECKED</th><th>DATE</th><th>SCALE</th><th>PAGE SIZE</th></tr></thead><tbody><tr><td></td><td>A.C.</td><td>2020-09-07</td><td>1:10</td><td> A3</td></tr></tbody></table> This drawing to be read in conjunction with drawing no: <table><thead><tr><th colspan="5">Drawing Number</th></tr><tr><th>DISCIPLINE</th><th>PROJECT NUMBER</th><th>DRAWING NUMBER</th><th>REVISION</th><th>STAGE</th></tr></thead><tbody><tr><td>AR</td><td></td><td>180520100</td><td>0</td><td>T</td></tr></tbody></table>		DRAWN	CHECKED	DATE	SCALE	PAGE SIZE		A.C.	2020-09-07	1:10	 A3	Drawing Number					DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE	AR		180520100	0	T
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DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE																																			
AR		180520100	0	T																																			

SEGMENT KEY:
PANEL TYPE 1 & 2

STRAIGHT SEGMENTS AT 0° ANGLE

Applicable segment numbers:
8(sea side only), 11, 15, 19, 23, 30, 45, 48, 53(sea side only), 54, 55,
57, 59, 62, 63, 67, 69, 73, 77, 78, 79, 80, 81, 82,
83(sea side only), 89, 96, 99, 102, 106, 111, 112, 117, 120, 123, 126,
Embayment 1 Segments 64, 65, 66
Embayment 2 Segments 49, 50, 51
Embayment 3 segments 26, 27
Embayment 4 Segments 1, 2, 3, 4, 5

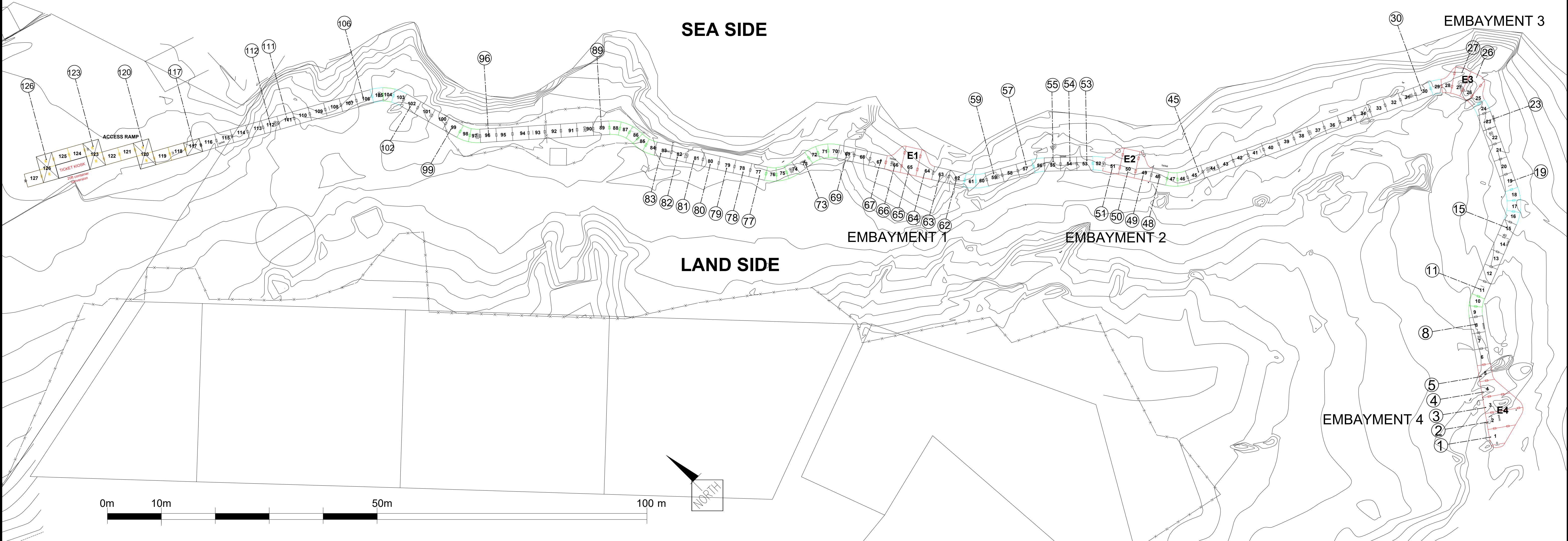
STRAIGHT
SEGMENT : 0°

PANEL TYPE 1

STRAIGHT
SEGMENT : 0°

PANEL TYPE 2

TO BE READ IN CONJUNCTION WITH DWG. 203 & 204



NOTES:
SAMPLES:

- **SAMPLES TO BE APPROVED BY THE ARCHITECT PRIOR TO MANUFACTURE**
- SAMPLES REQUIRED:
 - SAMPLE 1: TYPICAL LEVEL 3000mm BALUSTRADE SEGMENT
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 - SAMPLE 3: TYPICAL 7000mm RADIUS CURVED SEGMENT
 - SAMPLE 4: GATE SEGMENT
 - SAMPLE 5: TYPICAL CORNER BALUSTRADE PANEL
 - ANY ADDITIONAL SAMPLES REQUESTED

SHOPDRAWINGS:
SHOPDRAWING OF ALL PANELS TO BE APPROVED PRIOR TO MANUFACTURE

Project Number:

C1000689

Western Cape Government

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Revisions

no.	date	description	checked	signed

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Client:

CapeNature

Consultant:

Urba

Project:

STONY POINT NATURE RESERVE :
PHASE 1 - BOARDWALK UPGRADE

FOR TENDER ONLY

Drawing Title:

SEGMENT LOCATION PLAN:
PANEL TYPE 1 & 2

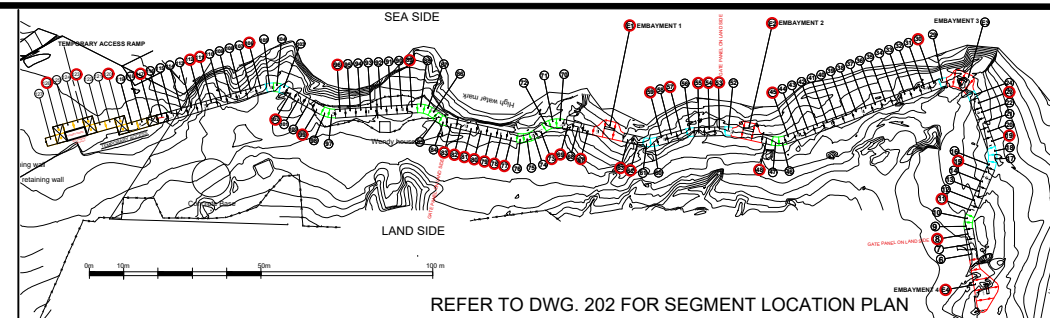
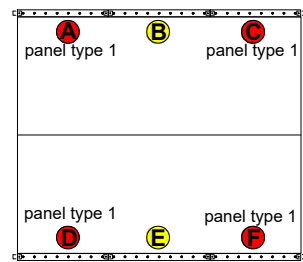
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	A.C.	2020-09-07	1:20 1:5	A3

This drawing to be read in conjunction with drawing no:

Drawing Number

DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE
AR		180520200		T

Panel location within segment

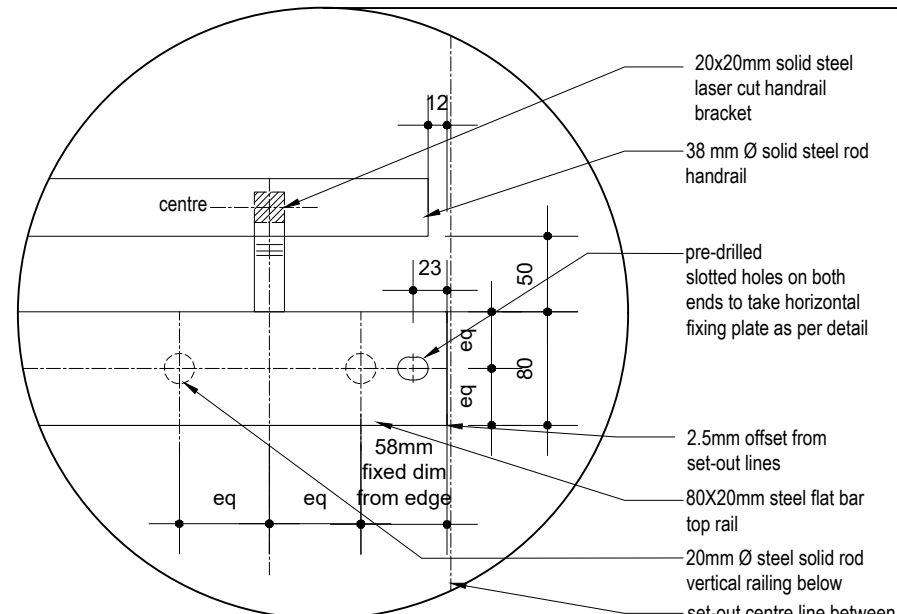


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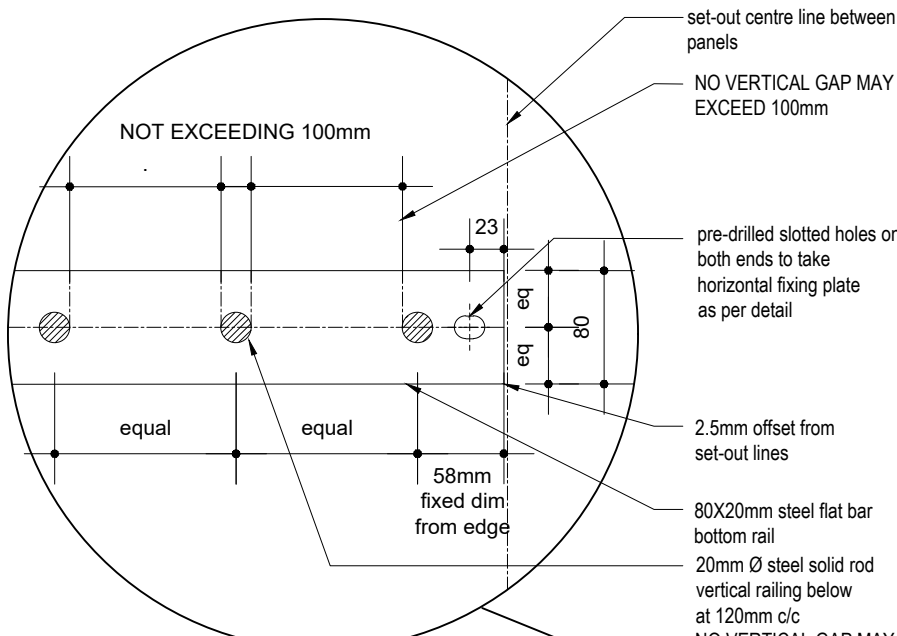
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59, 62, 63, 67, 69, 73, 77, 78, 79, 80, 81,
82, 83, 89, 96, 99, 102, 106, 111, 112, 117,
120, 123, 126, Emabyments 1, 2 & 4

SEGMENT COLOUR KEY

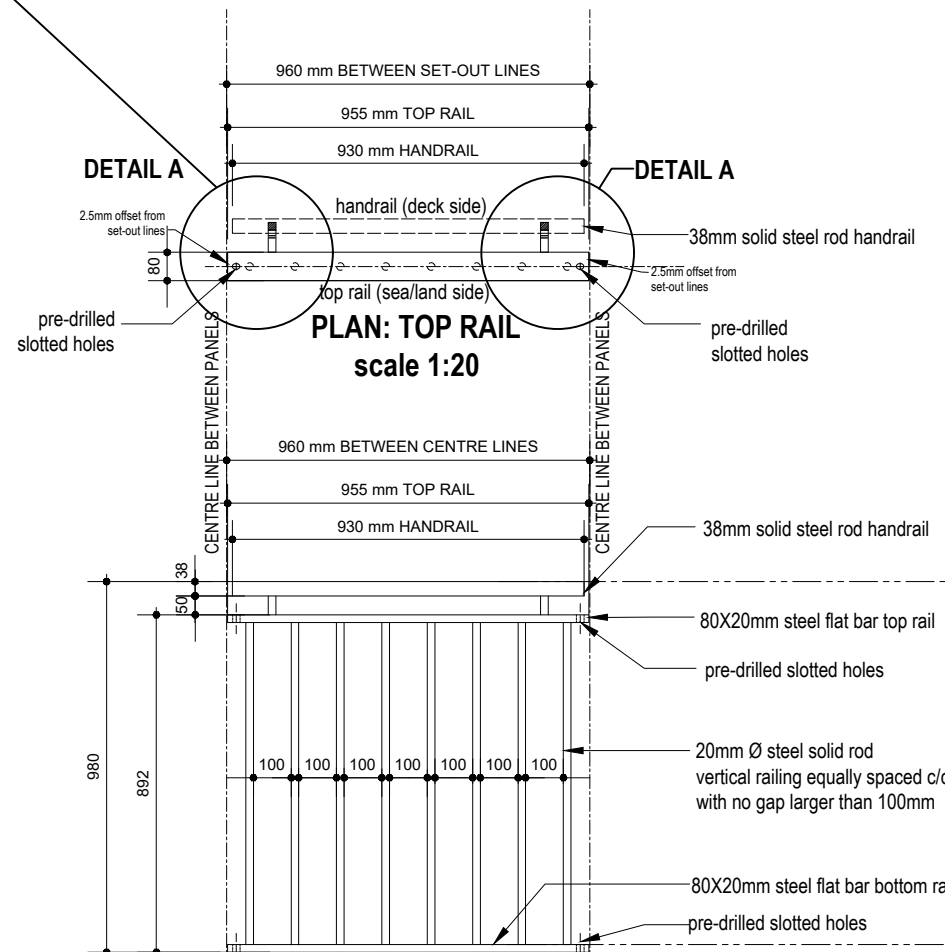
PANEL TYPE ①



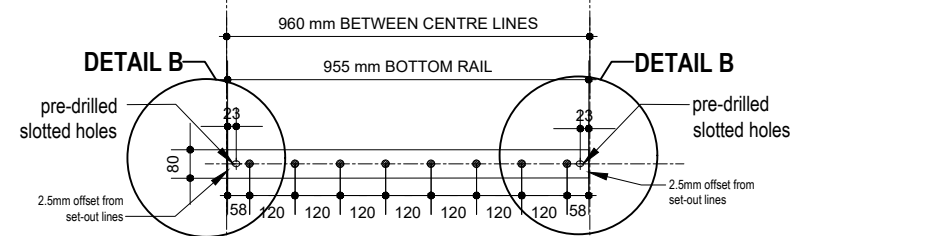
DETAIL A: TYPICAL TOP RAIL END
SCALE 1:5



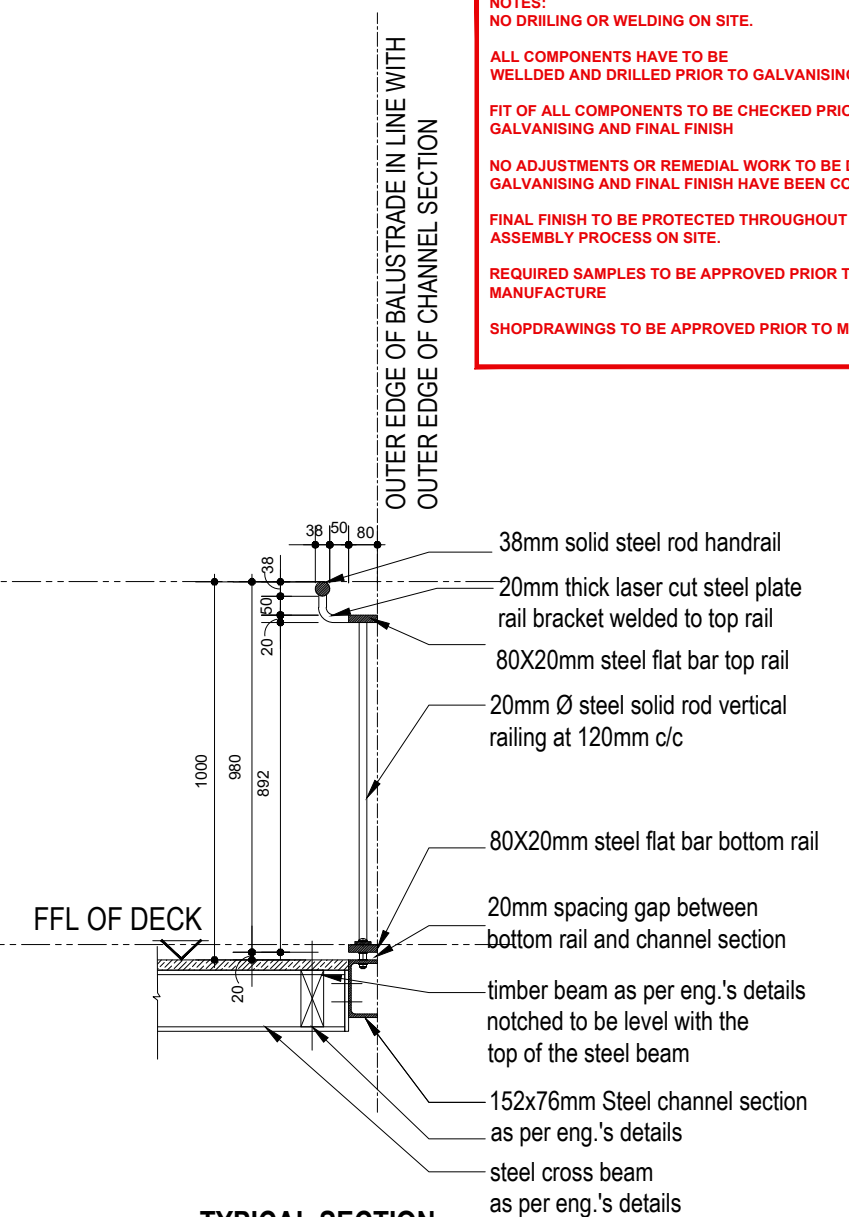
DETAIL B: TYPICAL BOTTOM RAIL END
SCALE 1:5



TYPICAL ELEVATION
scale 1:20



PLAN: BOTTOM RAIL
scale 1:20



TYPICAL SECTION
scale 1:20

NOTES:
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SHOPDRAWINGS TO BE APPROVED PRIOR TO MANUFACTURE

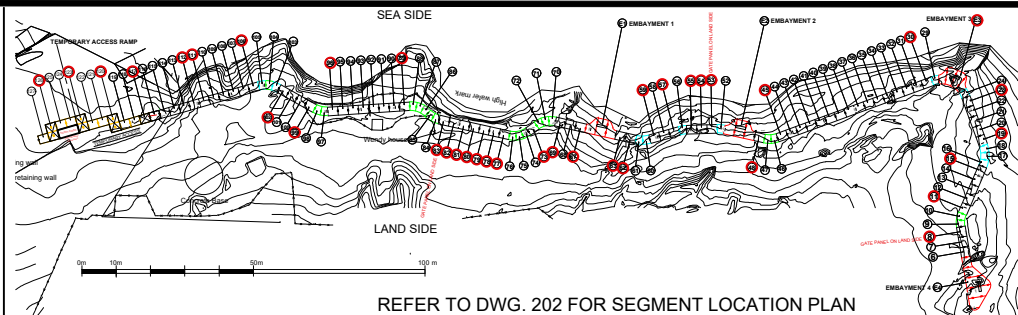
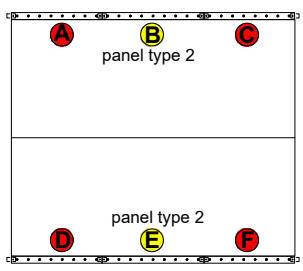
QUANTITY - PANEL TYPE 1

159

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CapeNature		STONY POINT NATURE RESERVE : PHASE 1 - BOARDWALK UPGRADE																										
Consultant:																												
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		<table><tr><td>DRAWN</td><td>CHECKED</td><td>DATE</td><td>SCALE</td><td>PAGE SIDE</td></tr><tr><td></td><td>A.C.</td><td>2020-09-07</td><td>1:20</td><td>ON A3</td></tr></table> This drawing to be read in conjunction with drawing no: Drawing Number <table><tr><td>DISCIPLINE</td><td>PROJECT NUMBER</td><td>DRAWING NUMBER</td><td>REVISION</td><td>STAGE</td></tr><tr><td>AR</td><td>18</td><td>0520300</td><td>0</td><td>0</td></tr></table>		DRAWN	CHECKED	DATE	SCALE	PAGE SIDE		A.C.	2020-09-07	1:20	ON A3	DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE	AR	18	0520300	0	0					
DRAWN	CHECKED	DATE	SCALE	PAGE SIDE																								
	A.C.	2020-09-07	1:20	ON A3																								
DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE																								
AR	18	0520300	0	0																								

SEGMENT KEY

Panel location within segment



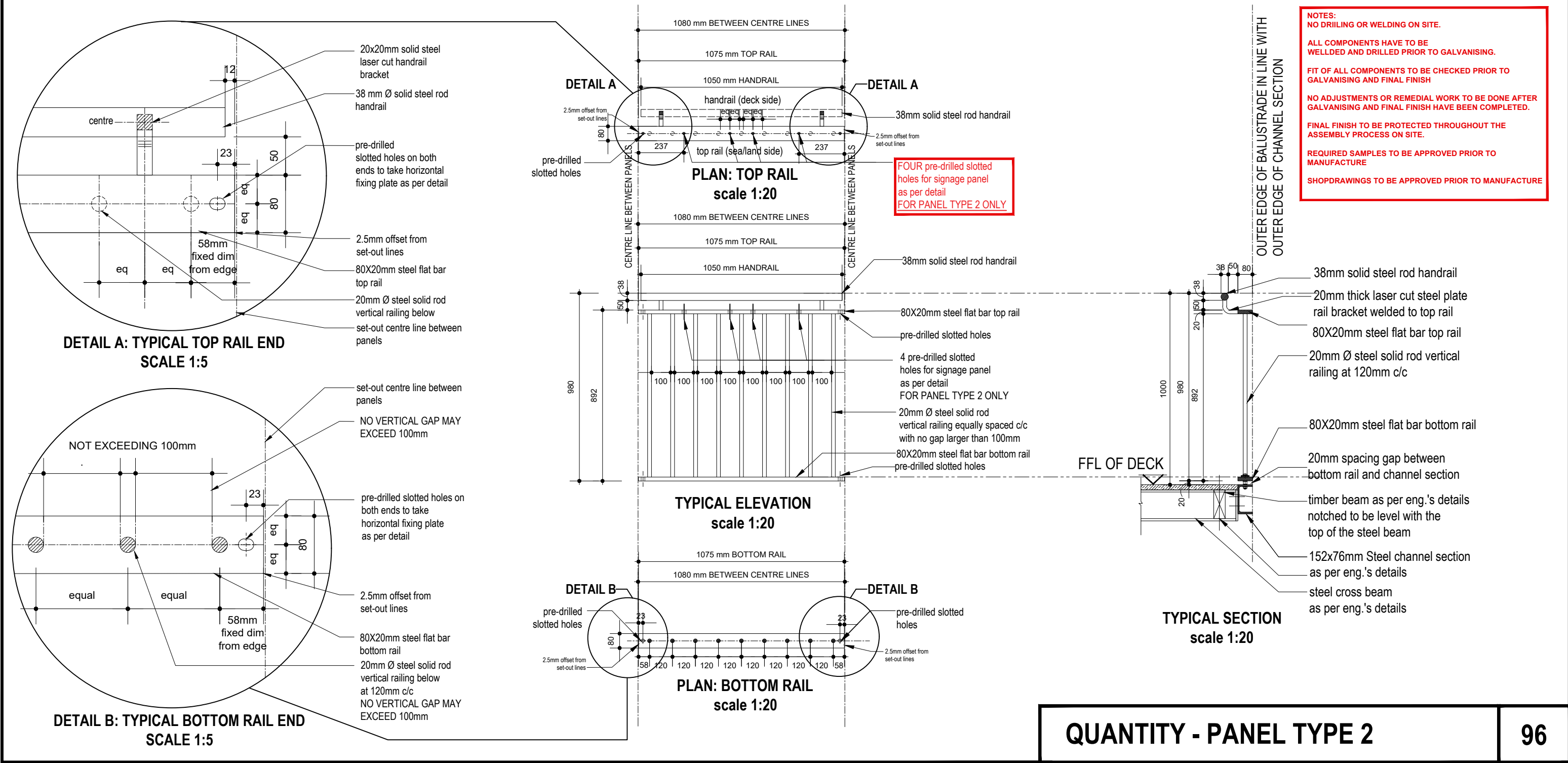
STRAIGHT SEGMENTS AT 0° ANGLE

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59, 62, 63, 67, 69, 73, 77, 78, 79, 80, 81,
82, 83, 89, 96, 99, 102, 106, 111, 112, 117,
120, 123, 126 Embayments 1, 2, 3 & 4

PANEL TYPE 2: B panel type 2 E panel type 2

SEGMENT COLOUR KEY

PANEL TYPE 2



QUANTITY - PANEL TYPE 2

96

Project Number: CI000689

Western Cape Government

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Revisions

no.	date	description	checked	signed

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Client: CapeNature

Consultant: Urba

Project: STONY POINT NATURE RESERVE : PHASE 1 - BOARDWALK UPGRADE

FOR TENDER ONLY

Drawing Title: BALUSTRADE SCHEDULE: PANEL TYPE 2

DRAWN	CHECKED	DATE	SCALE	PAGE SIZE
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This drawing is to be read in conjunction with drawing no:

DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE
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SEGMENT KEY:
PANELTYPE 3 & 4

SEGMENTS AT 2° ANGLE

Applicable segment numbers:
6, 7, 20, 21, 22

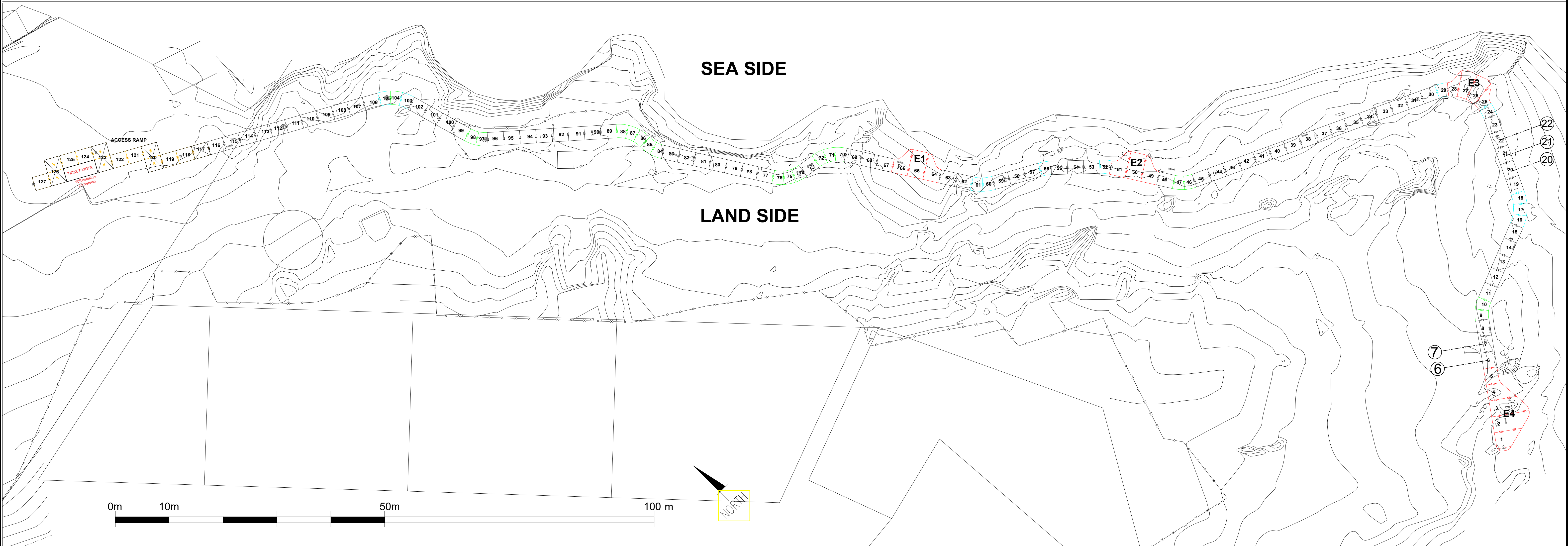
2° SLOPED SEGMENT

PANEL TYPE 3

2° SLOPED SEGMENT

PANEL TYPE 4

TO BE READ IN CONJUNCTION WITH DWG. 206 & 207



SEGMENT LOCATION PLAN

NOTES:
SAMPLES:

- SAMPLES TO BE APPROVED BY THE ARCHITECT PRIOR TO MANUFACTURE

- SAMPLES REQUIRED:
- SAMPLE 1: TYPICAL LEVEL 3000mm BALUSTRADE SEGMENT
- SAMPLE 2: TYPICAL 5500mm RADIUS CURVED SEGMENT
- SAMPLE 3: TYPICAL 7000mm RADIUS CURVED SEGMENT
- SAMPLE 4: GATE SEGMENT
- SAMPLE 5: TYPICAL CORNER BALUSTRADE PANEL
- ANY ADDITIONAL SAMPLES REQUESTED

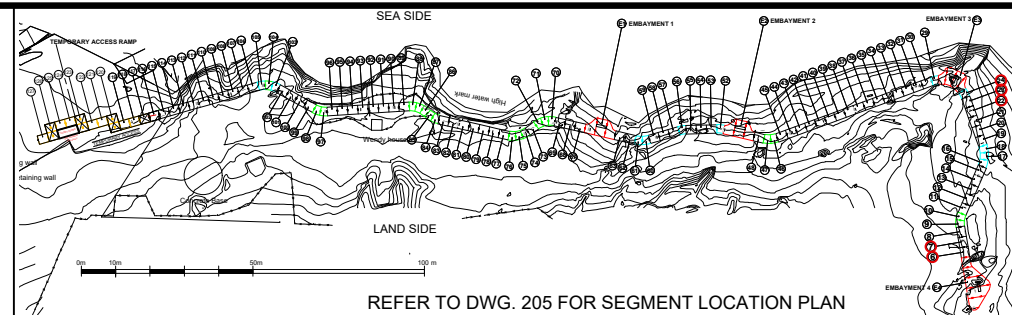
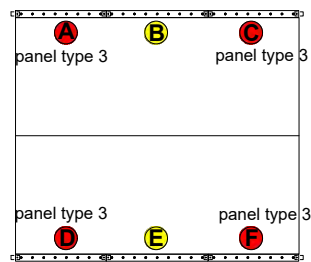
SHOPDRAWINGS:

SHOPDRAWING OF ALL PANELS TO BE APPROVED PRIOR TO MANUFACTURE

Project Number:		CI000689	COPYRIGHT NOTICE		General Notes		Revisions		NOTES: - NO DRILLING, CUTTING, FILLING OR ANY FORM OF STRUCTURAL ADJUSTMENT ALLOWED AFTER THE COMPLETION OF THE GALVANISING PROCESS OR WHEN ASSEMBLING ON SITE. FIT OF ALL ELEMENTS TO BE CHECKED PRIOR TO GALVANISING. - ALL STEEL ELEMENTS TO BE GALVANISED AND PAINTED AS PER SPECIFICATION - ALL BOLTS AND NUTS TO BE STAINLESS STEEL - ALL WASHERS TO BE BLACK NYLON WASHERS - ALL STEEL ELEMENTS TO BE PROTECTED AT ALL TIMES AFTER GALVANISING AND PAINTING HAS BEEN COMPLETED UNTIL AFTER ASSEMBLY ON SITE IS COMPLETE.		Client:		Project:		Drawing Title:																						
 Western Cape Government				Copyright subsists in this drawing. The person or entity whose name appears in the title block of this drawing is hereby granted a non-exclusive license to use, display, print and/or reproduce this drawing to the extent necessary to carry out and complete the project described in the title block of this drawing. This license is expressly limited as aforesaid and the person and/or entity referred to above shall not be entitled to grant sub-licenses in respect of the copyright in this drawing to any other entity. This license confers no ownership right in the copyright vesting in the drawing and this drawing and the copyright subsisting therein will, at all times, remain the property of Urba. Any unauthorised reproduction, publication, transmission, adaptation and/or inclusion of this drawing in a cinematographic film or television broadcast is an act of copyright infringement which will render the doer of the act liable for civil copyright infringement and may in certain circumstances render the doer liable to criminal prosecution. Requests and enquiries concerning this drawing and the rights subsisting therein should be addressed to the copyright owner.		1. This drawing is to be read in conjunction with: engineers drawings. 2. Any discrepancies to be reported to the architects prior to work commencing. 3. This drawing to be read in conjunction with all consultants drawings and details. 4. This drawing must not be scaled		<table><tr><td>no.</td><td>date</td><td>description</td><td>checked</td><td>signed</td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>			no.	date	description	checked	signed																CapeNature		STONY POINT NATURE RESERVE : PHASE 1 - BOARDWALK UPGRADE		SEGMENT LOCATION PLAN: PANELS 3 & 4		
											no.	date	description	checked	signed																						
Consultant:		Urba		FOR TENDER ONLY																																	
								DRAWN		CHECKED	DATE	SCALE	PAGE SIZE																								
								A.C.		2020-09-07		A1																									
												This drawing to be read in conjunction with drawing no:																									
												Drawing Number																									
												DISCIPLINE		PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE																				
												AR		180520500			T																				

SEGMENT KEY

Panel location within segment



REFER TO DWG. 205 FOR SEGMENT LOCATION PLAN

SLOPED SEGMENTS AT 2° ANGLE

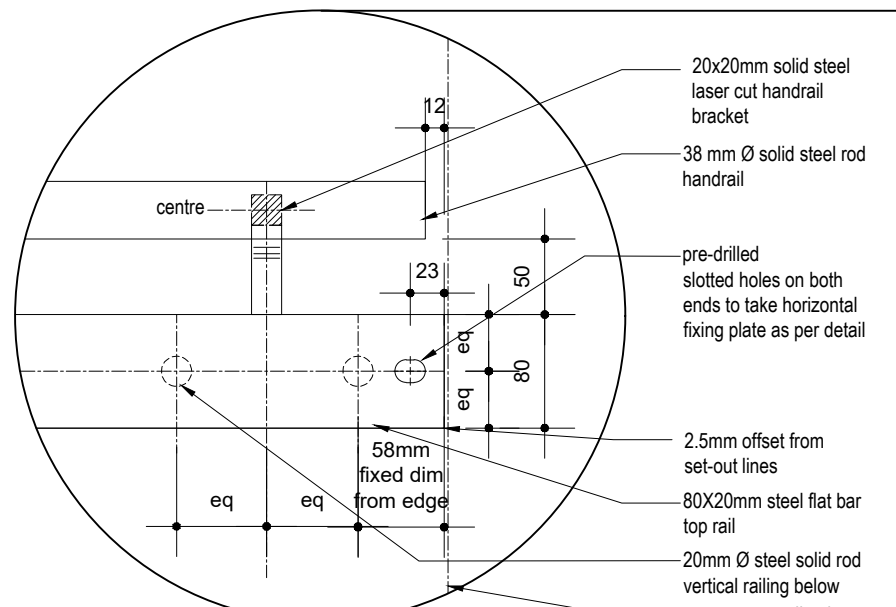
Applicable segment numbers:
6, 7, 20, 21, 22

PANEL TYPE 3: **A** panel type 3 **C** panel type 3 **D** panel type 3 **F** panel type 3

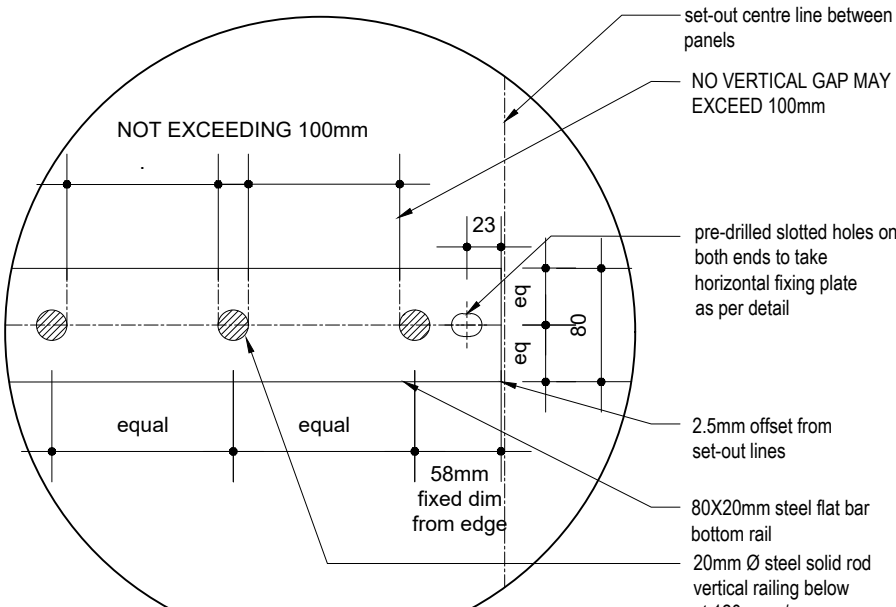
SEGMENT COLOUR KEY

PANEL TYPE

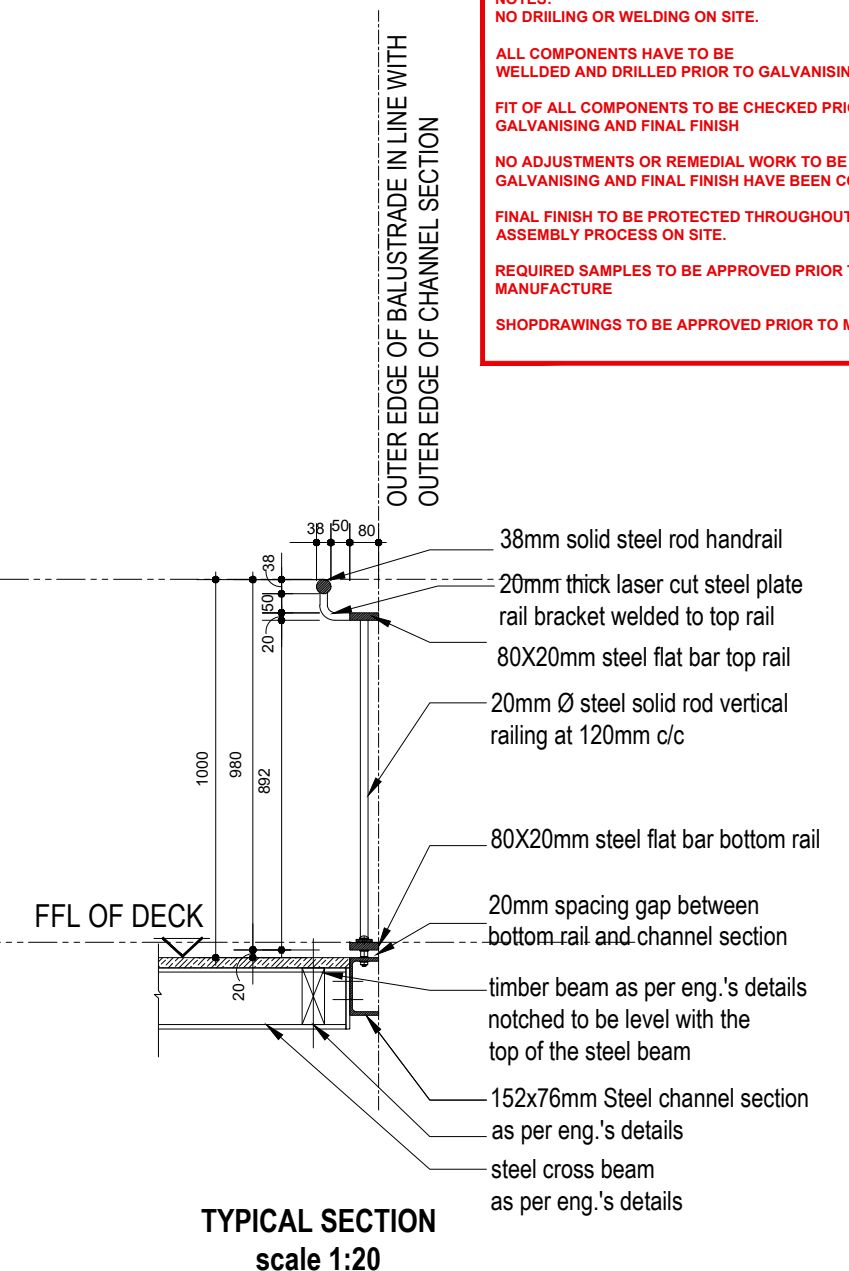
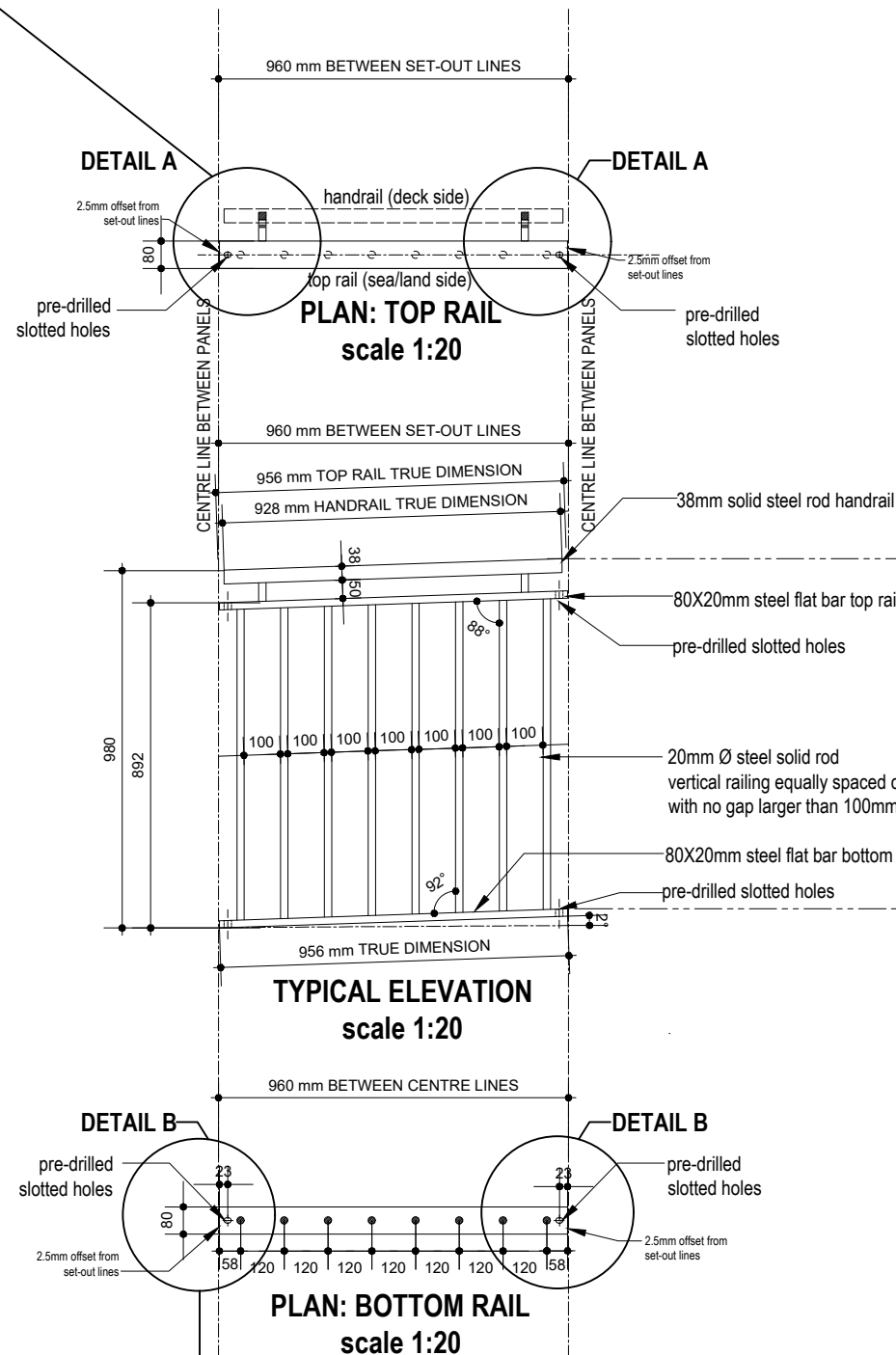
3



DETAIL A: TYPICAL TOP RAIL END
SCALE 1:5



DETAIL B: TYPICAL BOTTOM RAIL END
SCALE 1:5



NOTES:
NO DRILLING OR WELDING ON SITE.
ALL COMPONENTS HAVE TO BE WELDED AND DRILLED PRIOR TO GALVANISING.
FIT OF ALL COMPONENTS TO BE CHECKED PRIOR TO GALVANISING AND FINAL FINISH
NO ADJUSTMENTS OR REMEDIAL WORK TO BE DONE AFTER GALVANISING AND FINAL FINISH HAVE BEEN COMPLETED.
FINAL FINISH TO BE PROTECTED THROUGHOUT THE ASSEMBLY PROCESS ON SITE.
REQUIRED SAMPLES TO BE APPROVED PRIOR TO MANUFACTURE
SHOPDRAWINGS TO BE APPROVED PRIOR TO MANUFACTURE

QUANTITY - PANEL TYPE 3

20

Project Number: CI000689

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3. This drawing to be read in conjunction with all consultants drawings and details.
4. This drawing must not be scaled.

Revisions

no.	date	description	checked	signed

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- ALL STEEL ELEMENTS TO BE PROTECTED AT ALL TIMES AFTER GALVANISING AND PAINTING HAS BEEN COMPLETED UNTIL AFTER ASSEMBLY ON SITE IS COMPLETE.

Client:

CapeNature

Consultant:

Urba

Project:

STONY POINT NATURE RESERVE :
PHASE 1 - BOARDWALK UPGRADE

Drawing Title:

**BALUSTRADE SCHEDULE:
PANEL TYPE 3**

**FOR TENDER
ONLY**

DRAWN	CHECKED	DATE	SCALE	PAGE SIZE
	A.C.	2020-09-07	1:20	ON A3

This drawing to be read in conjunction with drawing no:

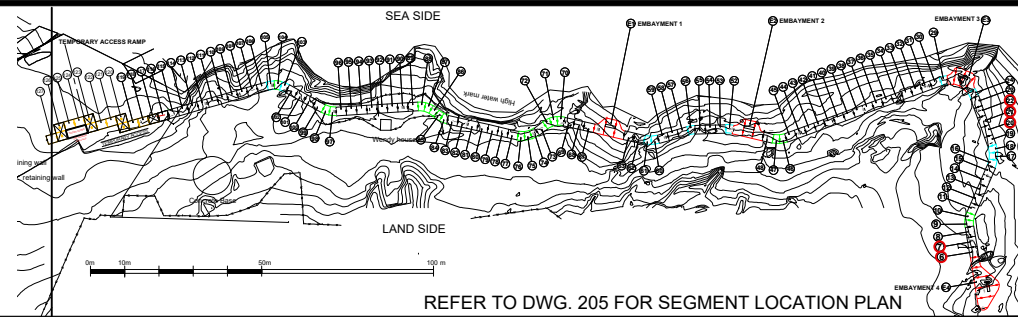
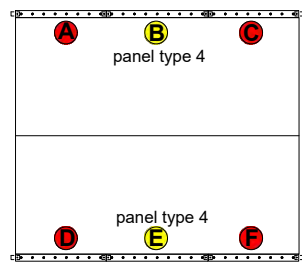
Drawing Number

DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE
AR	180520600	0	T	



SEGMENT KEY

Panel location within segment



REFER TO DWG. 205 FOR SEGMENT LOCATION PLAN

SLOPED SEGMENTS AT 2° ANGLE

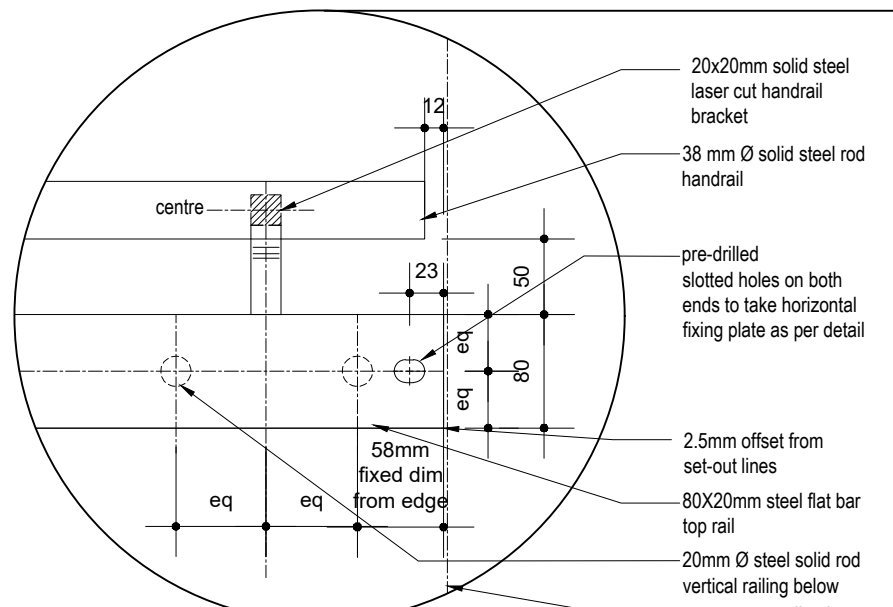
Segment numbers: 6, 7, 20, 21, 22

PANEL TYPE 4: **B** panel type 4 **E** panel type 4

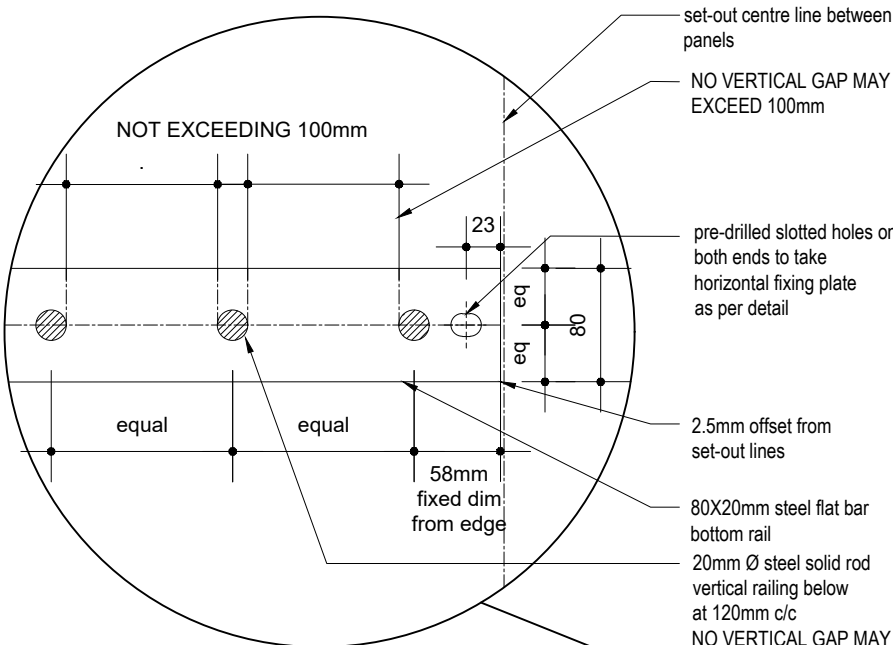
SEGMENT COLOUR KEY

PANEL TYPE

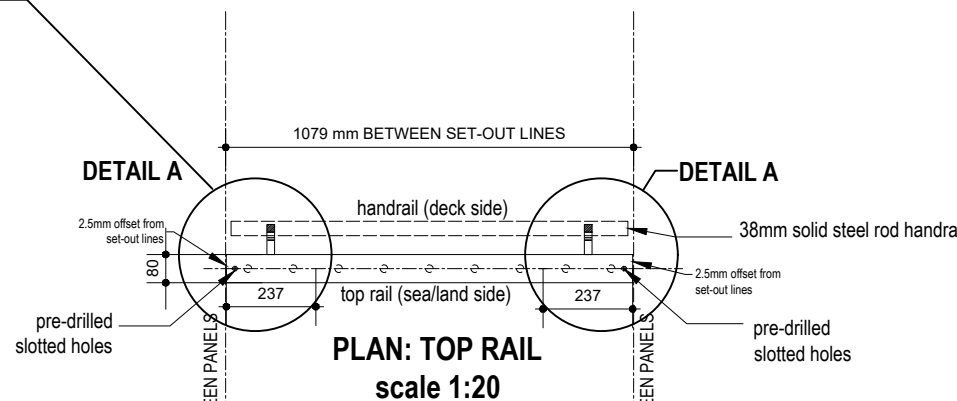
4



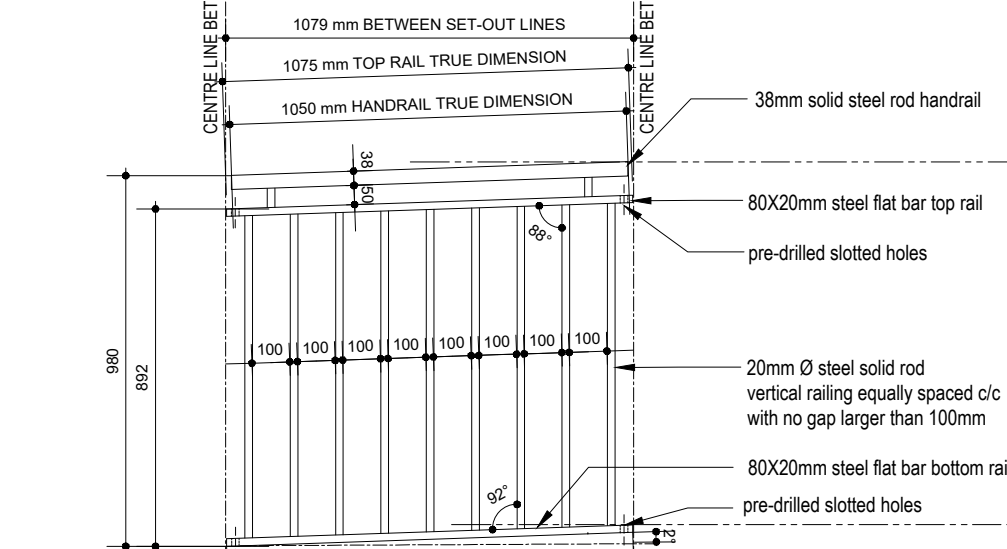
DETAIL A: TYPICAL TOP RAIL END
SCALE 1:5



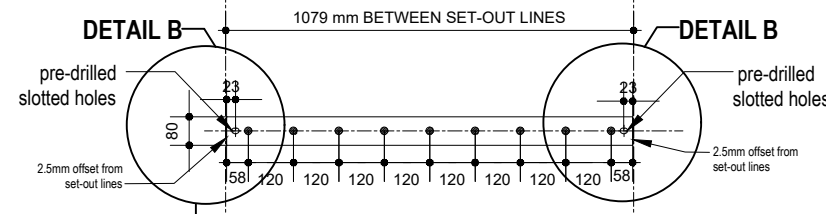
DETAIL B: TYPICAL BOTTOM RAIL END
SCALE 1:5



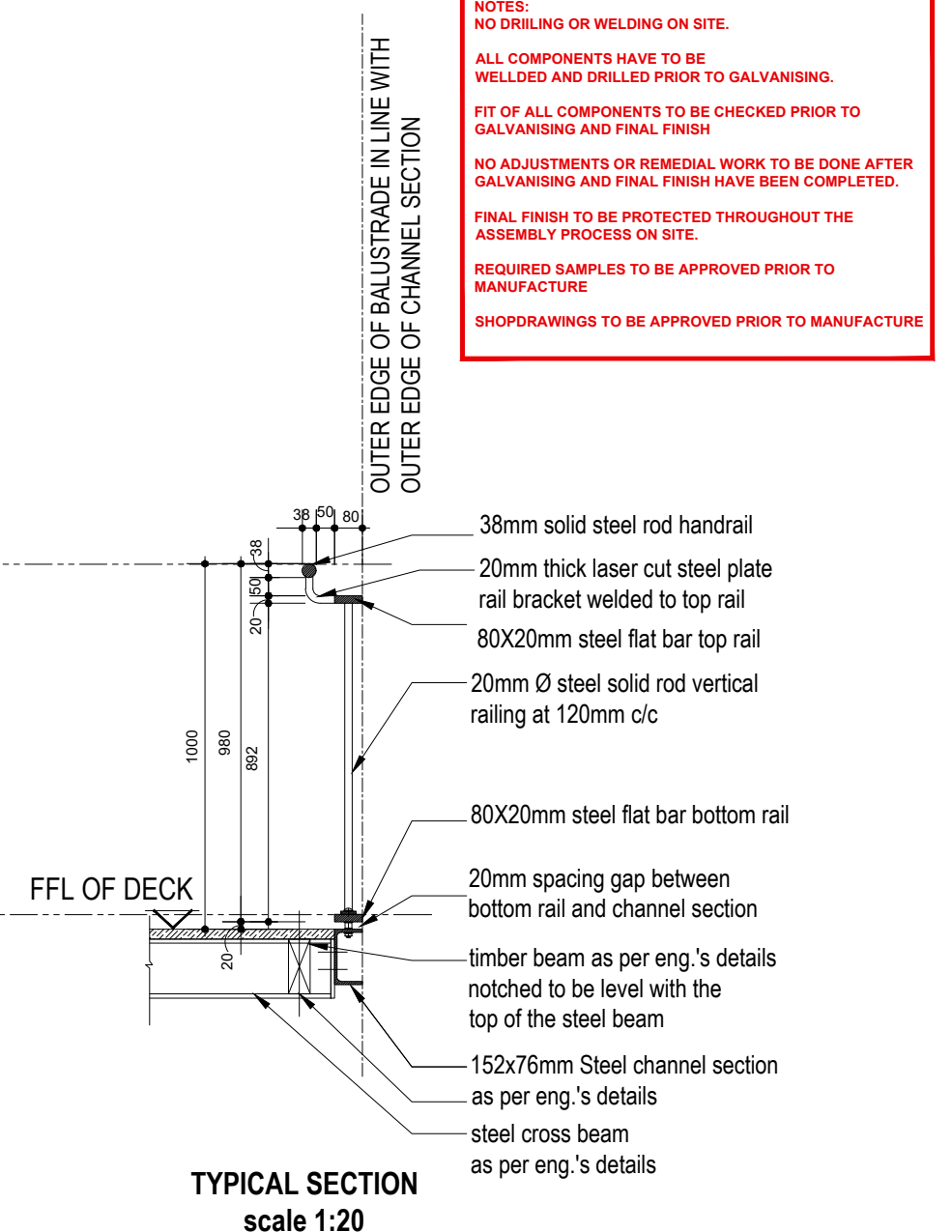
PLAN: TOP RAIL
scale 1:20



TYPICAL ELEVATION
scale 1:20



PLAN: BOTTOM RAIL
scale 1:20



TYPICAL SECTION
scale 1:20

NOTES:
NO DRILLING OR WELDING ON SITE.
ALL COMPONENTS HAVE TO BE WELDED AND DRILLED PRIOR TO GALVANISING.
FIT OF ALL COMPONENTS TO BE CHECKED PRIOR TO GALVANISING AND FINAL FINISH
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FINAL FINISH TO BE PROTECTED THROUGHOUT THE ASSEMBLY PROCESS ON SITE.
REQUIRED SAMPLES TO BE APPROVED PRIOR TO MANUFACTURE
SHOPDRAWINGS TO BE APPROVED PRIOR TO MANUFACTURE

QUANTITY - PANEL TYPE 4

10

SEGMENT KEY :
PANEL TYPE 5 & 6

SLOPED SEGMENTS AT 1° ANGLE

Applicable segment numbers:
31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41,
42, 43, 44, 90, 91, 92, 93, 94, 95, 127

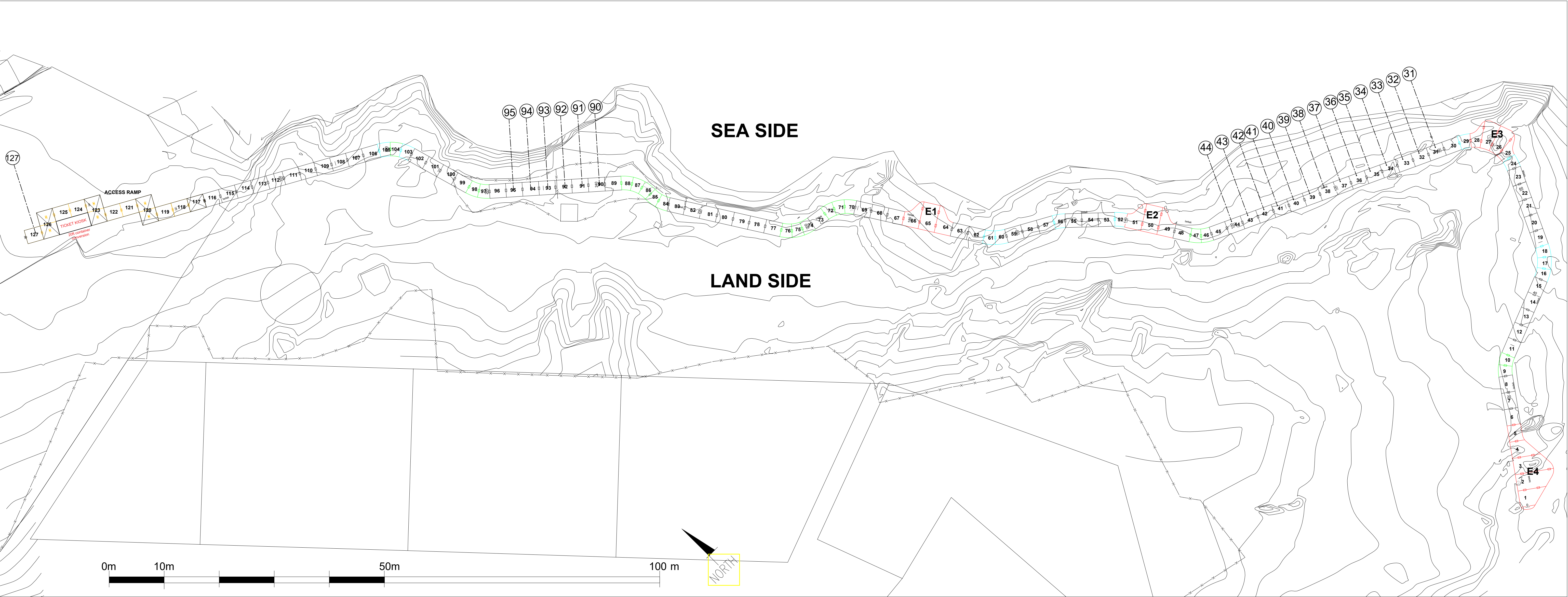
1° SLOPED SEGMENT

PANEL TYPE 5

1° SLOPED SEGMENT

PANEL TYPE 6

TO BE READ IN CONJUNCTION WITH DWG. 209 & 210



SEGMENT LOCATION PLAN

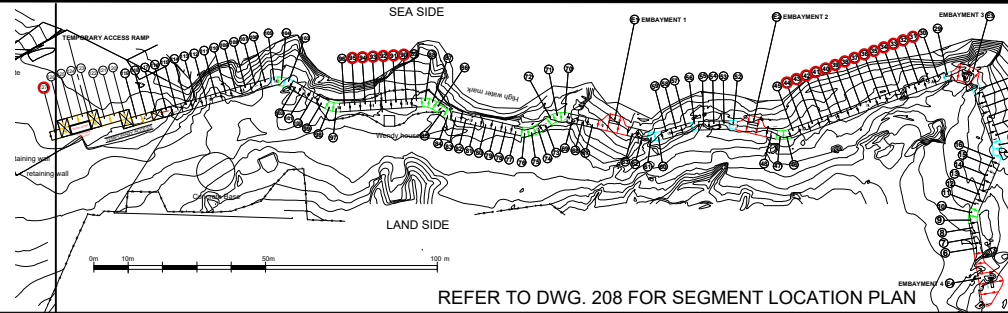
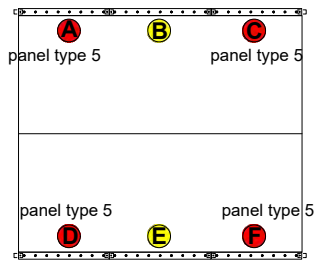
NOTES:
SAMPLES:

- SAMPLES TO BE APPROVED BY THE ARCHITECT PRIOR TO MANUFACTURE
- SAMPLES REQUIRED:
 - SAMPLE 1: TYPICAL LEVEL 3000mm BALUSTRADE SEGMENT
 - SAMPLE 2: TYPICAL 5500mm RADIUS CURVED SEGMENT
 - SAMPLE 3: TYPICAL 7000mm RADIUS CURVED SEGMENT
 - SAMPLE 4: GATE SEGMENT
 - SAMPLE 5: TYPICAL CORNER BALUSTRADE PANEL
 - ANY ADDITIONAL SAMPLES REQUESTED

SHOPDRAWINGS:
SHOPDRAWING OF ALL PANELS TO BE APPROVED PRIOR TO MANUFACTURE

Project Number:		CI000689	COPYRIGHT NOTICE		General Notes		Revisions		NOTES: - NO DRILLING, CUTTING, FILLING OR ANY FORM OF STRUCTURAL ADJUSTMENT ALLOWED AFTER THE COMPLETION OF THE GALVANISING PROCESS OR WHEN ASSEMBLING ON SITE. FIT OF ALL ELEMENTS TO BE CHECKED PRIOR TO GALVANISING. - ALL STEEL ELEMENTS TO BE GALVANISED AND PAINTED AS PER SPECIFICATION - ALL BOLTS AND NUTS TO BE STAINLESS STEEL - ALL WASHERS TO BE BLACK NYLON WASHERS - ALL STEEL ELEMENTS TO BE PROTECTED AT ALL TIMES AFTER GALVANISING AND PAINTING HAS BEEN COMPLETED UNTIL AFTER ASSEMBLY ON SITE IS COMPLETE.		Client:		Project:		Drawing Title:																				
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		no.	date	description	checked	signed																													
Urba		FOR TENDER ONLY		DRAWN		CHECKED		DATE		SCALE		PAGE SIZE																							
								A.C.		2020-09-07				A1																					

SEGMENT KEY



REFER TO DWG. 208 FOR SEGMENT LOCATION PLAN

SLOPED SEGMENTS AT 1° ANGLE

Applicable segment numbers:

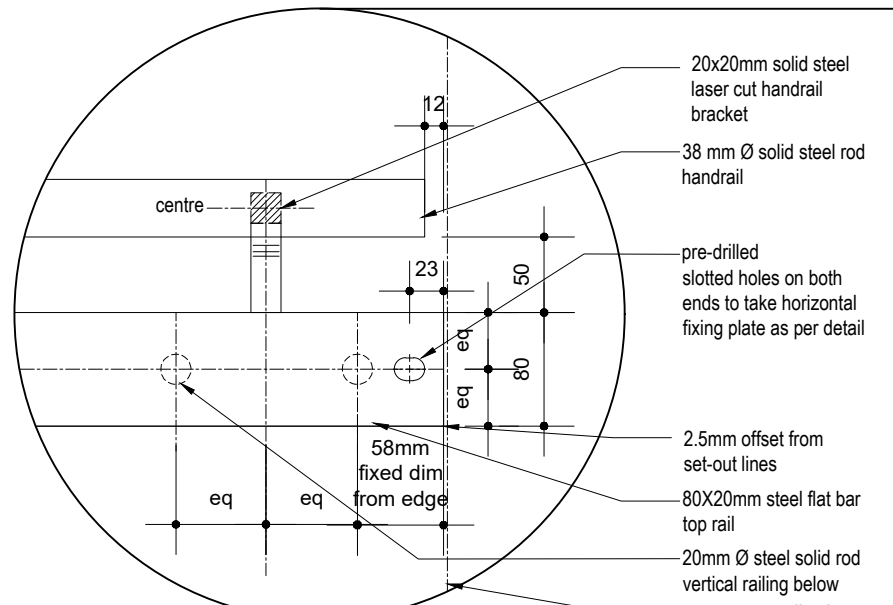
31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41,
42, 43, 44, 90, 91, 92, 93, 94, 95, 127



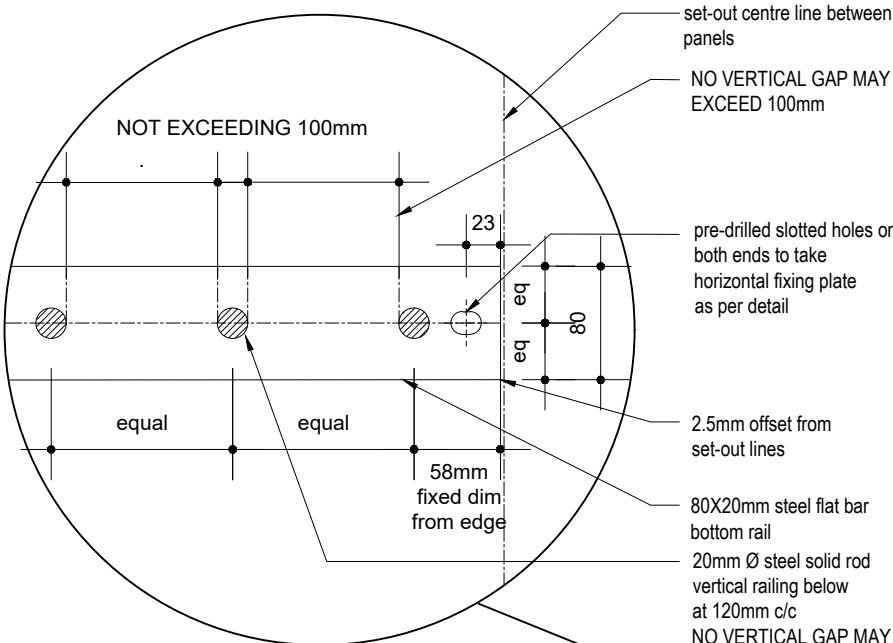
SEGMENT COLOUR KEY

PANEL TYPE

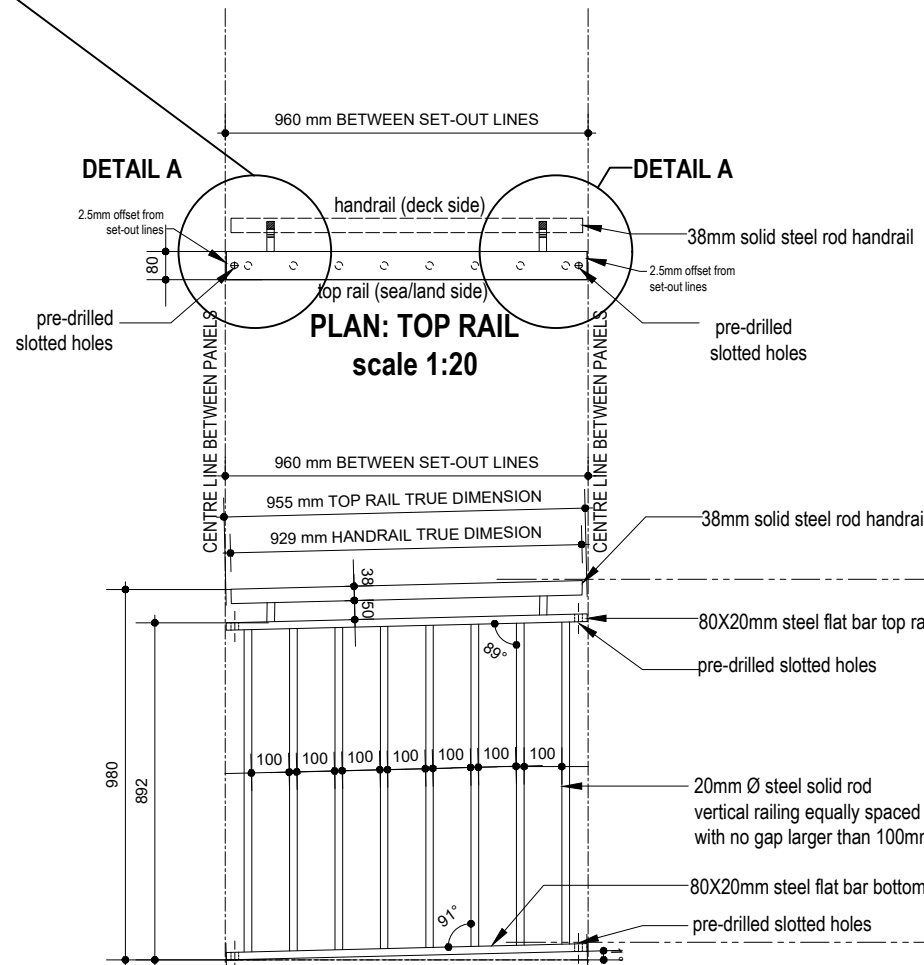
5



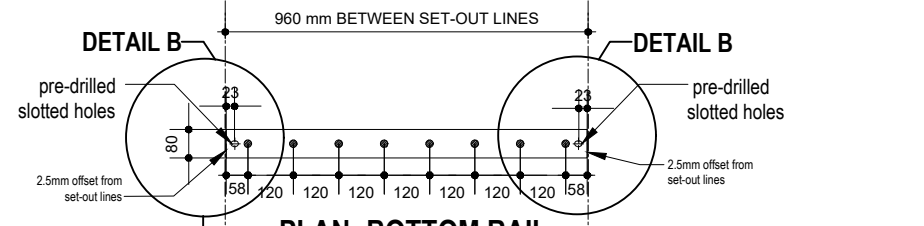
DETAIL A: TYPICAL TOP RAIL END
SCALE 1:5



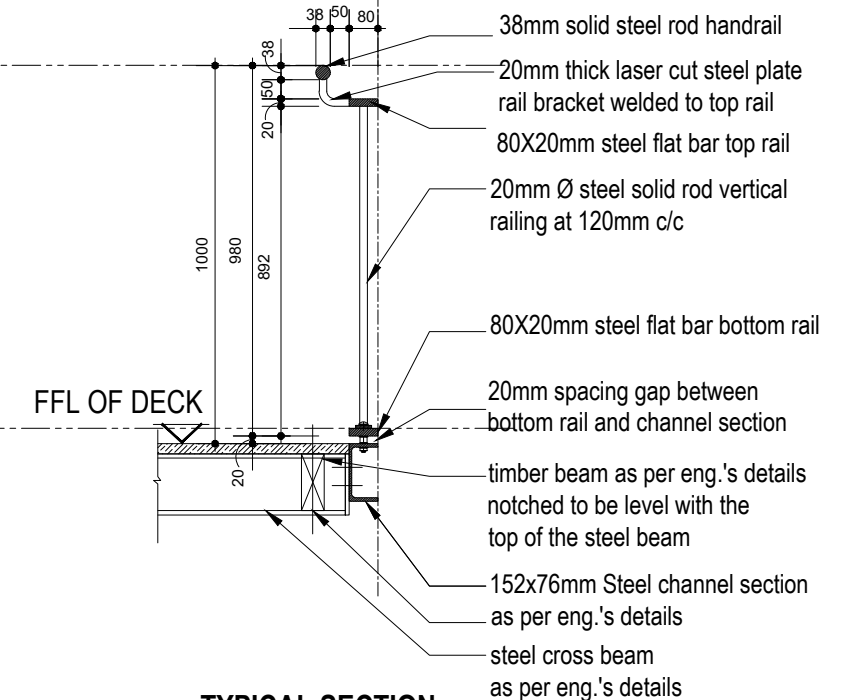
DETAIL B: TYPICAL BOTTOM RAIL END
SCALE 1:5



TYPICAL ELEVATION
scale 1:20



PLAN: BOTTOM RAIL
scale 1:20



TYPICAL SECTION
scale 1:20

NOTES:
NO DRILLING OR WELDING ON SITE.

ALL COMPONENTS HAVE TO BE WELDED AND DRILLED PRIOR TO GALVANISING.

FIT OF ALL COMPONENTS TO BE CHECKED PRIOR TO GALVANISING AND FINAL FINISH

NO ADJUSTMENTS OR REMEDIAL WORK TO BE DONE AFTER GALVANISING AND FINAL FINISH HAVE BEEN COMPLETED.

FINAL FINISH TO BE PROTECTED THROUGHOUT THE ASSEMBLY PROCESS ON SITE.

REQUIRED SAMPLES TO BE APPROVED PRIOR TO MANUFACTURE

SHOPDRAWINGS TO BE APPROVED PRIOR TO MANUFACTURE

QUANTITY - PANEL TYPE 5

81

Project Number: CI000689

Western Cape Government

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Revisions				
no.	date	description	checked	signed

NOTES:
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Client: CapeNature
Consultant: Urba

Project: STONY POINT NATURE RESERVE : PHASE 1 - BOARDWALK UPGRADE

FOR TENDER ONLY

Drawing Title:				
BALUSTRADE SCHEDULE: PANEL TYPE 5				
DRAWN	CHECKED	DATE	SCALE	PAGE SIZE
	A.C.	2020-09-07	1:20	ON A3
This drawing is to be read in conjunction with drawing no:				
Drawing Number				
DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE
AR	180520900	0	T	

SEGMENT KEY:
PANELTYPE 7 & 8

SLOPED SEGMENTS AT 5° ANGLE
Applicable segment numbers:
12, 13, 14, 58,100, 101, 107, 108, 109, 110,
113, 114, 115, 116,118, 119, 121, 122, 124,
125

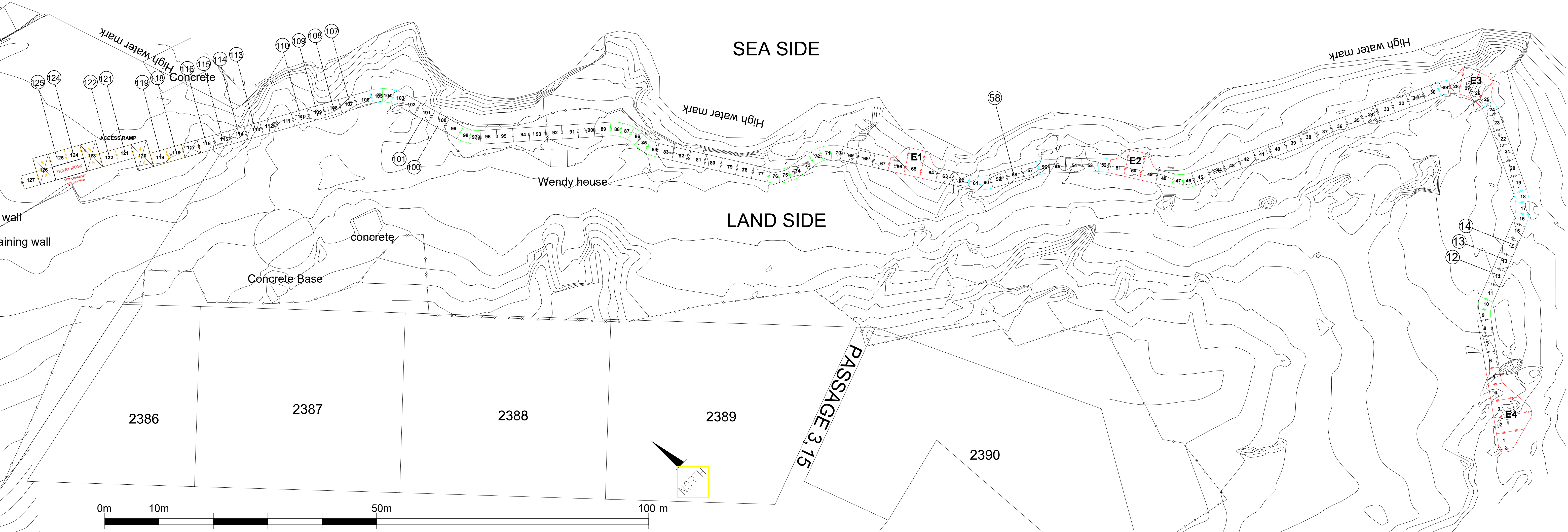
SLOPED SEGMENT : 5°

PANEL TYPE 7

SLOPED SEGMENT : 5°

PANEL TYPE 8

TO BE READ IN CONJUNCTION WITH DWG. 212 & 213



SEGMENT LOCATION PLAN

SCALE BAR: metres

NOTES:
SAMPLES:

- SAMPLES TO BE APPROVED BY THE ARCHITECT PRIOR TO MANUFACTURE

- SAMPLES REQUIRED:
- SAMPLE 1: TYPICAL LEVEL 3000mm BALUSTRADE SEGMENT
- SAMPLE 2: TYPICAL 5500mm RADIUS CURVED SEGMENT
- SAMPLE 3: TYPICAL 7000mm RADIUS CURVED SEGMENT
- SAMPLE 4: GATE SEGMENT
- SAMPLE 5: TYPICAL CORNER BALUSTRADE PANEL
- ANY ADDITIONAL SAMPLES REQUESTED

SHOPDRAWINGS:

SHOPDRAWING OF ALL PANELS TO BE APPROVED PRIOR TO MANUFACTURE

NOTES:

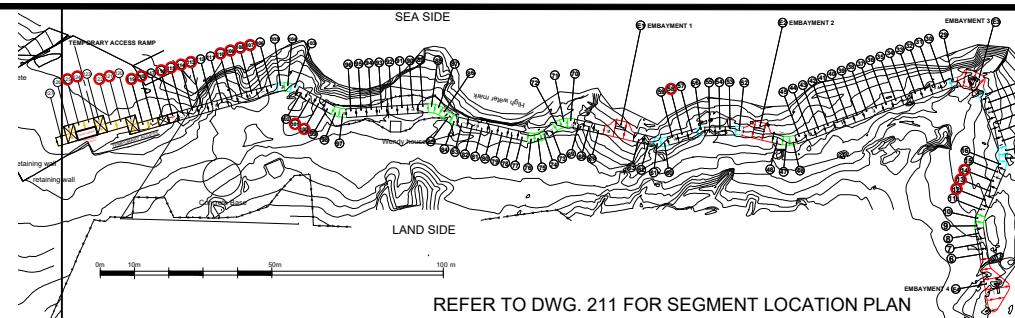
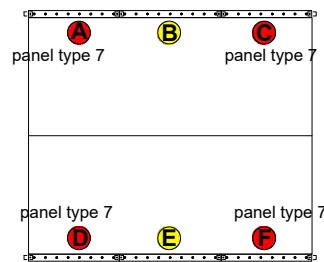
- NO DRILLING, CUTTING, FILLING OR ANY FORM OF STRUCTURAL ADJUSTMENT ALLOWED AFTER THE COMPLETION OF THE GALVANISING PROCESS OR WHEN ASSEMBLING ON SITE. FIT OF ALL ELEMENTS TO BE CHECKED PRIOR TO GALVANISING.

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Project Number:		CI000689	COPYRIGHT NOTICE		General Notes		Revisions		NOTES:		Client:		Project:		Drawing Title:																													
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no.	date	description	checked	signed																																								
 Western Cape Government									FOR TENDER ONLY				<table><tr><th>DRAWN</th><th>CHECKED</th><th>DATE</th><th>SCALE</th><th>PAGE SIZE</th></tr><tr><td> </td><td>A.C.</td><td>2020-09-07</td><td> </td><td>A1</td></tr></table> This drawing to be read in conjunction with drawing no: <table><tr><th colspan="2">Drawing Number</th><th>PROJECT NUMBER</th><th>DRAWING NUMBER</th><th>REVISION</th><th>STAGE</th></tr><tr><td>DISCIPLINE</td><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td>AR</td><td> </td><td>180521</td><td>1100</td><td>T</td><td> </td></tr></table>		DRAWN	CHECKED	DATE	SCALE	PAGE SIZE		A.C.	2020-09-07		A1	Drawing Number		PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE	DISCIPLINE						AR		180521	1100	T			
DRAWN	CHECKED	DATE	SCALE	PAGE SIZE																																								
	A.C.	2020-09-07		A1																																								
Drawing Number		PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE																																							
DISCIPLINE																																												
AR		180521	1100	T																																								

SEGMENT KEY

Panel location within segment



REFER TO DWG. 211 FOR SEGMENT LOCATION PLAN

SLOPED SEGMENTS AT 5° ANGLE

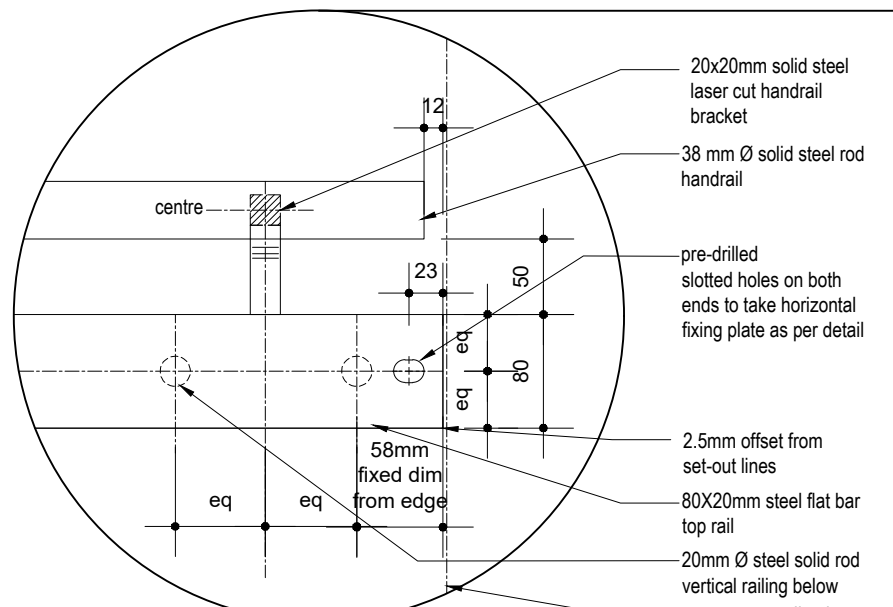
Applicable segment numbers:

12, 13, 14, 58, 100, 101, 107, 108, 109, 110, 113, 114, 115, 116, 118, 119, 121, 122, 124, 125

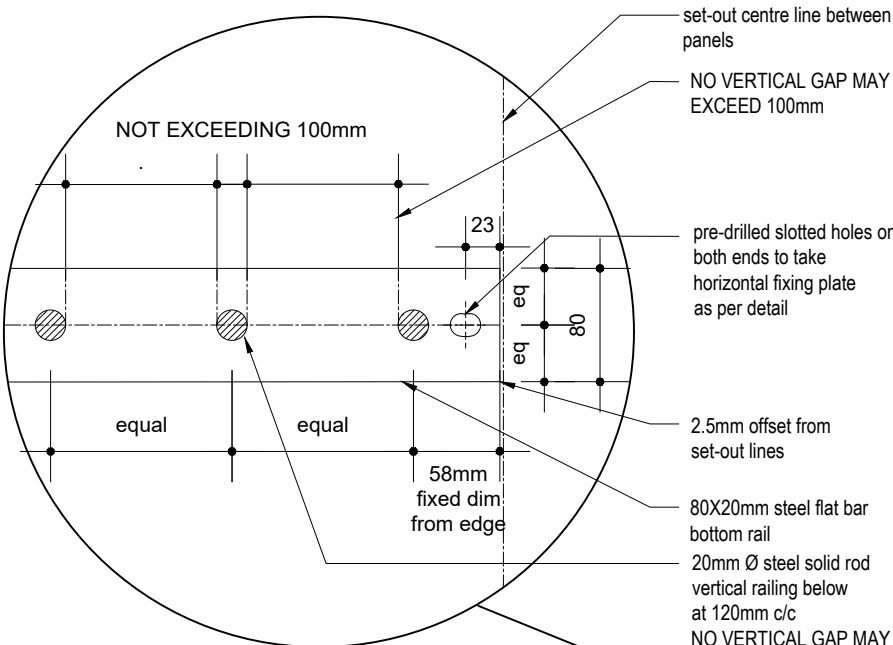
PANEL TYPE 7: **A** panel type 7 **C** panel type 7 **D** panel type 7 **F** panel type 7

SEGMENT COLOUR KEY

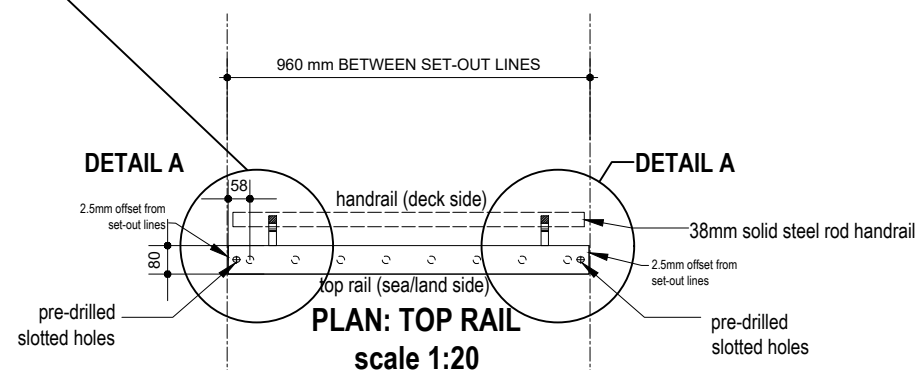
PANEL TYPE 7



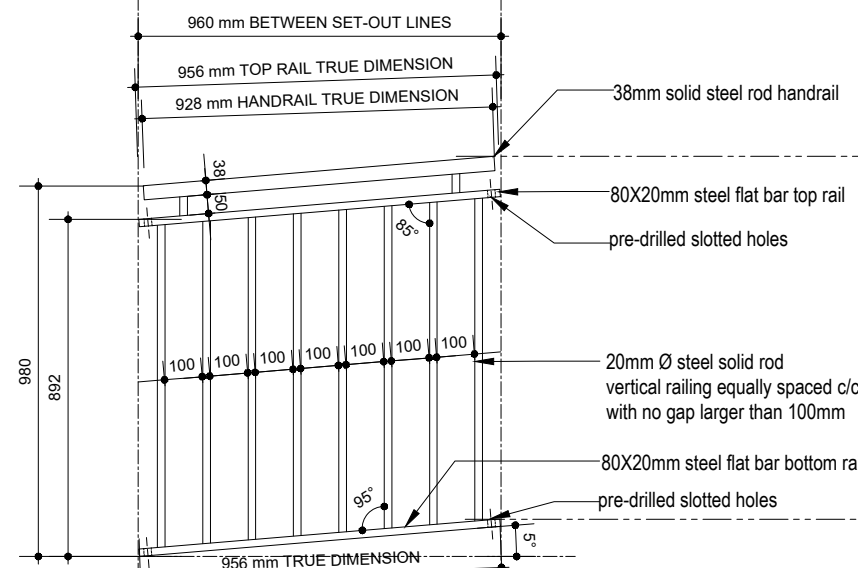
DETAIL A: TYPICAL TOP RAIL END
SCALE 1:5



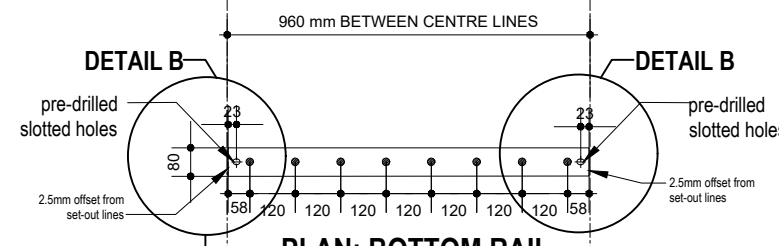
DETAIL B: TYPICAL BOTTOM RAIL END
SCALE 1:5



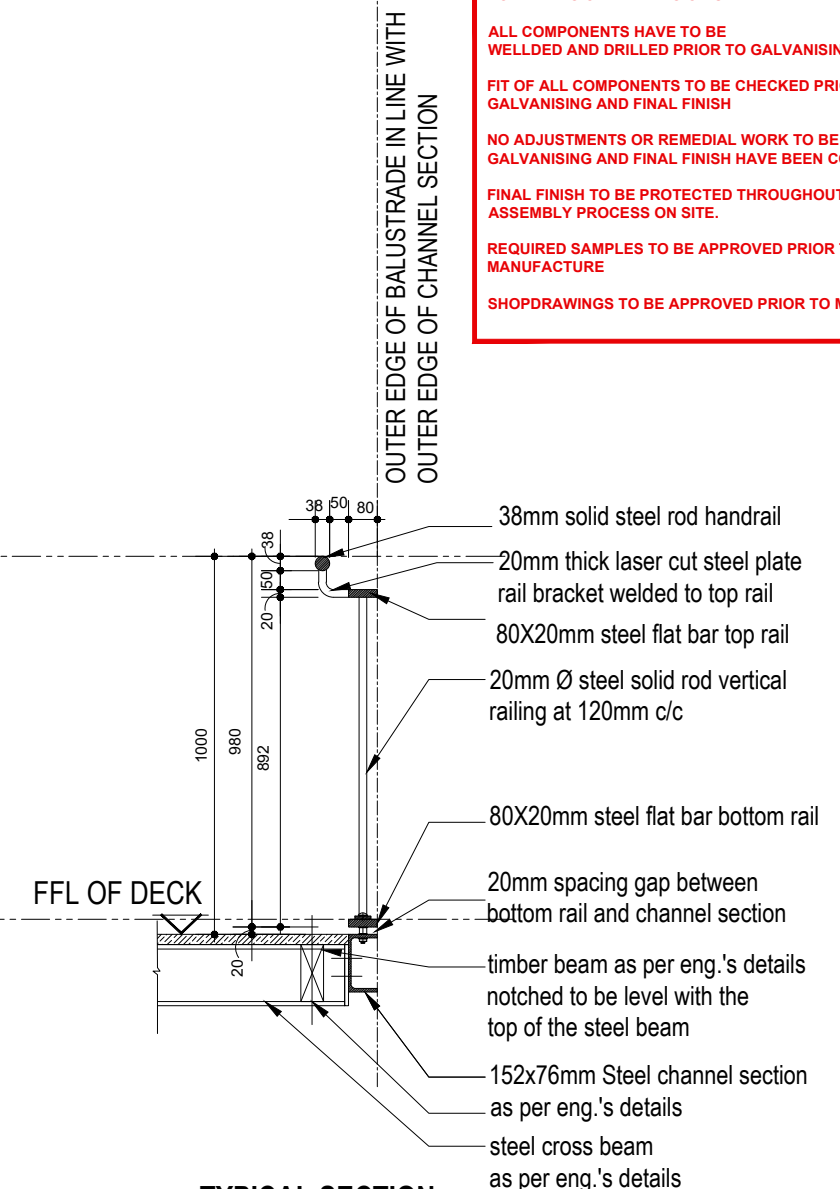
PLAN: TOP RAIL
scale 1:20



TYPICAL ELEVATION
scale 1:20



PLAN: BOTTOM RAIL
scale 1:20



TYPICAL SECTION
scale 1:20

NOTES:
NO DRILLING OR WELDING ON SITE.
ALL COMPONENTS HAVE TO BE WELDED AND DRILLED PRIOR TO GALVANISING.
FIT OF ALL COMPONENTS TO BE CHECKED PRIOR TO GALVANISING AND FINAL FINISH
NO ADJUSTMENTS OR REMEDIAL WORK TO BE DONE AFTER GALVANISING AND FINAL FINISH HAVE BEEN COMPLETED.
FINAL FINISH TO BE PROTECTED THROUGHOUT THE ASSEMBLY PROCESS ON SITE.
REQUIRED SAMPLES TO BE APPROVED PRIOR TO MANUFACTURE
SHOPDRAWINGS TO BE APPROVED PRIOR TO MANUFACTURE

QUANTITY - PANEL TYPE 7

76

Project Number: CI000689

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3. This drawing to be read in conjunction with all consultants drawings and details.
4. This drawing must not be scaled.

Revisions

no.	date	description	checked	signed

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- ALL STEEL ELEMENTS TO BE PROTECTED AT ALL TIMES AFTER GALVANISING AND PAINTING HAS BEEN COMPLETED UNTIL AFTER ASSEMBLY ON SITE IS COMPLETE.

Client:

CapeNature

Consultant:

Urba

Project:

STONY POINT NATURE RESERVE :
PHASE 1 - BOARDWALK UPGRADE

Drawing Title:

**BALUSTRADE SCHEDULE:
PANEL TYPE 7**

**FOR TENDER
ONLY**

DRAWN CHECKED DATE SCALE PAGE SIZE

A.C. 2020-09-07 1:20 ON A3

This drawing to be read in conjunction with drawing no:

Drawing Number

DISCIPLINE PROJECT NUMBER DRAWING NUMBER REVISION STAGE

AR 180521200 T



SEGMENT KEY
PANEL TYPE 9 & 10

SLOPED SEGMENTS AT 4° ANGLE

Applicable segment numbers: 68

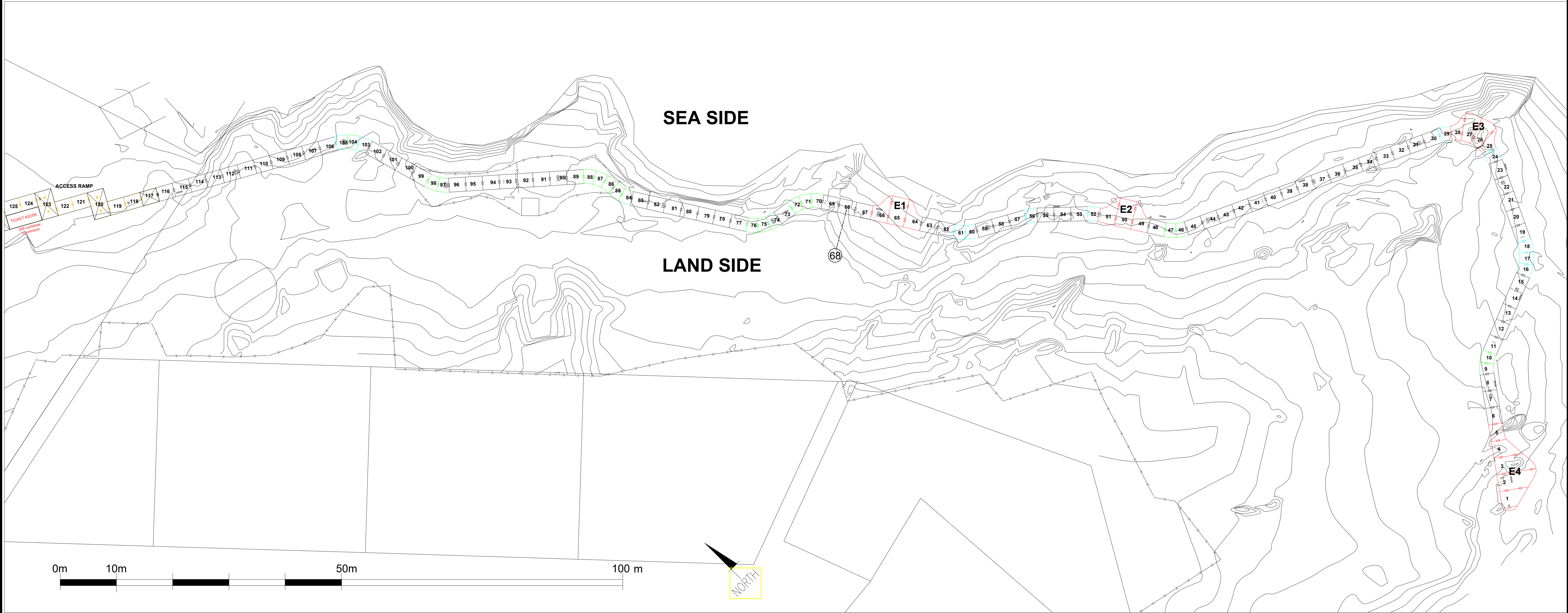
4° SLOPED SEGMENT

PANEL TYPE 9

4° SLOPED SEGMENT

PANEL TYPE 10

TO BE READ IN CONJUNCTION WITH DWG. 215 & 216



SEGMENT LOCATION PLAN

NOTES:
SAMPLES:

- SAMPLES TO BE APPROVED BY THE ARCHITECT PRIOR TO MANUFACTURE

- SAMPLES REQUIRED:

- SAMPLE 1: TYPICAL LEVEL 3000mm BALUSTRADE SEGMENT

- SAMPLE 2: TYPICAL 5500mm RADIUS CURVED SEGMENT

- SAMPLE 3: TYPICAL 7000mm RADIUS CURVED SEGMENT

- SAMPLE 4: GATE SEGMENT

- SAMPLE 5: TYPICAL CORNER BALUSTRADE PANEL

- ANY ADDITIONAL SAMPLES REQUESTED

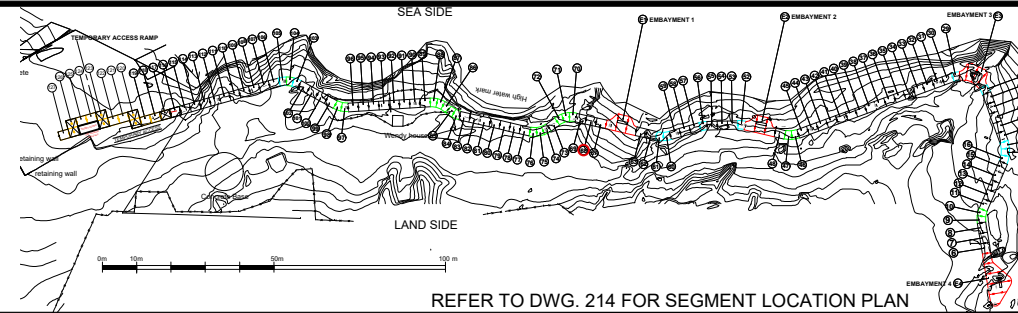
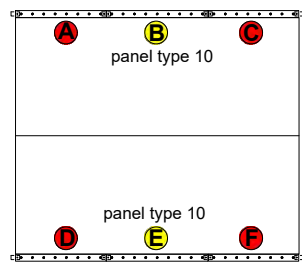
SHOPDRAWINGS:

SHOPDRAWING OF ALL PANELS TO BE APPROVED PRIOR TO MANUFACTURE

Project Number:		CI000689	COPYRIGHT NOTICE		General Notes		Revisions		NOTES:		Client:		Project:		Drawing Title:																					
 Western Cape Government			Copyright © Urba Copyright subsists in this drawing. The person or entity whose name appears in the title block of this drawing is hereby granted a non-exclusive license to use, display, print and/or reproduce this drawing to the extent necessary to carry out and complete the project described in the title block of this drawing. This license in respect of the copyright is expressly limited as aforesaid and the person and/or entity referred to above shall not be entitled to grant sub-licenses in respect of the copyright in this drawing to any other entity. This license confers no ownership right in the copyright vesting in the drawing and this drawing and the copyright subsisting therein will, at all times, remain the property of Urba. Any unauthorised reproduction, publication, transmission, adaptation and/or inclusion of this drawing in a cinematographic film or television broadcast is an act of copyright infringement which will render the doer of the act liable for civil copyright infringement and may in certain circumstances render the doer liable to criminal prosecution. Requests and enquiries concerning this drawing and the rights subsisting therein should be addressed to the copyright owner.		1. This drawing is to be read in conjunction with engineers drawings. 2. Any discrepancies to be reported to the architects prior to work commencing. 3. This drawing to be read in conjunction with all consultants drawings and details. 4. This drawing must not be scaled		<table><tr><th>no.</th><th>date</th><th>description</th><th>checked</th><th>signed</th></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table>		no.	date	description	checked	signed																NO DRILLING, CUTTING, FILLING OR ANY FORM OF STRUCTURAL ADJUSTMENT ALLOWED AFTER THE COMPLETION OF THE GALVANISING PROCESS OR WHEN ASSEMBLING ON SITE. FIT OF ALL ELEMENTS TO BE CHECKED PRIOR TO GALVANISING. ALL STEEL ELEMENTS TO BE GALVANISED AND PAINTED AS PER SPECIFICATION ALL BOLTS AND NUTS TO BE STAINLESS STEEL ALL WASHERS TO BE BLACK NYLON WASHERS ALL STEEL ELEMENTS TO BE PROTECTED AT ALL TIMES AFTER GALVANISING AND PAINTING HAS BEEN COMPLETED UNTIL AFTER ASSEMBLY ON SITE IS COMPLETE.		CapeNature		STONY POINT NATURE RESERVE : PHASE 1 - BOARDWALK UPGRADE		SEGMENT LOCATION PLAN: PANLES 9 & 10	
			no.	date	description	checked	signed																													
Consultant:		Urba		FOR TENDER ONLY		DRAWN		CHECKED	DATE	SCALE	PAGE SIZE																									
Urba		A.C.				A.C.	2020-09-07	1:1	A1																											
								This drawing to be read in conjunction with drawing no:		Drawing Number																										
								DISCIPLINE		PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE																							
								AR		180521	1400	T																								

SEGMENT KEY

Panel location within segment



SLOPED SEGMENTS AT 4° ANGLE

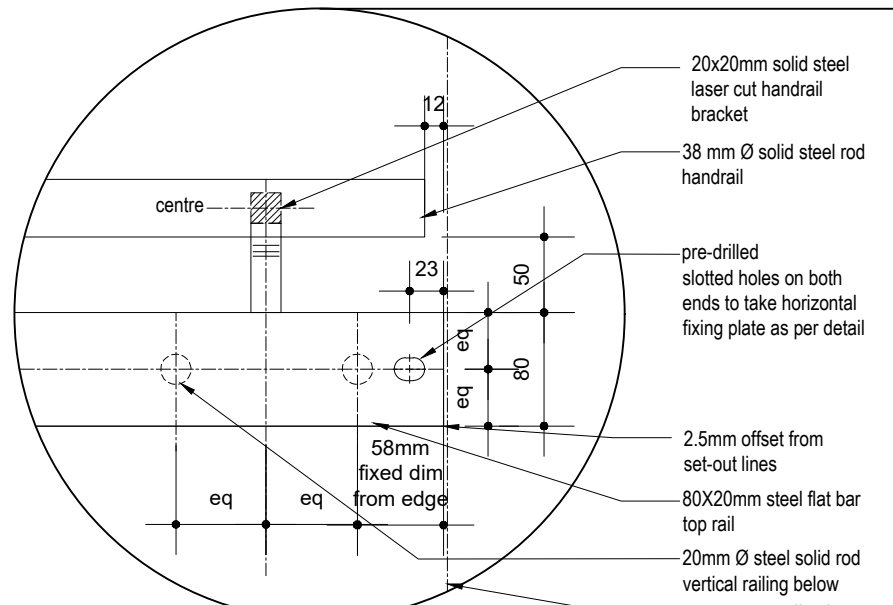
Segment numbers: 68

PANEL TYPE 10: **B** panel 10 **E** panel 10

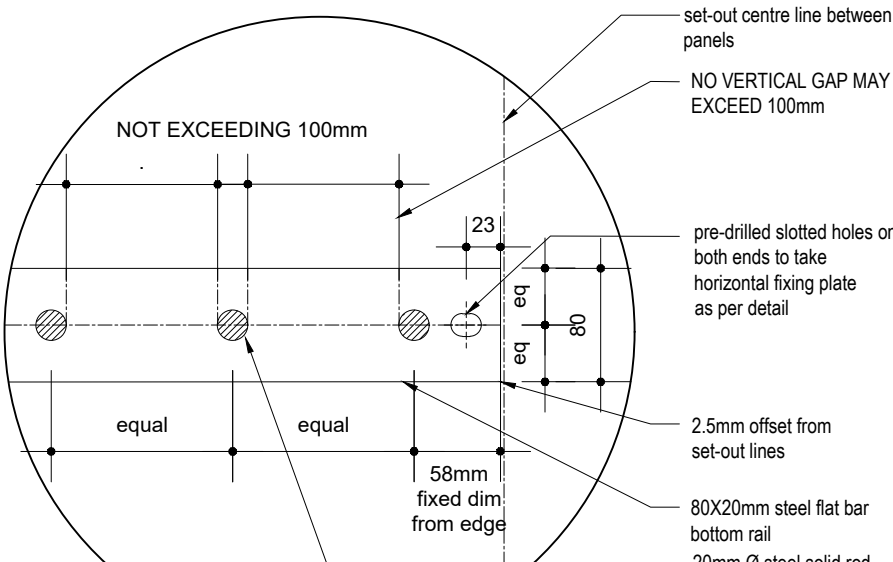
SEGMENT COLOUR KEY

PANEL TYPE

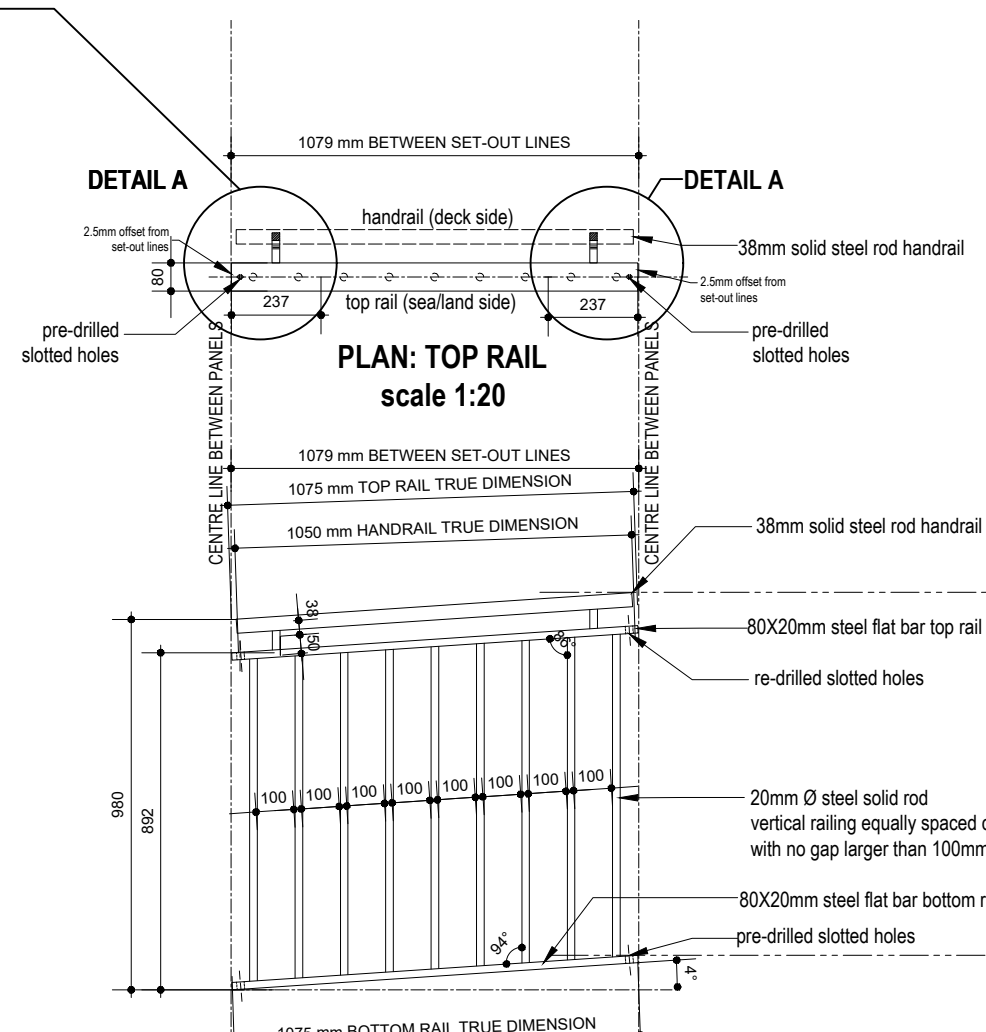
10



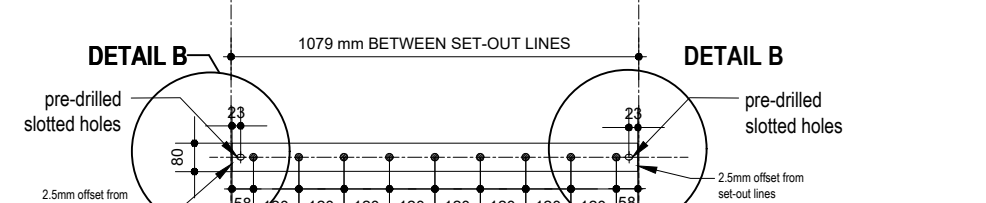
DETAIL A: TYPICAL TOP RAIL END
SCALE 1:5



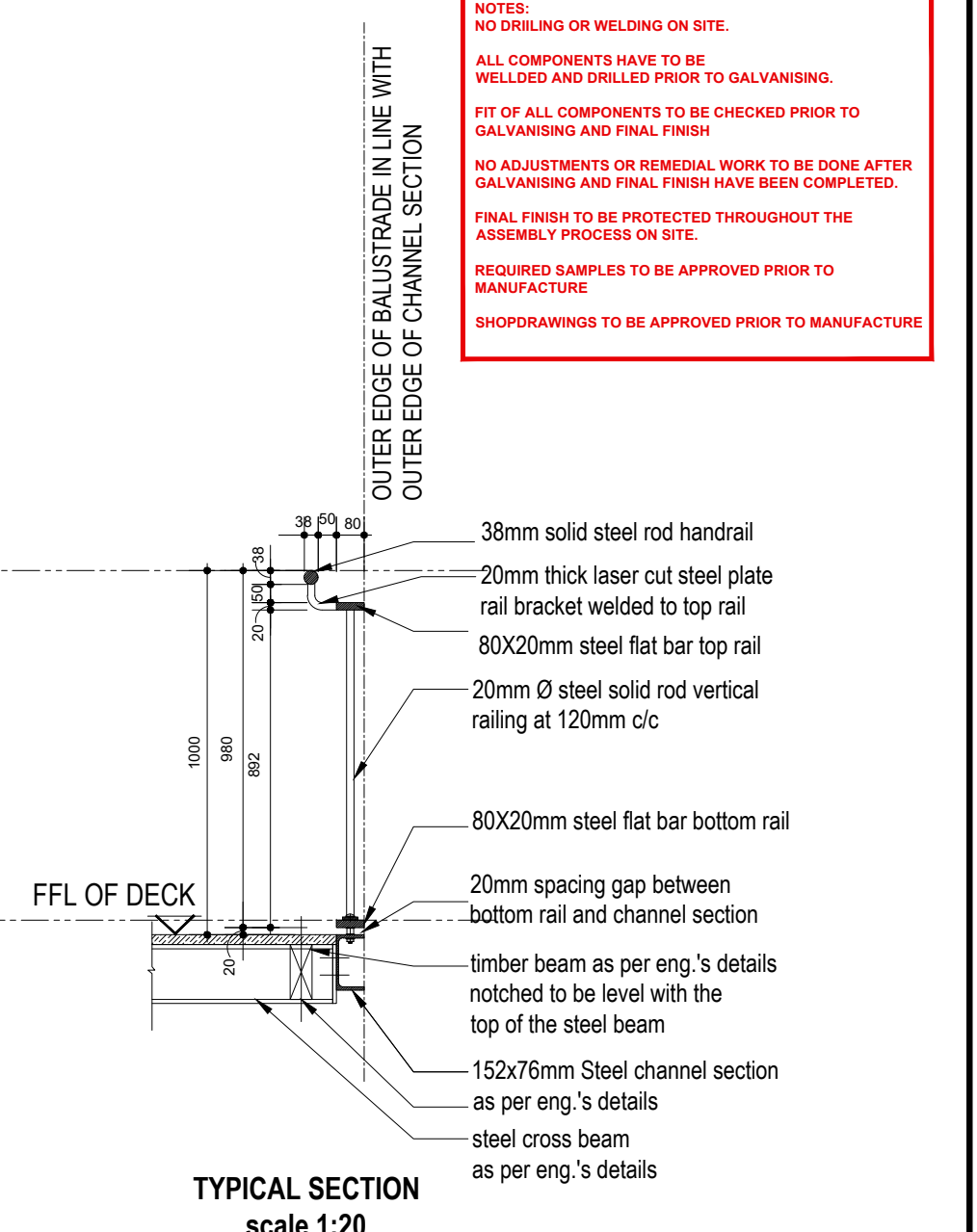
DETAIL B: TYPICAL BOTTOM RAIL END
SCALE 1:5



TYPICAL ELEVATION
scale 1:20



PLAN: BOTTOM RAIL
scale 1:20



NOTES:
NO DRILLING OR WELDING ON SITE.

ALL COMPONENTS HAVE TO BE WELDED AND DRILLED PRIOR TO GALVANISING.

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FINAL FINISH TO BE PROTECTED THROUGHOUT THE ASSEMBLY PROCESS ON SITE.

REQUIRED SAMPLES TO BE APPROVED PRIOR TO MANUFACTURE

SHOPDRAWINGS TO BE APPROVED PRIOR TO MANUFACTURE

QUANTITY - PANEL TYPE 10

2

Project Number: CI000689

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Revisions

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Client: CapeNature

Project: STONY POINT NATURE RESERVE : PHASE 1 - BOARDWALK UPGRADE

Drawing Title: BALUSTRADE SCHEDULE: PANEL TYPE 10



FOR TENDER ONLY

DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE
AR	18052	1600	T	

SEGMENT KEY:
PANEL TYPE 11
PANEL TYPE 12
PANEL TYPE 13

CURVED SEGMENTS AT 0°
ANGLE WITH 5500mm INNER
RADIUS OF BOARDWALK

Applicable segment numbers:
9, 10, 46, 47, 70, 71, 72, 74, 75, 76, 84, 85,
86, 87, 88, 97, 98, 104, &
EMBAYMENT 3: Segments 25 & 28

CURVED SEGMENT
5500MM INNER
RADIUS

PANEL TYPE 11

CURVED SEGMENT
5500MM INNER
RADIUS

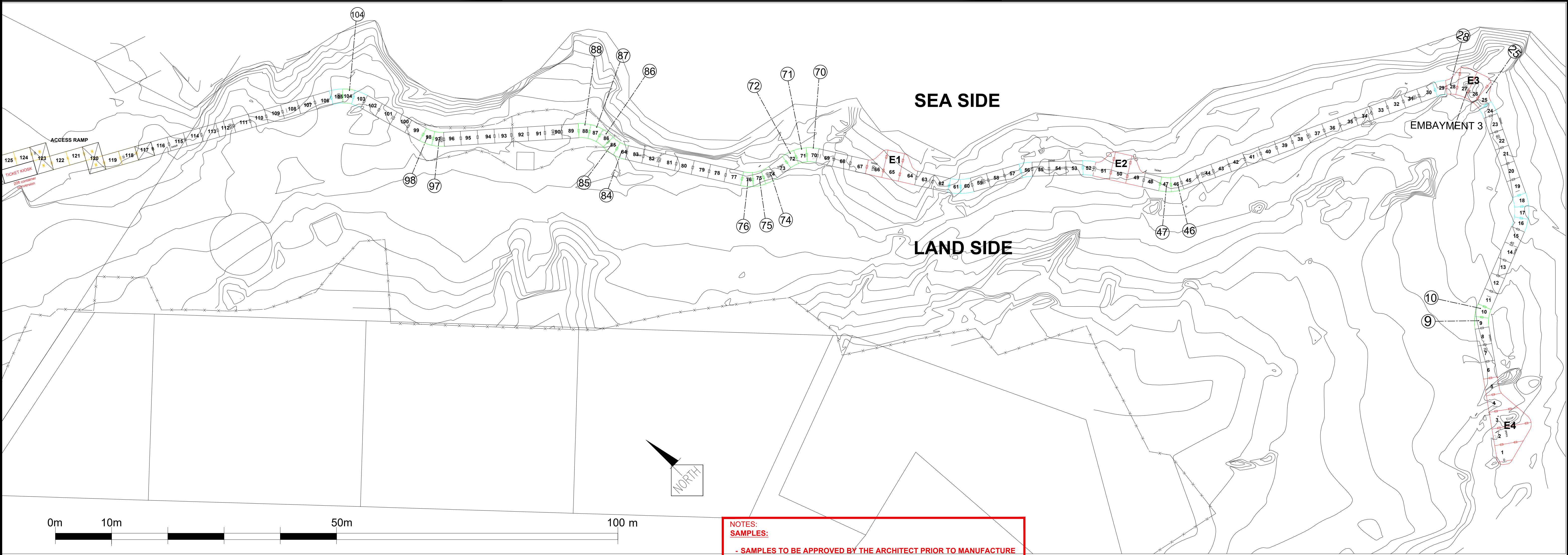
PANEL TYPE 12

CURVED SEGMENT
8000MM OUTER
RADIUS

PANEL TYPE 13



TO BE READ IN CONJUNCTION WITH DWG. 218, 219 & 220



SEGMENT LOCATION PLAN

NOTES:
SAMPLES:
- SAMPLES TO BE APPROVED BY THE ARCHITECT PRIOR TO MANUFACTURE
- SAMPLES REQUIRED:
- SAMPLE 1: TYPICAL LEVEL 3000mm BALUSTRADE SEGMENT
- SAMPLE 2: TYPICAL 5500mm RADIUS CURVED SEGMENT
- SAMPLE 3: TYPICAL 7000mm RADIUS CURVED SEGMENT
- SAMPLE 4: GATE SEGMENT
- SAMPLE 5: TYPICAL CORNER BALUSTRADE PANEL
- ANY ADDITIONAL SAMPLES REQUESTED

SHOPDRAWINGS:
SHOPDRAWING OF ALL PANELS TO BE APPROVED PRIOR TO MANUFACTURE

Project Number:

CI000689

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2. Any discrepancies to be reported to the architects prior to work commencing.

3. This drawing to be read in conjunction with all consultants drawings and details

4. This drawing must not be scaled

Revisions

no.	date	description	checked	signed

Notes

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Client:

CapeNature

Consultant:

Urba

Project:

STONY POINT NATURE RESERVE :
PHASE 1 - BOARDWALK UPGRADE

Drawing Title

SEGMENT KEY:
CURVED SEGMENTS WITH
5500mm INNER RADIUS

FOR TENDER ONLY

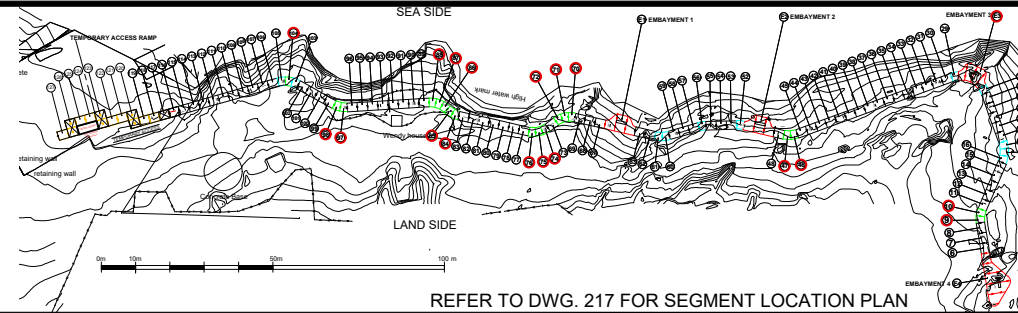
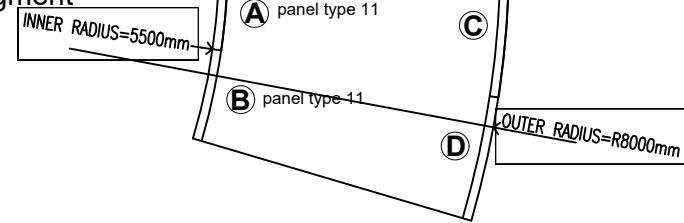
DRAWN	CHECKED	DATE	SCALE	PAGE SIZE
	A.C.	2020-09-07		A1

Drawing Number

AR180521700T

SEGMENT KEY

Panel location within segment



CURVED SEGMENTS WITH 5.5m BOARDWALK INNER RADIUS

Applicable segment numbers:

9, 10, 46, 47, 70, 71, 72, 74, 75, 76, 84, 85,
86, 87, 88, 97, 98, 104,

EMBAYMENT 3: Segemnts 25 , 28

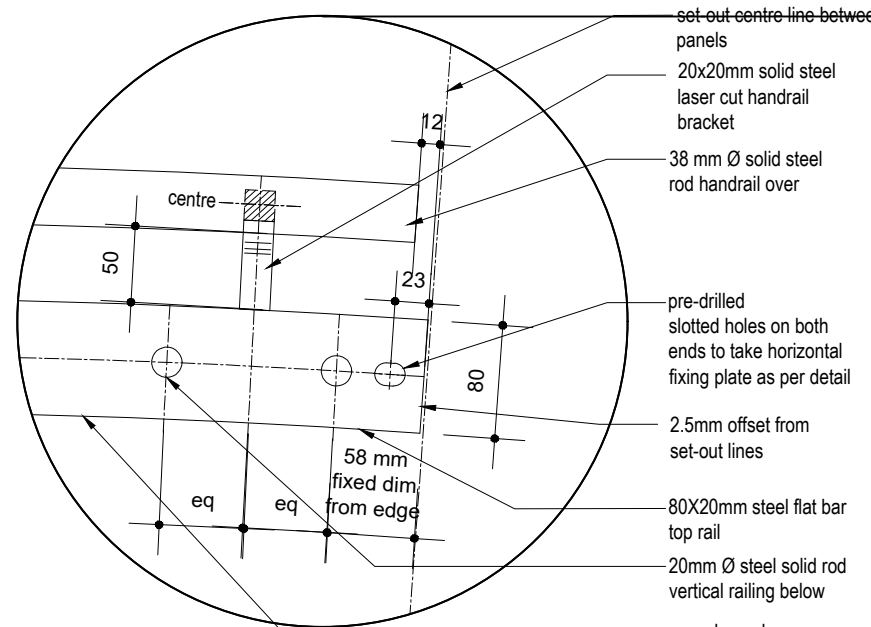
PANEL TYPE 11: A panel type 11 B panel type 11



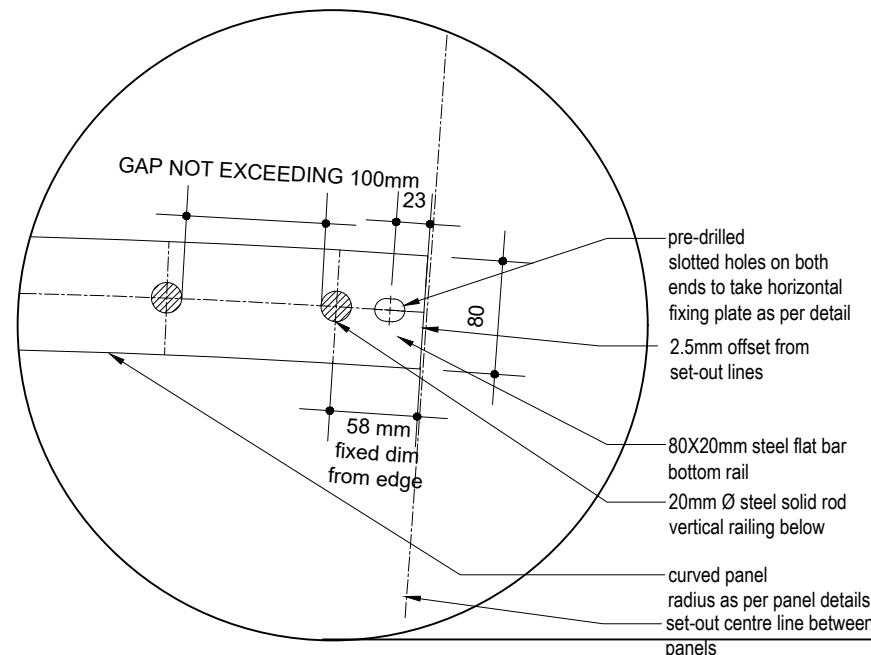
SEGMENT COLOUR KEY

PANEL TYPE

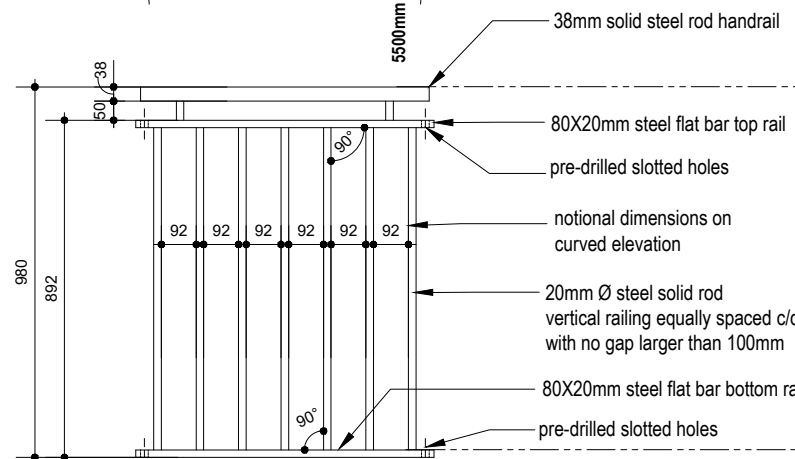
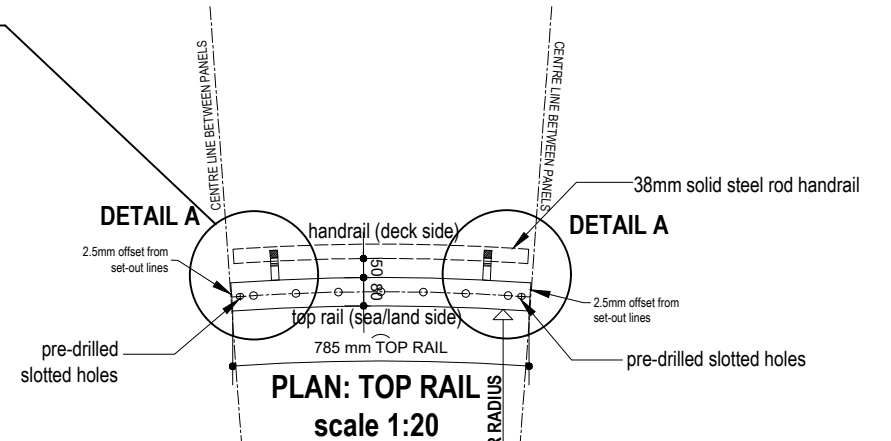
11



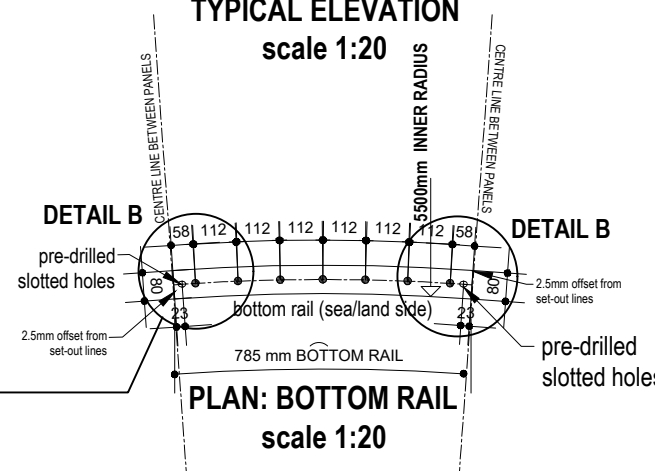
DETAIL A: TYPICAL TOP RAIL END
SCALE 1:5



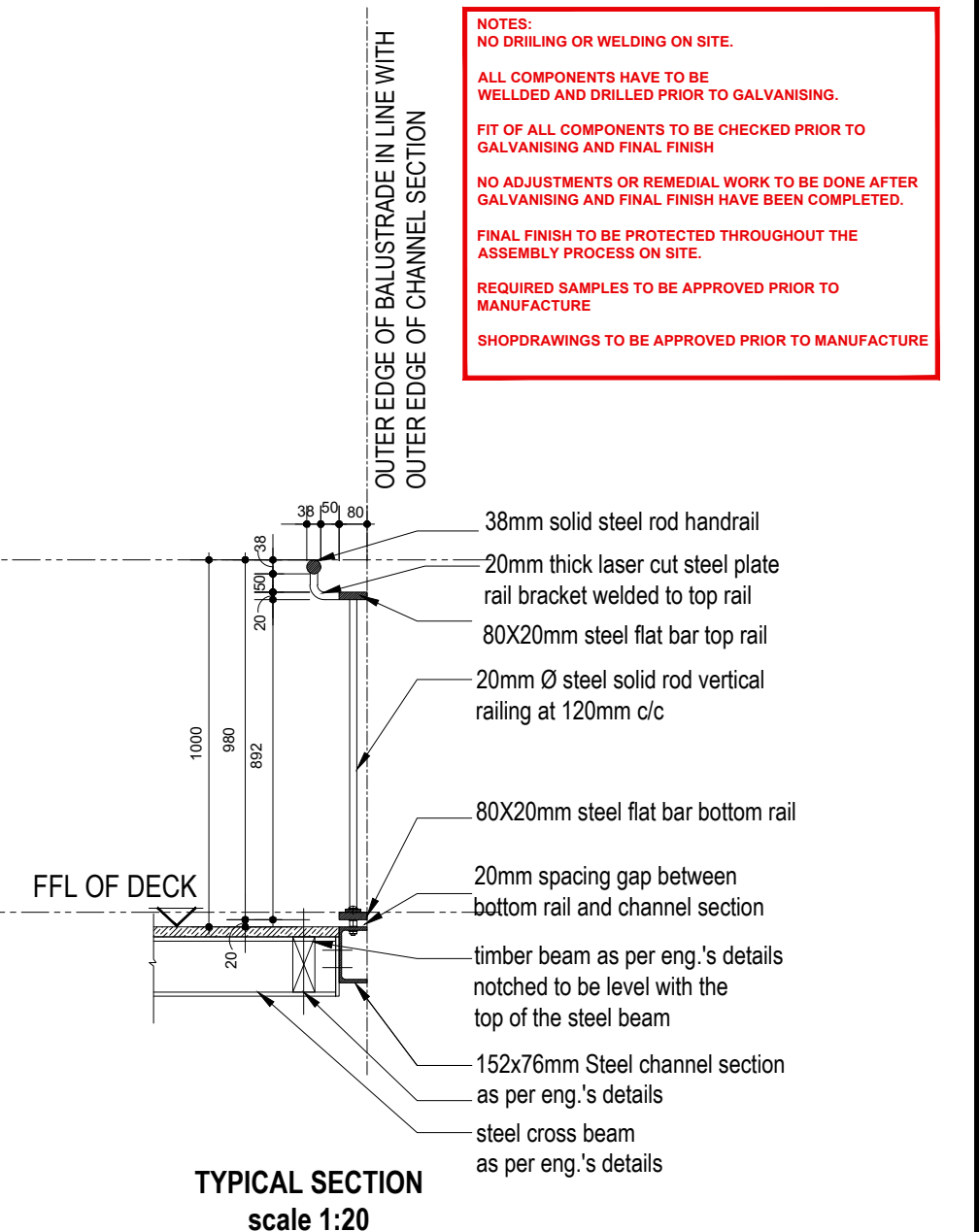
DETAIL B: TYPICAL BOTTOM RAIL END
SCALE 1:5



TYPICAL ELEVATION
scale 1:20



PLAN: BOTTOM RAIL
scale 1:20



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FIT OF ALL COMPONENTS TO BE CHECKED PRIOR TO GALVANISING AND FINAL FINISH
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REQUIRED SAMPLES TO BE APPROVED PRIOR TO MANUFACTURE
SHOPDRAWINGS TO BE APPROVED PRIOR TO MANUFACTURE

QUANTITY - PANEL TYPE 11

40

Project Number: CI000689

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no.	date	description	checked	signed

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Client:

CapeNature

Consultant:

Urba

Project:

STONY POINT NATURE RESERVE :
PHASE 1 - BOARDWALK UPGRADE

Drawing Title:

BALUSTRADE SCHEDULE:
PANEL TYPE 11

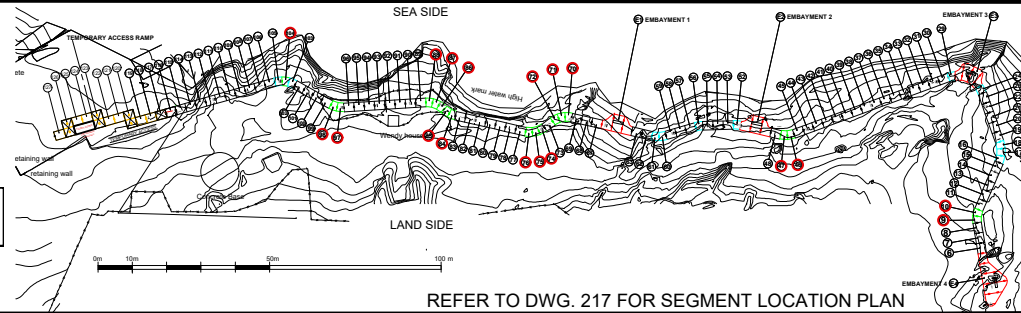
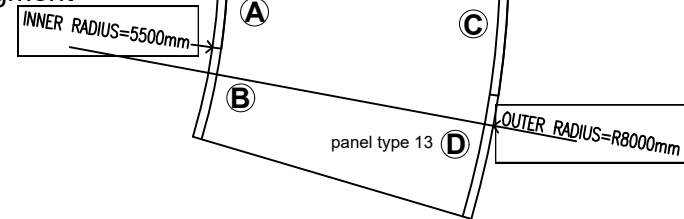
FOR TENDER ONLY

DISCIPLINE PROJECT NUMBER DRAWING NUMBER REVISION STAGE

AR 180521800 T

SEGMENT KEY

Panel location within segment



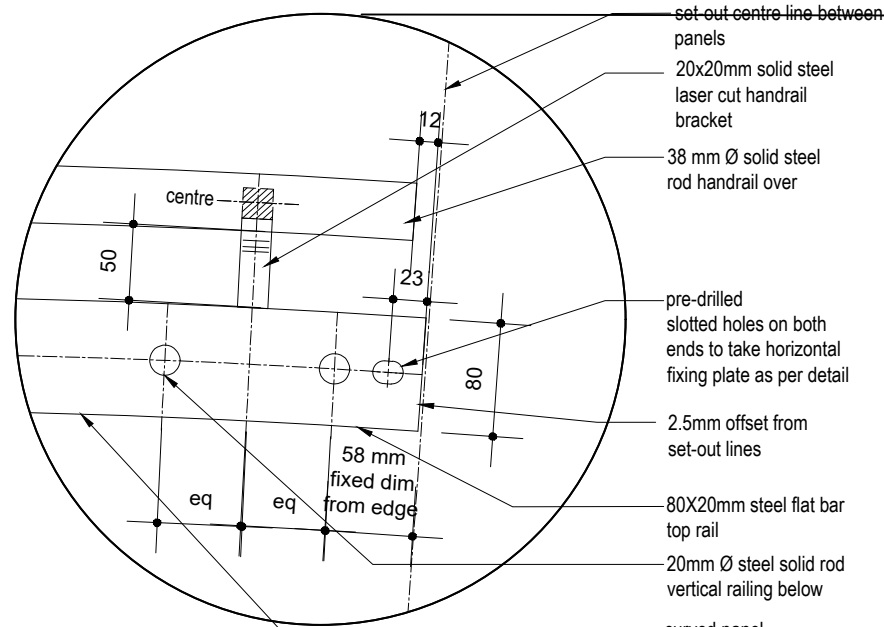
CURVED SEGMENTS WITH 5.5m BOARDWALK INNER RADIUS

Segment numbers: 9, 10, 46, 47, 70, 71, 72, 74, 75, 76, 84, 85, 86, 87, 88, 97, 98, 104

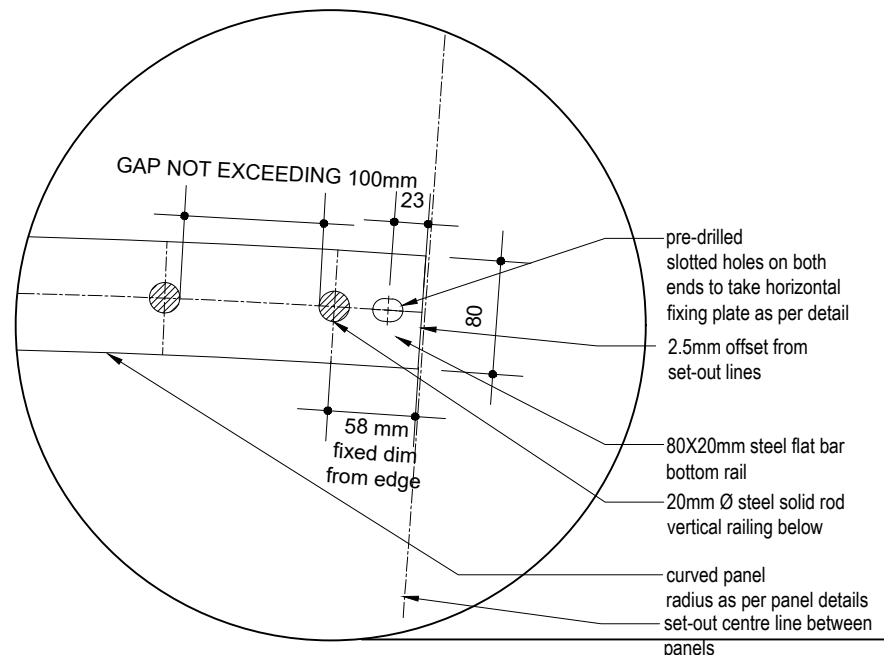
PANEL TYPE 13: D panel type 13

SEGMENT COLOUR KEY

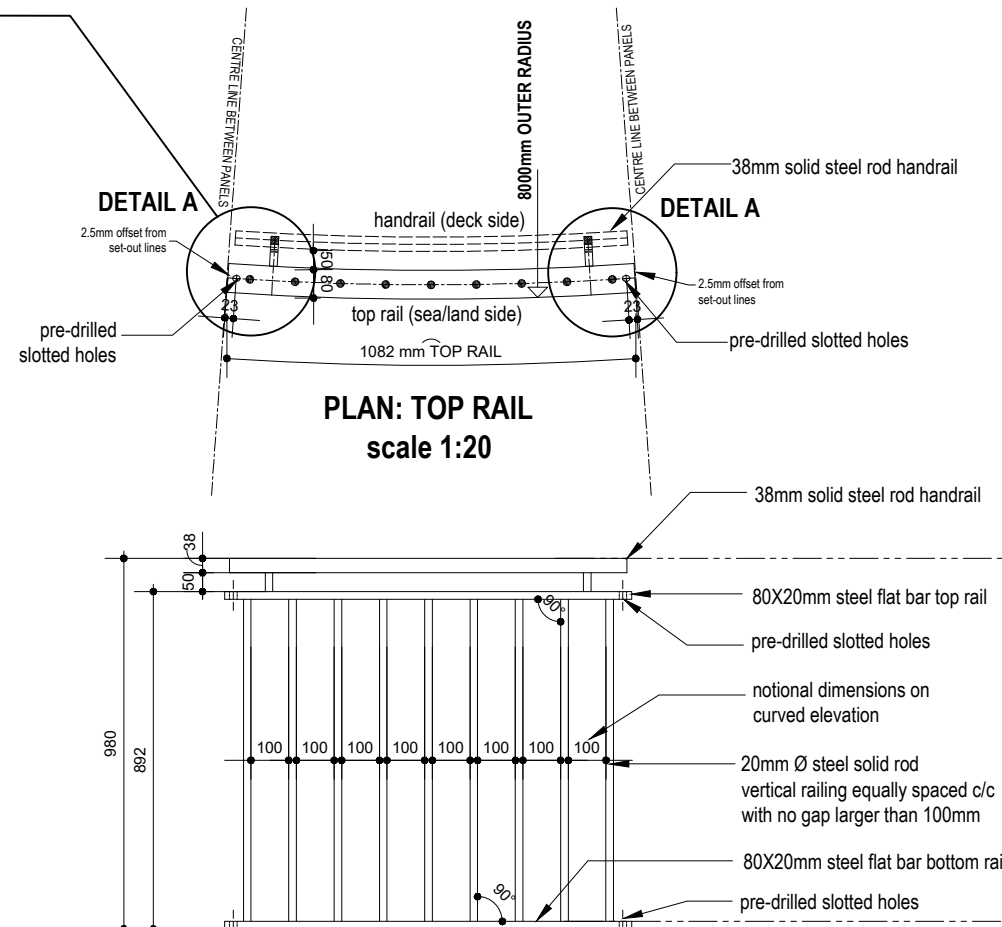
PANEL TYPE 13



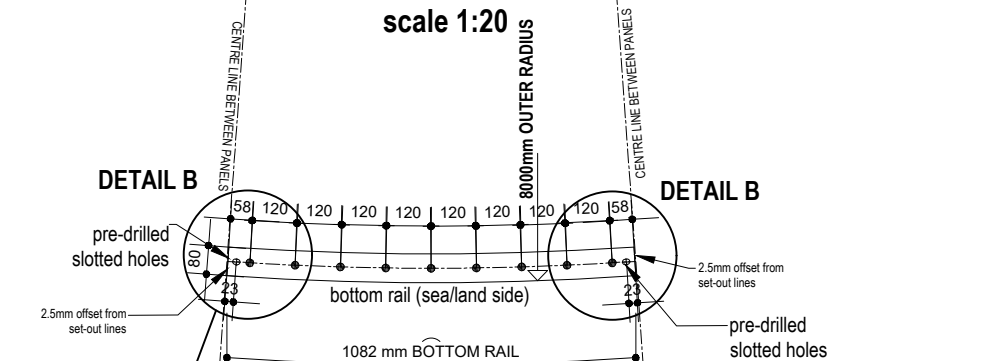
DETAIL A: TYPICAL TOP RAIL END
SCALE 1:5



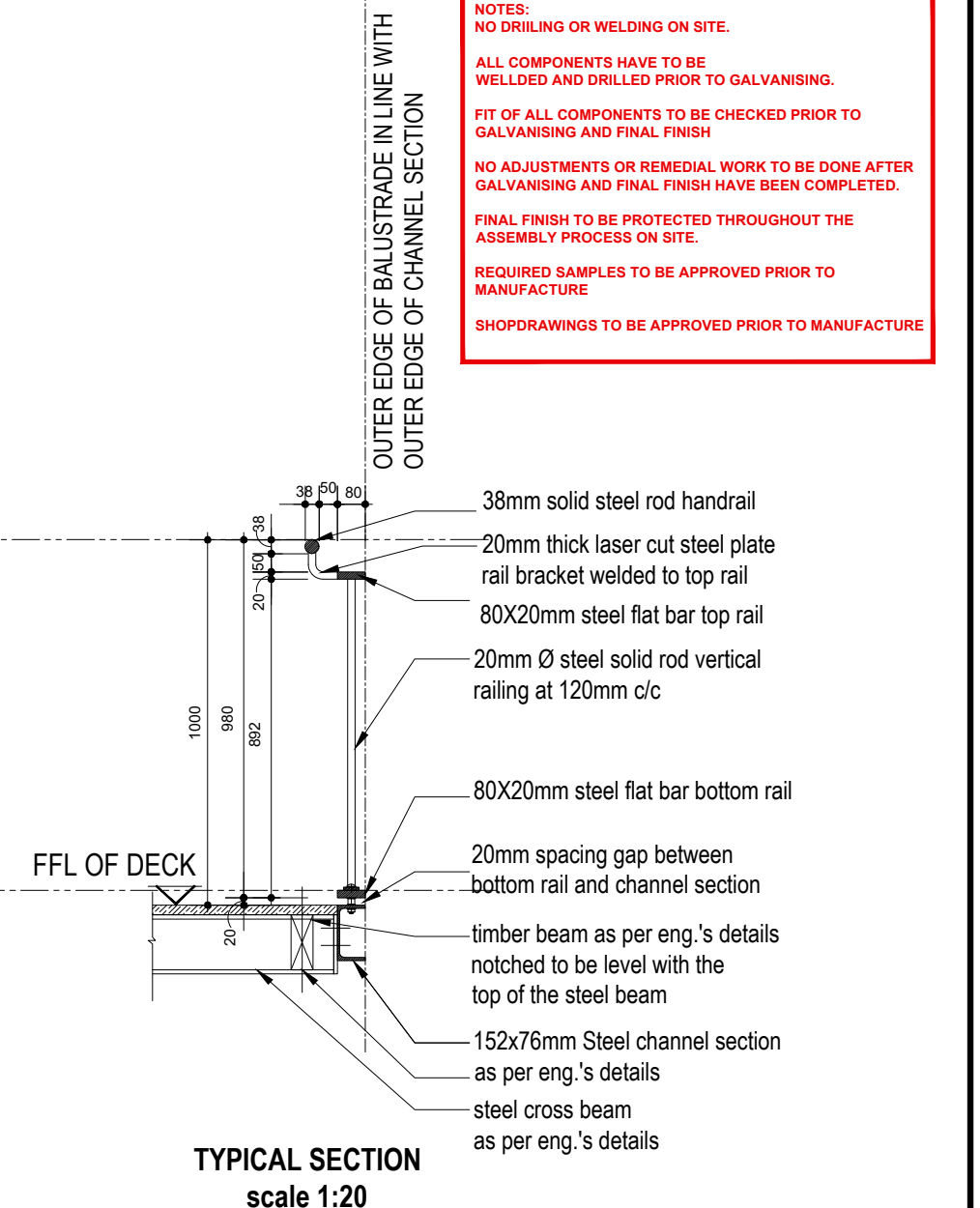
DETAIL B: TYPICAL BOTTOM RAIL END
SCALE 1:5



TYPICAL ELEVATION
scale 1:20



PLAN: BOTTOM RAIL
scale 1:20



TYPICAL SECTION
scale 1:20

NOTES:
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REQUIRED SAMPLES TO BE APPROVED PRIOR TO MANUFACTURE
SHOPDRAWINGS TO BE APPROVED PRIOR TO MANUFACTURE

QUANTITY - PANEL TYPE 13

18

Project Number: CI000689

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no.	date	description	checked	signed

NOTES:

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- ALL STEEL ELEMENTS TO BE GALVANISED AND PAINTED AS PER SPECIFICATION
- ALL BOLTS AND NUTS TO BE STAINLESS STEEL
- ALL WASHERS TO BE BLACK NYLON WASHERS
- ALL STEEL ELEMENTS TO BE PROTECTED AT ALL TIMES AFTER GALVANISING AND PAINTING HAS BEEN COMPLETED UNTIL AFTER ASSEMBLY ON SITE IS COMPLETE.

Client: CapeNature

Consultant: Urba

Project: STONY POINT NATURE RESERVE : PHASE 1 - BOARDWALK UPGRADE

FOR TENDER ONLY

Drawing Title:

BALUSTRADE SCHEDULE: PANEL TYPE 13

DRAWN	CHECKED	DATE	SCALE	PAGE SIZE
	A.C.	2020-09-07	1:20 ON A3	
This drawing is to be read in conjunction with drawing no:				
Drawing Number				
DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE
AR	18052	2000	T	

SEGMENT KEY:
PANEL TYPE 14
PANEL TYPE 15
PANEL TYPE 16

CURVED SEGMENTS AT 0°
ANGLE WITH 7000mm INNER
RADIUS OF BOARDWALK

Applicable segment numbers:
16, 17, 18, 24, 29, 52, 56, 60, 61, 103, 105

CURVED SEGMENT
7000MM INNER
RADIUS

PANEL TYPE 14

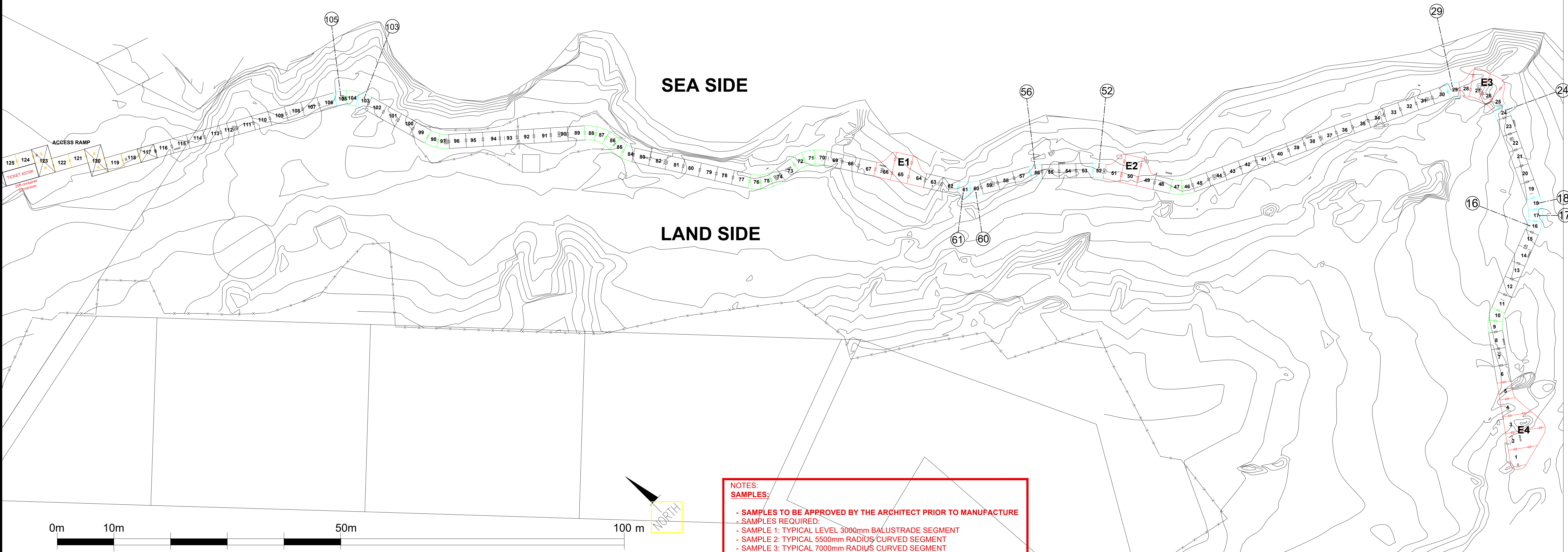
CURVED SEGMENT
7000MM INNER
RADIUS

PANEL TYPE 15

CURVED SEGMENT
9500MM OUTER
RADIUS

PANEL TYPE 16

TO BE READ IN CONJUNCTION WITH DWG. 222, 223 & 224



SEGMENT LOCATION PLAN

NOTES:
SAMPLES:
- SAMPLES TO BE APPROVED BY THE ARCHITECT PRIOR TO MANUFACTURE
- SAMPLES REQUIRED:
- SAMPLE 1: TYPICAL LEVEL 3000mm BALUSTRADE SEGMENT
- SAMPLE 2: TYPICAL 5500mm RADIUS CURVED SEGMENT
- SAMPLE 3: TYPICAL 7000mm RADIUS CURVED SEGMENT
- SAMPLE 4: GATE SEGMENT
- SAMPLE 5: TYPICAL CORNER BALUSTRADE PANEL
- ANY ADDITIONAL SAMPLES REQUESTED
SHOPDRAWINGS:
SHOPDRAWING OF ALL PANELS TO BE APPROVED PRIOR TO MANUFACTURE

Project Number: CI000689

Western Cape Government

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4. This drawing must not be scaled.

Revisions					
no.	date	description	checked	signed	

NOTES :
-ALL STEEL ELEMENTS TO BE GALVANISED.
- NO DRILLING, CUTTING, FILING OR DAMAGE OF ANY STEEL ELEMENTS ALLOWED AFTER GALVANIZING OR ON SITE DURING ASSEMBLY.
-ALL GALVANISED STEEL ELEMENTS TO BE PROTECTED TO AVOID DAMAGE TO GALVANISING.
-ALL BOLTS AND NUTS TO BE STAINLESS STEEL.
-ALL WASHERS TO BE BLACK NYLON WASHERS

Client:
CapeNature
Consultant:
Urba

Project:
STONY POINT NATURE RESERVE :
PHASE 1 - BOARDWALK UPGRADE

FOR TENDER ONLY

Drawing Title:
SEGMENT KEY:
CURVED SEGMENTS WITH
7000mm INNER RADIUS

DRAWN	CHECKED	DATE	SCALE	PAGE SIZE
	A.C.	2020-09-07		A1

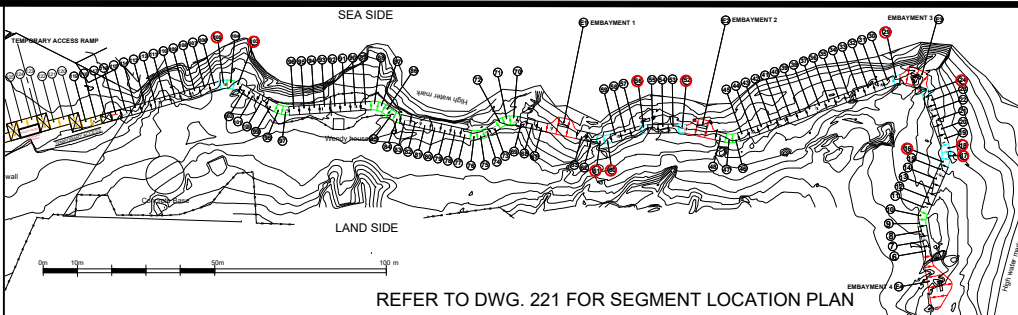
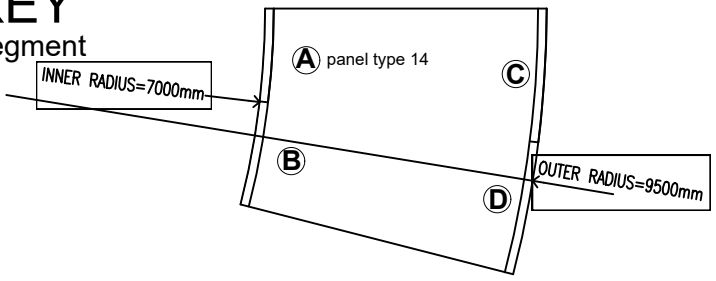
This drawing to be read in conjunction with drawing no:

Drawing Number

DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE
AR	180522	100	T	

SEGMENT KEY

Panel location within segment



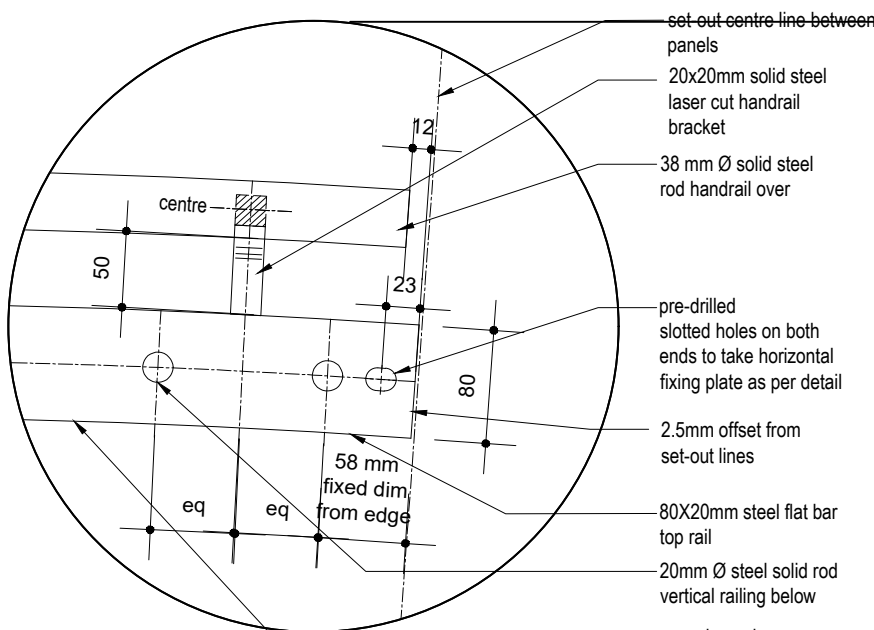
CURVED SEGMENTS WITH 7m BOARDWALK INNER RADIUS

Applicable segment numbers:
16, 17, 18, 24, 29, 52, 56, 60, 61, 103, 105
EMBAYMENT 3: 26, 27

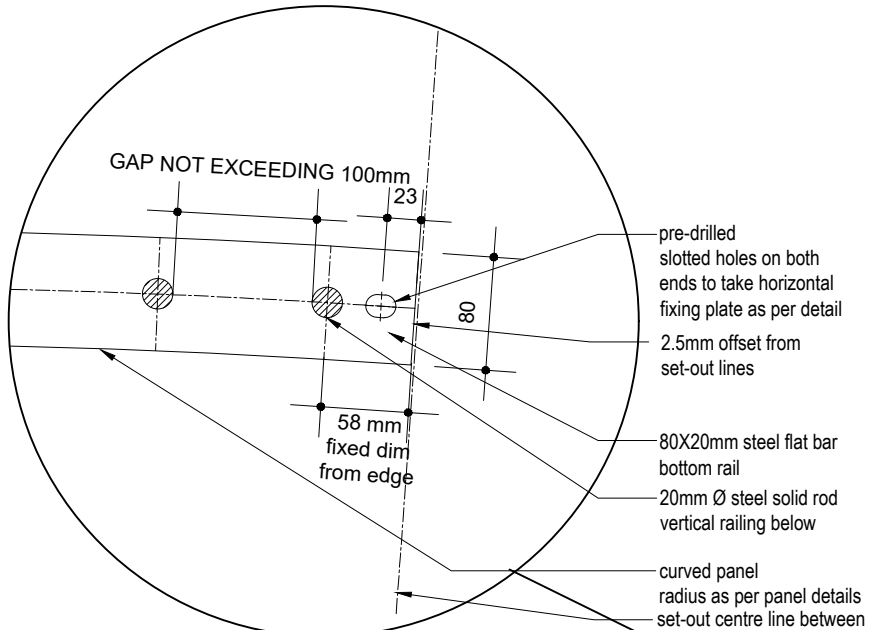
PANEL TYPE 14: A panel type 14

SEGMENT COLOUR KEY

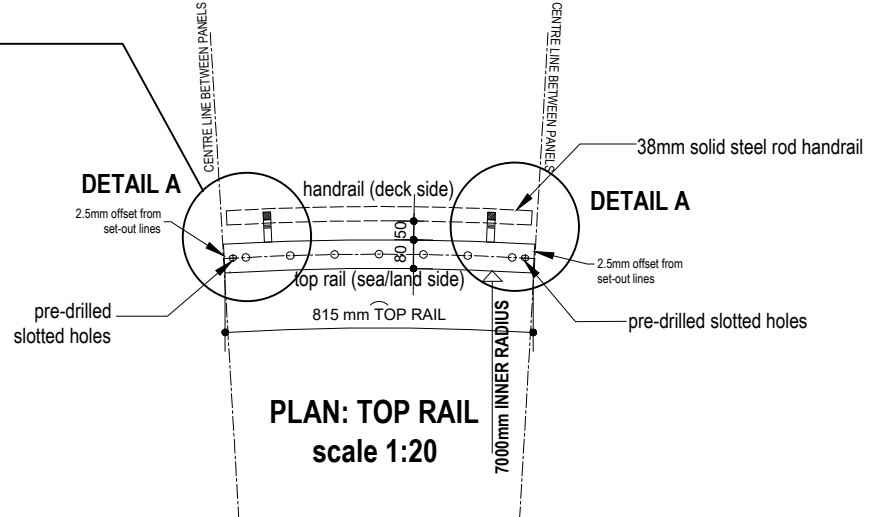
PANEL TYPE 14



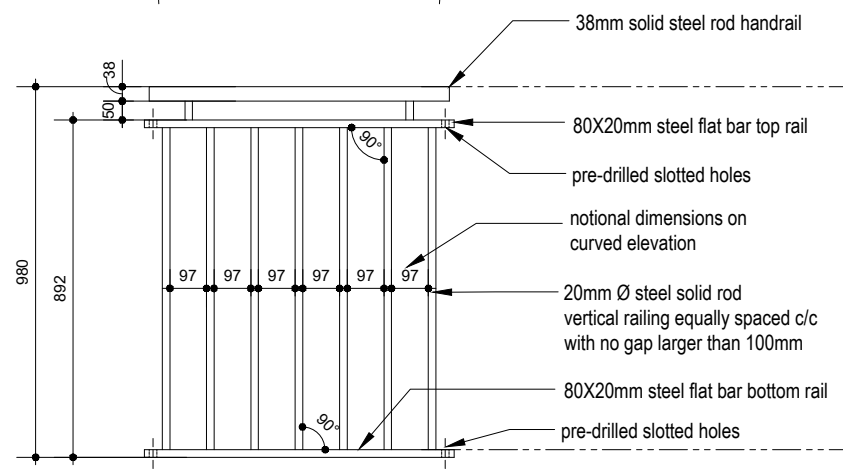
DETAIL A: TYPICAL TOP RAIL END
SCALE 1:5



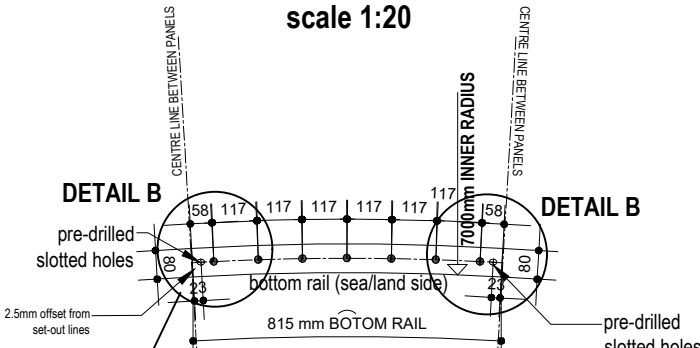
DETAIL B: TYPICAL BOTTOM RAIL END
SCALE 1:5



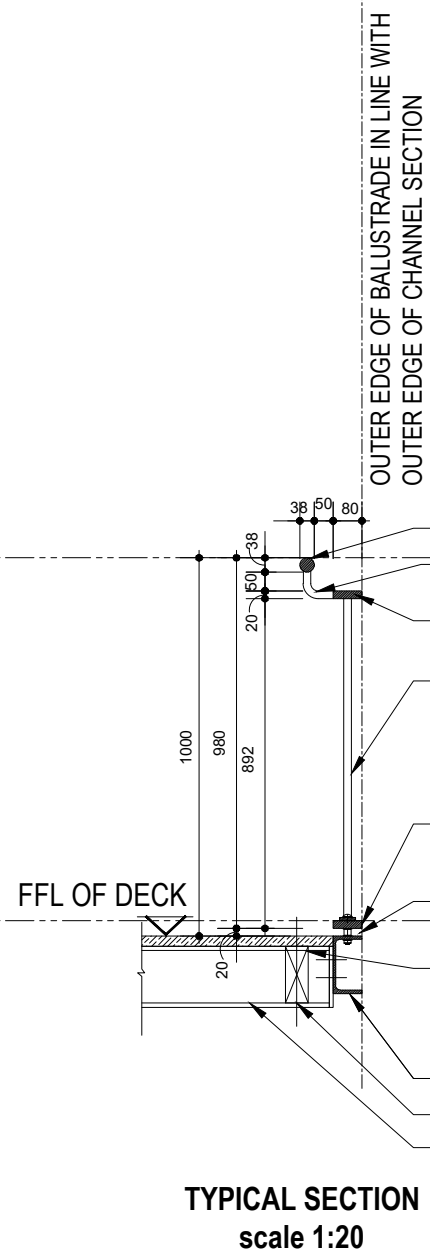
PLAN: TOP RAIL
scale 1:20



TYPICAL ELEVATION
scale 1:20



PLAN: BOTTOM RAIL
scale 1:20



TYPICAL SECTION
scale 1:20

NOTES:
NO DRILLING OR WELDING ON SITE.
ALL COMPONENTS HAVE TO BE WELDED AND DRILLED PRIOR TO GALVANISING.
FIT OF ALL COMPONENTS TO BE CHECKED PRIOR TO GALVANISING AND FINAL FINISH
NO ADJUSTMENTS OR REMEDIAL WORK TO BE DONE AFTER GALVANISING AND FINAL FINISH HAVE BEEN COMPLETED.
FINAL FINISH TO BE PROTECTED THROUGHOUT THE ASSEMBLY PROCESS ON SITE.
REQUIRED SAMPLES TO BE APPROVED PRIOR TO MANUFACTURE
SHOPDRAWINGS TO BE APPROVED PRIOR TO MANUFACTURE

QUANTITY - PANEL TYPE 14 13

Project Number: CI000689

Western Cape Government

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This drawing must not be scaled.

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4. This drawing must not be scaled.

Revisions

no.	date	description	checked	signed

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ALL STEEL ELEMENTS TO BE PROTECTED AT ALL TIMES AFTER GALVANISING AND PAINTING HAS BEEN COMPLETED UNTIL AFTER ASSEMBLY ON SITE IS COMPLETE.

Client: CapeNature

Consultant: Urba

Project: STONY POINT NATURE RESERVE : PHASE 1 - BOARDWALK UPGRADE

FOR TENDER ONLY

Drawing Title: BALUSTRADE SCHEDULE: PANEL TYPE 14

DRAWN	CHECKED	DATE	SCALE	PAGE SIZE
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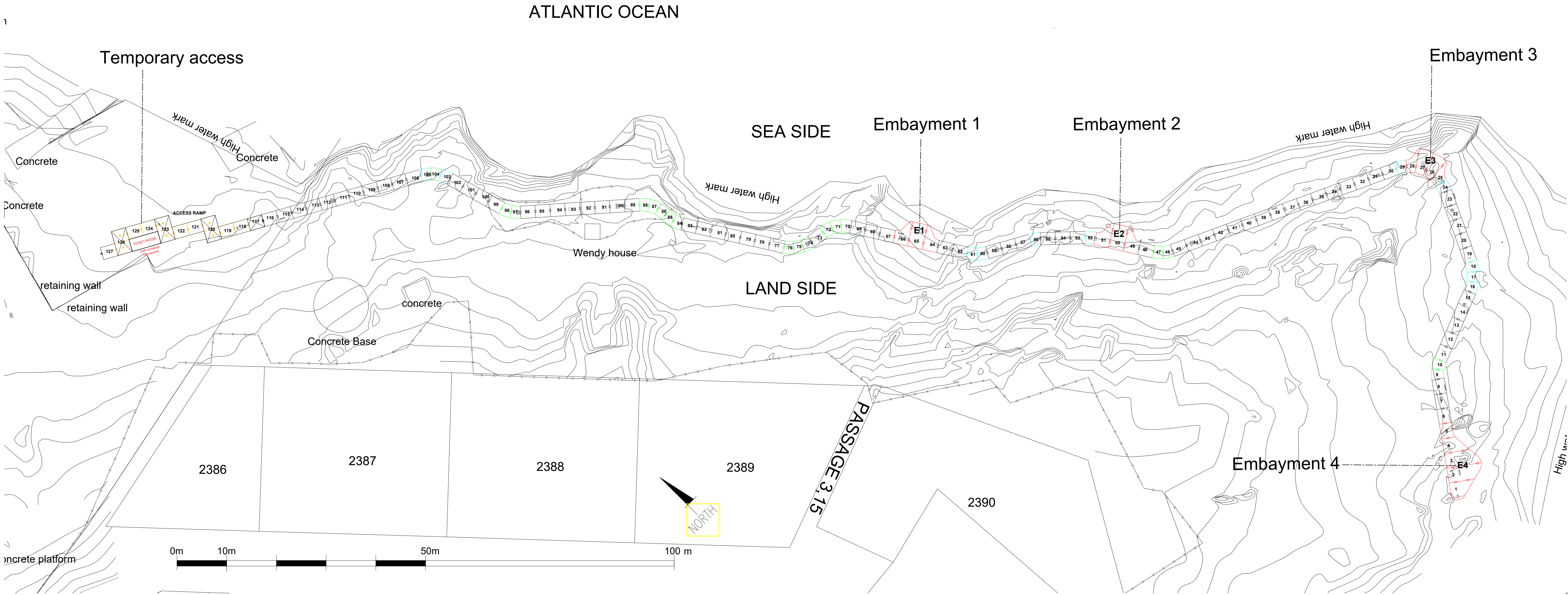
This drawing to be read in conjunction with drawing no:

DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE
AR	18052	2200	0	T

TEMPORARY ACCESS RAMP
AND EMBAYMENTS

EMBAYMENTS

TEMPORARY ACCESS



EMBAYMENT LOCATION PLAN

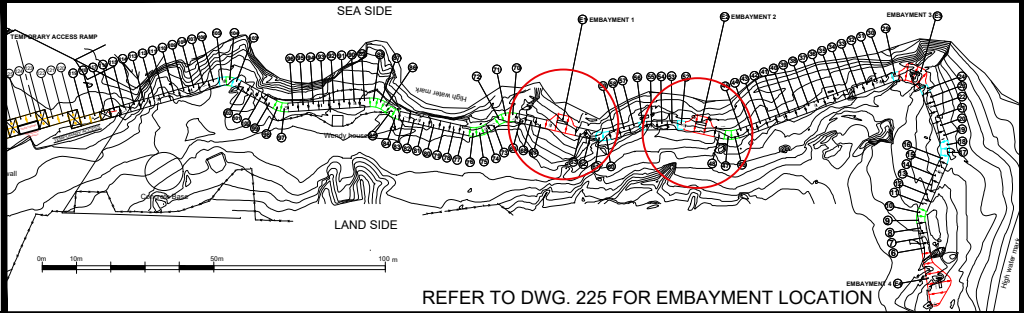
NOTES:
SAMPLES:

- **SAMPLES TO BE APPROVED BY THE ARCHITECT PRIOR TO MANUFACTURE**
- **SAMPLES REQUIRED:**
- **SAMPLE 1: TYPICAL LEVEL 3000mm BALUSTRADE SEGMENT**
- **SAMPLE 2: TYPICAL 5500mm RADIUS CURVED SEGMENT**
- **SAMPLE 3: TYPICAL 7000mm RADIUS CURVED SEGMENT**
- **SAMPLE 4: GATE SEGMENT**
- **SAMPLE 5: TYPICAL CORNER BALUSTRADE PANEL**
- **ANY ADDITIONAL SAMPLES REQUESTED**

SHOPDRAWINGS:

SHOPDRAWING OF ALL PANELS TO BE APPROVED PRIOR TO MANUFACTURE

EMBAYMENT 1 & 2

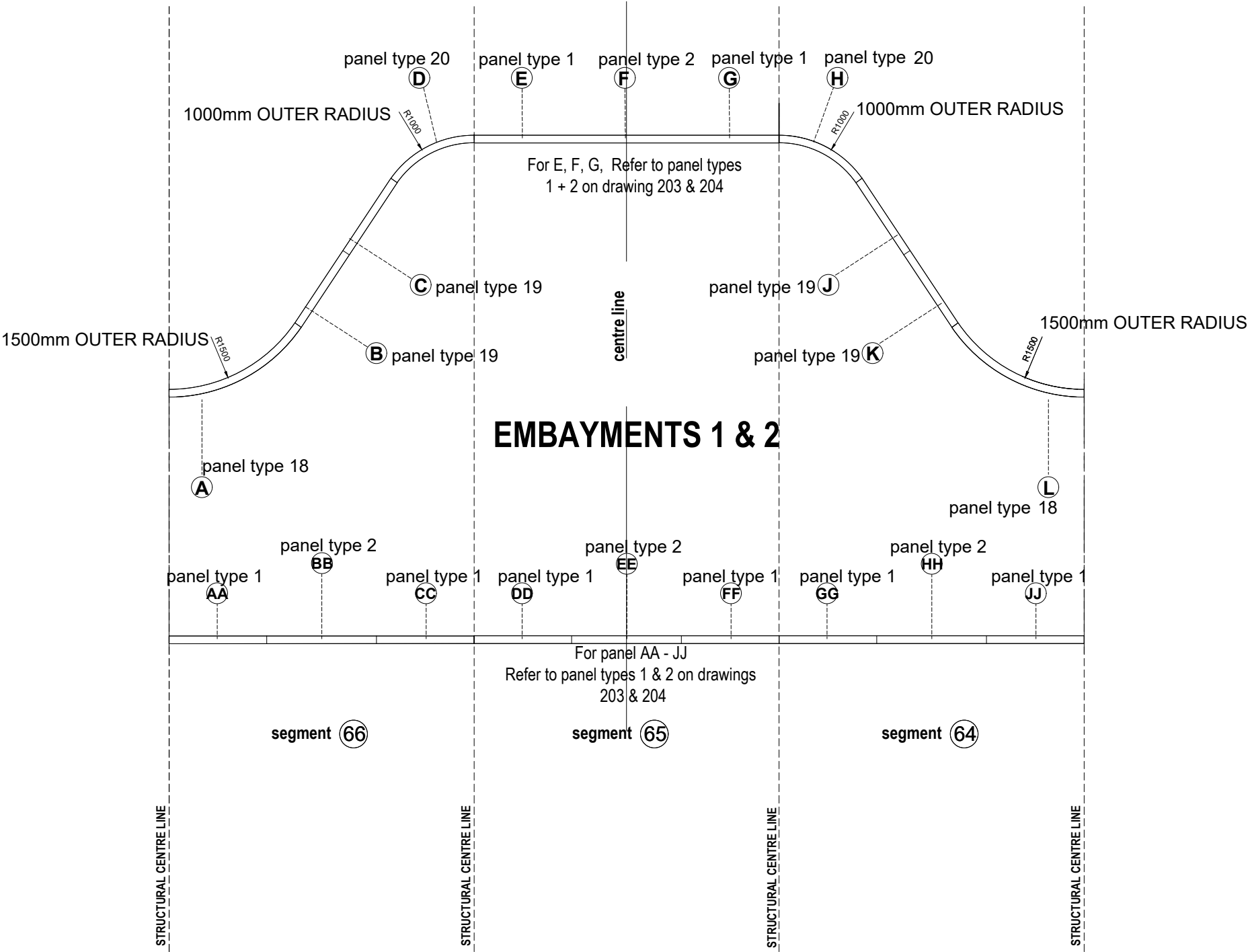


EMBAYMENT 1 & 2 KEY

Segment numbers:
Embayment 1: 64, 65, 66
Embayment 2: 49, 50, 51

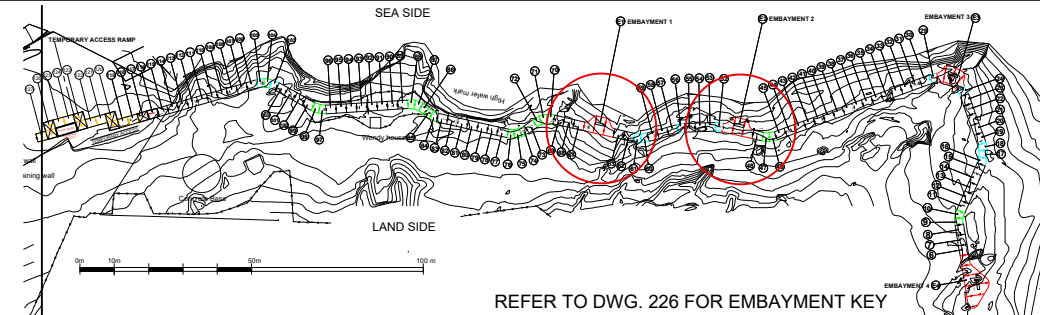
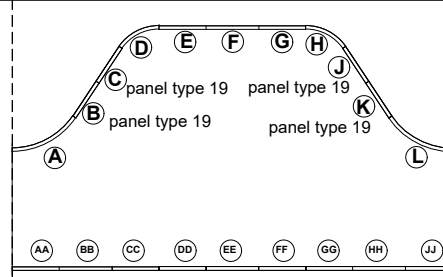


SEGMENT COLOUR KEY



PLAN: Embayment 1 scale 1: 50

Panel location within embayment



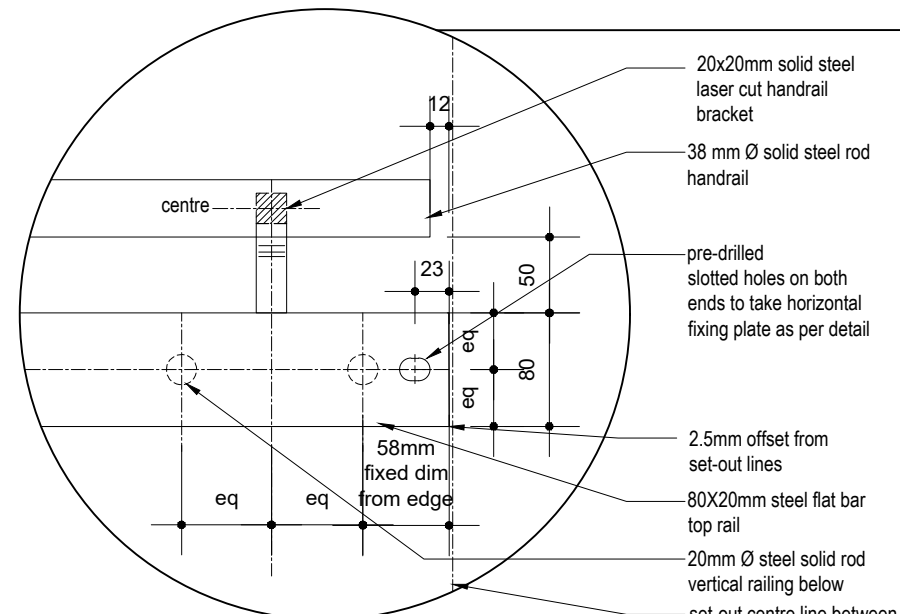
REFER TO DWG. 226 FOR EMBAYMENT KEY

Embayment 1 & 2

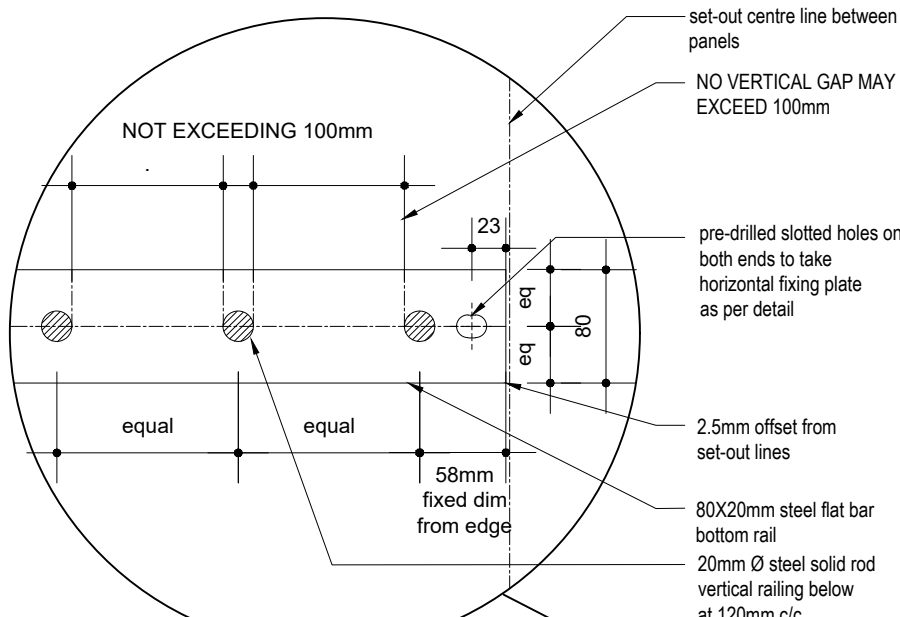
PANEL TYPE 19 **(B)** panel type 19 **(C)** panel type 19 **(J)** panel type 19 **(K)** panel type 19

SEGMENT COLOUR KEY

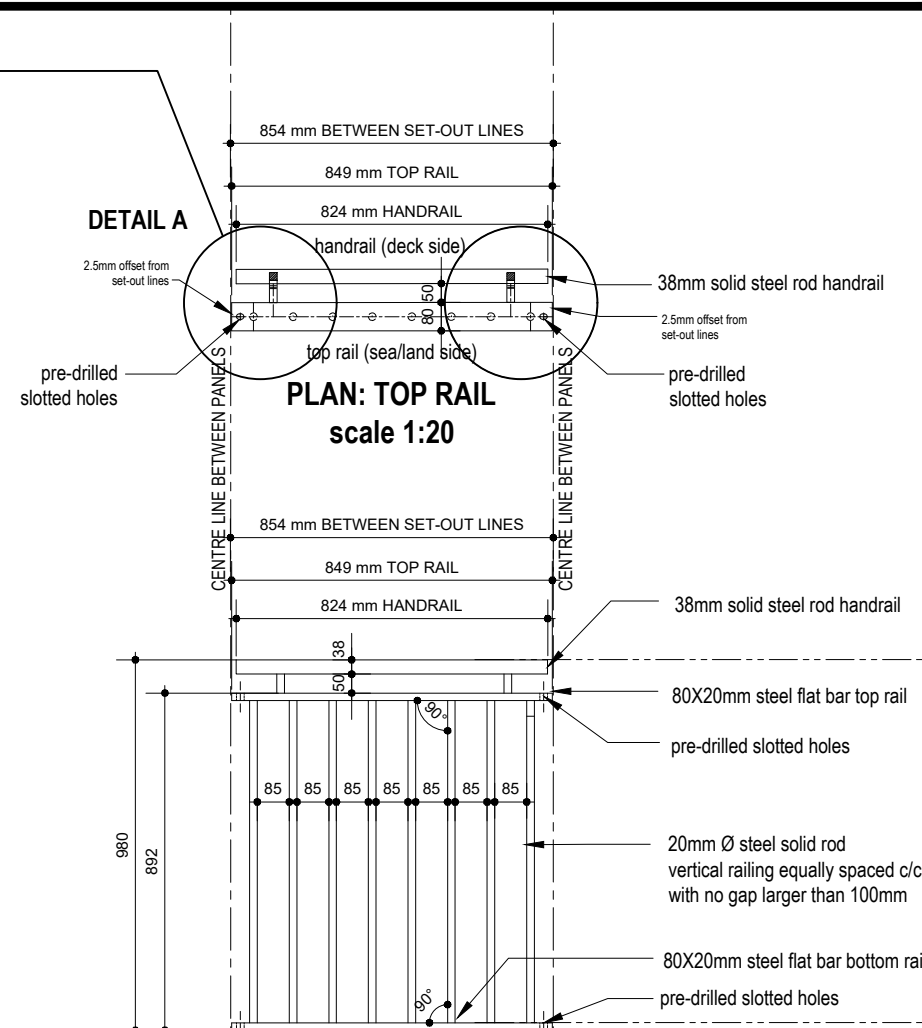
PANEL TYPE 19



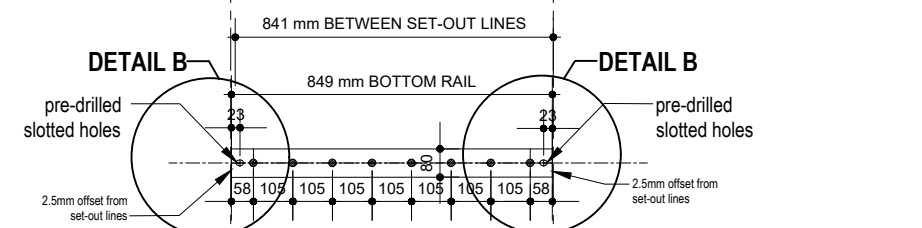
DETAIL A: TYPICAL TOP RAIL END
SCALE 1:5



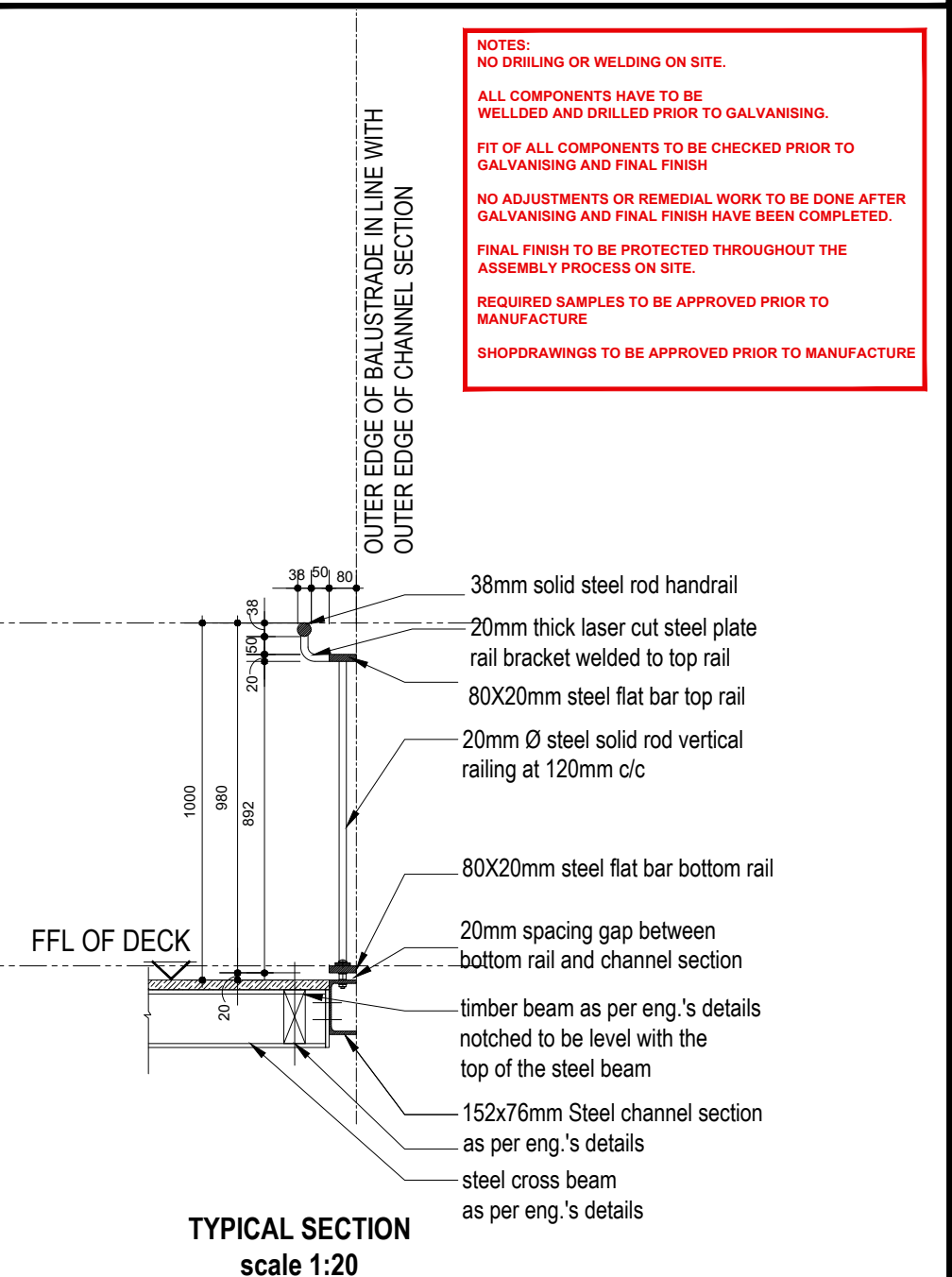
DETAIL B: TYPICAL BOTTOM RAIL END
SCALE 1:5



TYPICAL ELEVATION
scale 1:20



PLAN: BOTTOM RAIL



NOTES:

NO DRILLING OR WELDING ON SITE.

ALL COMPONENTS HAVE TO BE WELDED AND DRILLED PRIOR TO GALVANISING.

FIT OF ALL COMPONENTS TO BE CHECKED PRIOR TO GALVANISING AND FINAL FINISH

NO ADJUSTMENTS OR REMEDIAL WORK TO BE DONE AFTER GALVANISING AND FINAL FINISH HAVE BEEN COMPLETED.

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REQUIRED SAMPLES TO BE APPROVED PRIOR TO MANUFACTURE

SHOPDRAWINGS TO BE APPROVED PRIOR TO MANUFACTURE

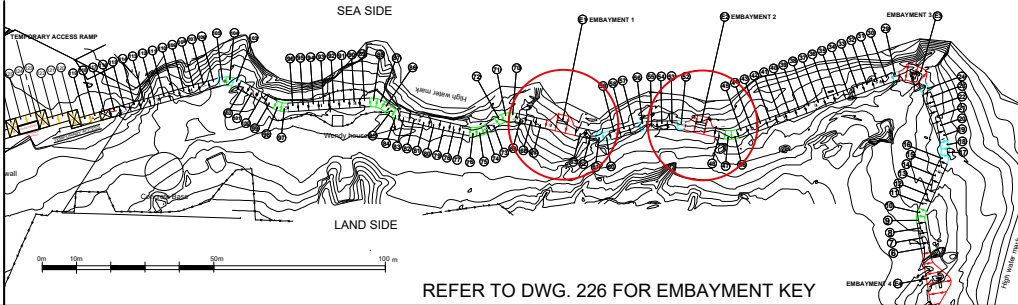
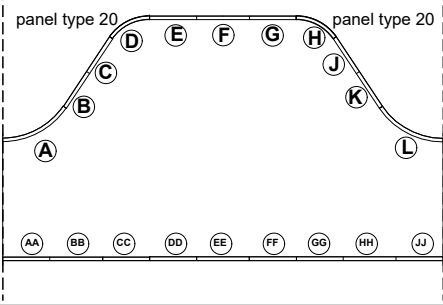
QUANTITY - PANEL TYPE 19

3

Project Number:		C0000689																															
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		Revisions <table><thead><tr><th>no.</th><th>date</th><th>description</th><th>checked</th><th>signed</th></tr></thead><tbody><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr></tbody></table>		no.	date	description	checked	signed																									
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Client: CapeNature Consultant: Urba		Project: STONY POINT NATURE RESERVE : PHASE 1 - BOARDWALK UPGRADE																															
		Drawing Title: EMBAYMENTS 1 & 2: PANEL TYPE 19																															
		<table><thead><tr><th>DRAWN</th><th>CHECKED</th><th>DATE</th><th>SCALE</th><th>PAGE SIZE</th></tr></thead><tbody><tr><td></td><td>A.C.</td><td>2020-09-07</td><td>1:20 ON A3</td><td></td></tr></tbody></table> This drawing to be read in conjunction with drawing no: Drawing Number <table><thead><tr><th>DISCIPLINE</th><th>PROJECT NUMBER</th><th>DRAWING NUMBER</th><th>REVISION</th><th>STAGE</th></tr></thead><tbody><tr><td>AR</td><td>180522800</td><td></td><td></td><td></td></tr></tbody></table>		DRAWN	CHECKED	DATE	SCALE	PAGE SIZE		A.C.	2020-09-07	1:20 ON A3		DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE	AR	180522800													
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DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE																													
AR	180522800																																
		FOR TENDER ONLY																															

EMBAYMENT 1 & 2

Panel location within embayment



EMBAYMENT

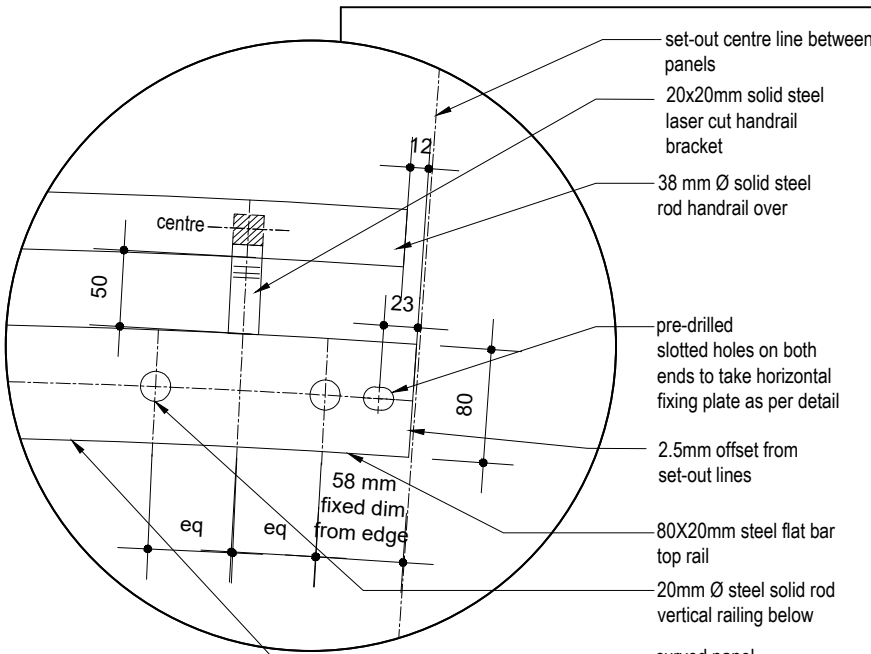
Embayment 1 & 2

PANEL TYPE 20

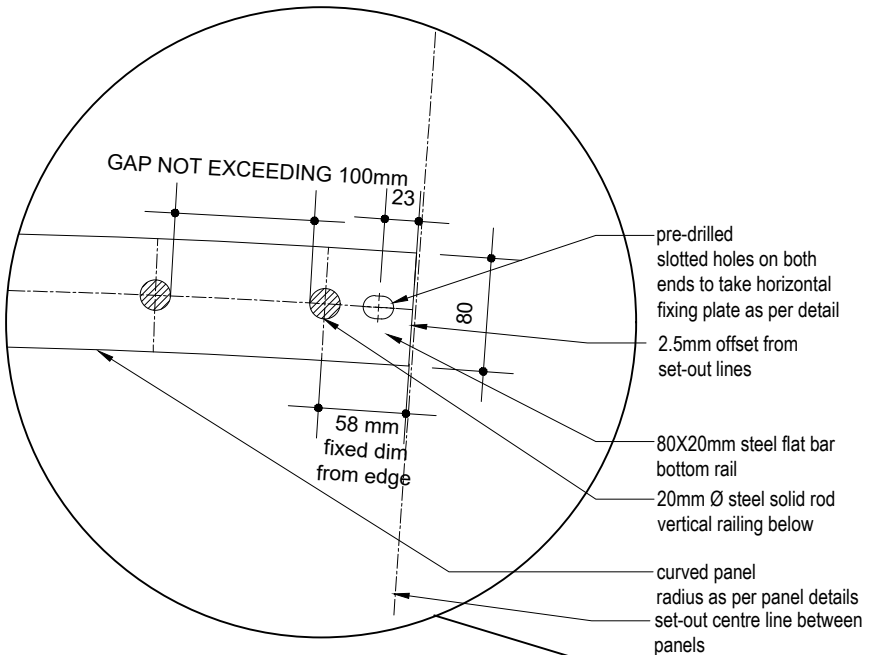
D panel type 20 H panel type 20

SEGMENT COLOUR KEY

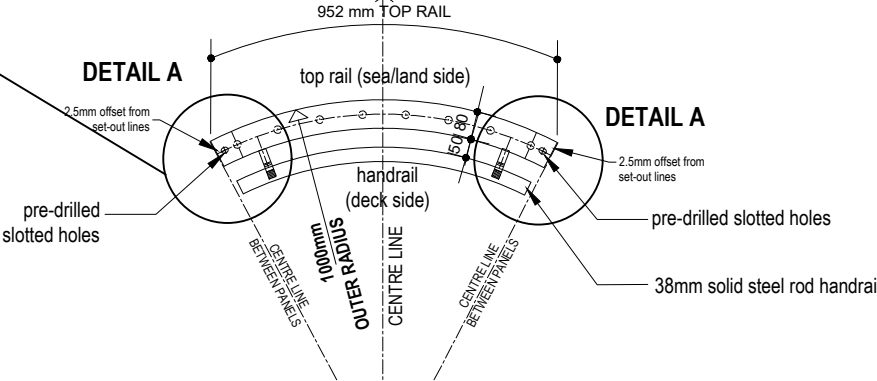
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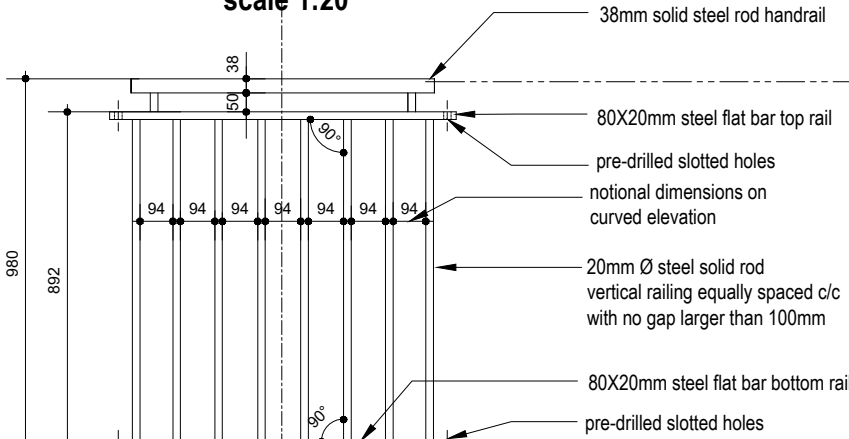
DETAIL A: TYPICAL TOP RAIL END
SCALE 1:5



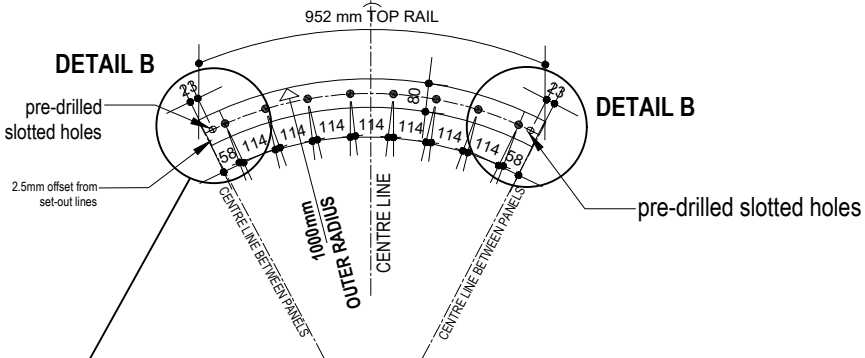
DETAIL B: TYPICAL BOTTOM RAIL END
SCALE 1:5



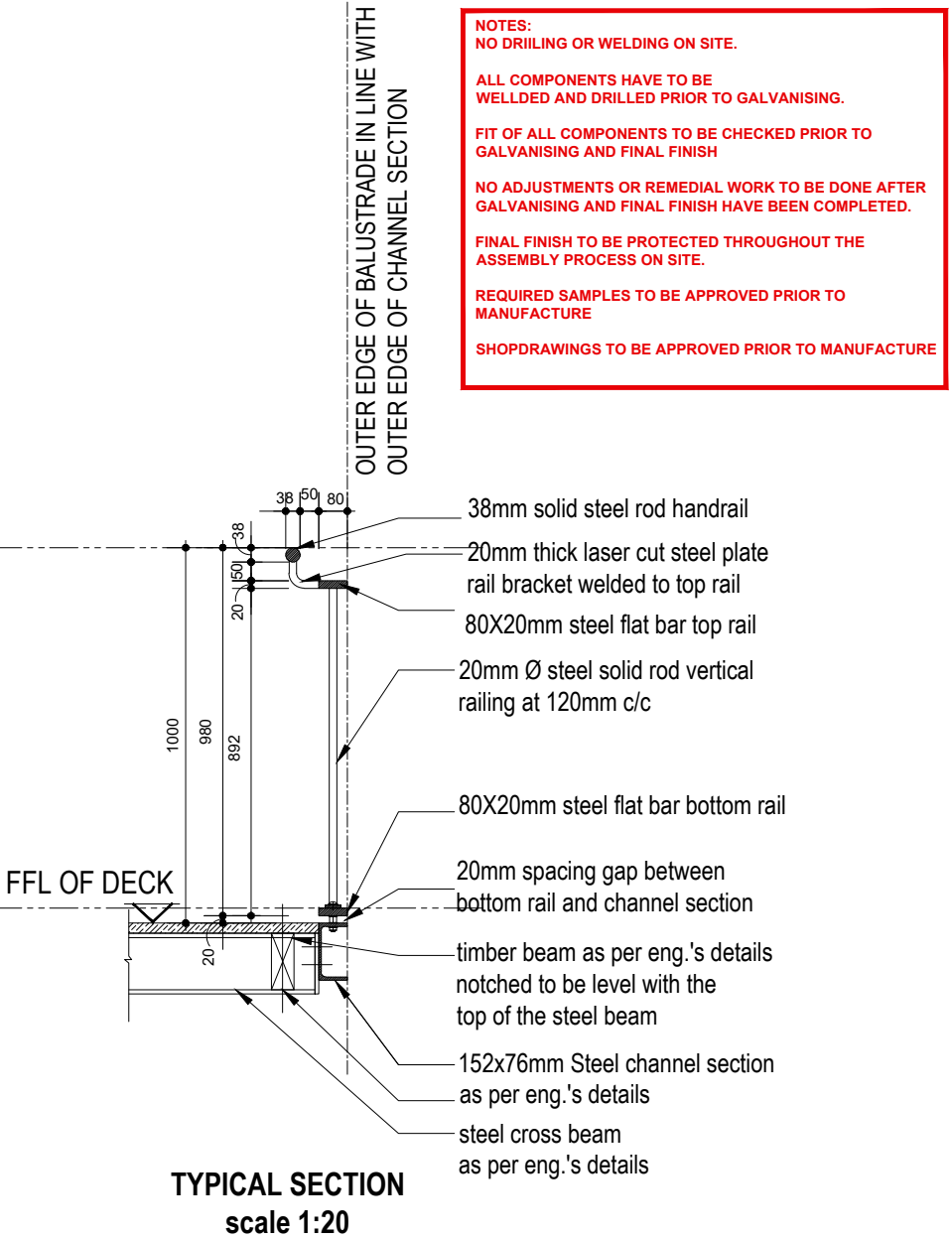
PLAN: TOP RAIL
scale 1:20



TYPICAL ELEVATION
scale 1:20



PLAN: BOTTOM RAIL
scale 1:20



TYPICAL SECTION
scale 1:20

NOTES:
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REQUIRED SAMPLES TO BE APPROVED PRIOR TO MANUFACTURE
SHOPDRAWINGS TO BE APPROVED PRIOR TO MANUFACTURE

QUANTITY - PANEL TYPE 20

4

Project Number: CI000689



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Revisions				
no.	date	description	checked	signed

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Client: CapeNature
Consultant: Urba

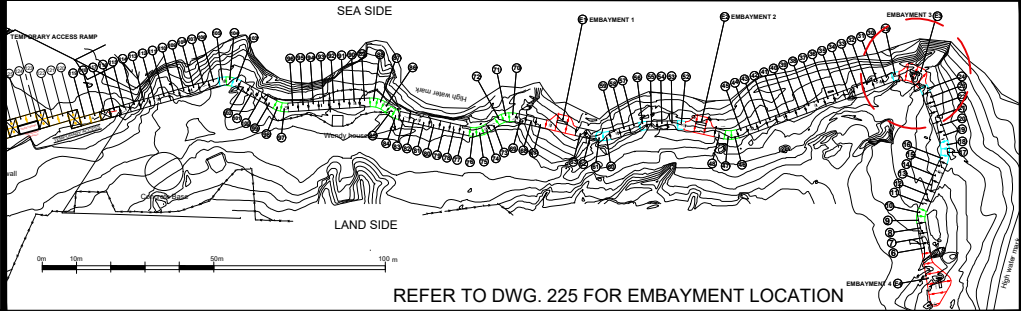
Project: STONY POINT NATURE RESERVE : PHASE 1 - BOARDWALK UPGRADE

Drawing Title: EMBAYMENTS 1 & 2: PANEL TYPE 20

FOR TENDER ONLY

DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE
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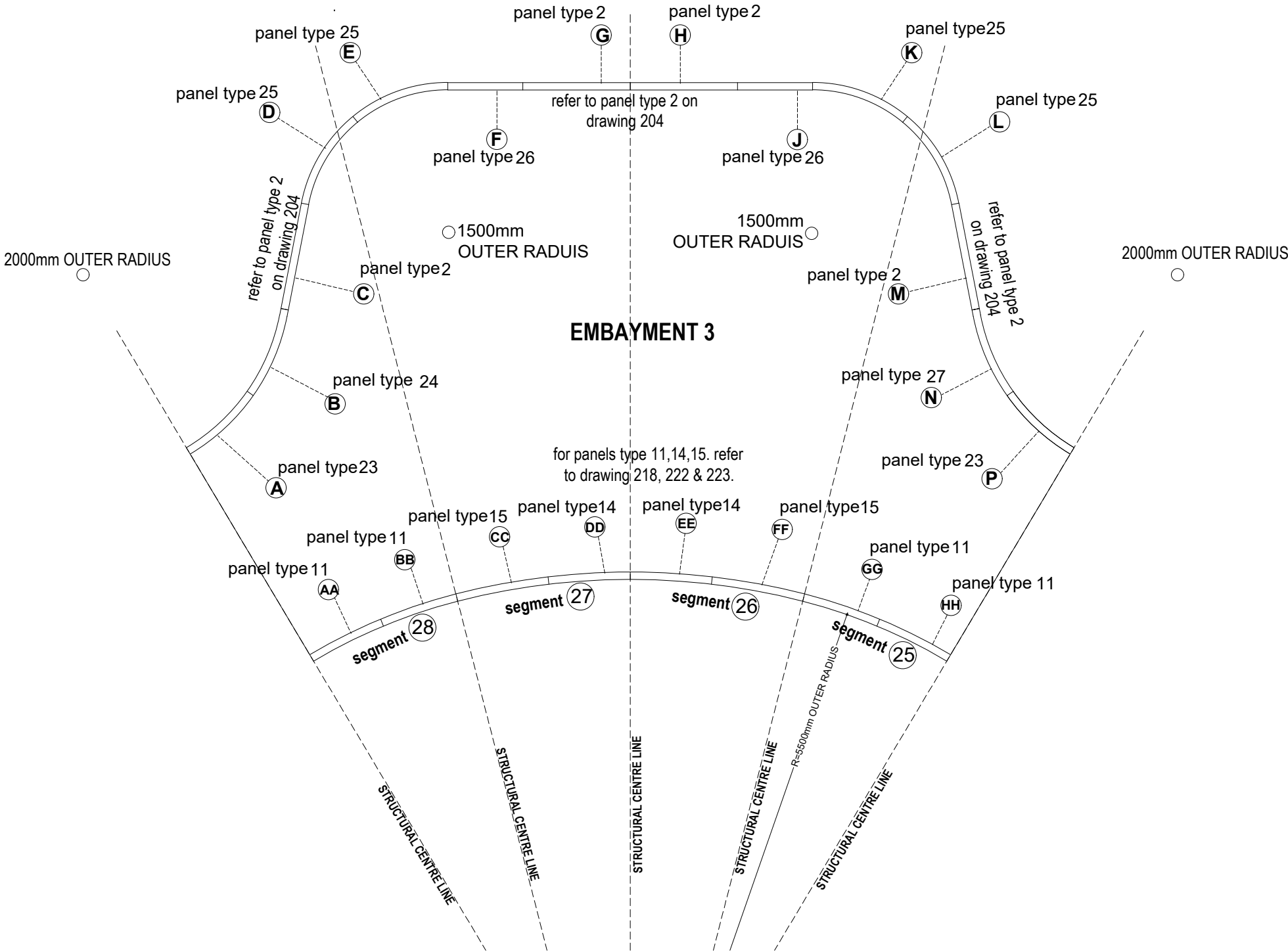
EMBAYMENT 3



EMBAYMENT 3 KEY

Segment numbers: 25, 26, 27, 28

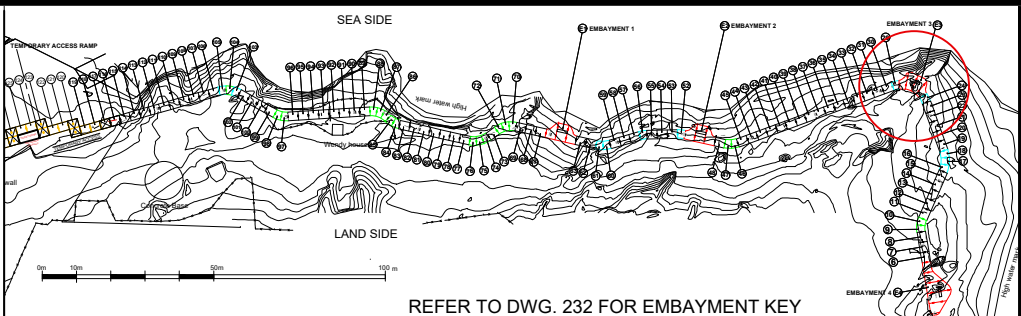
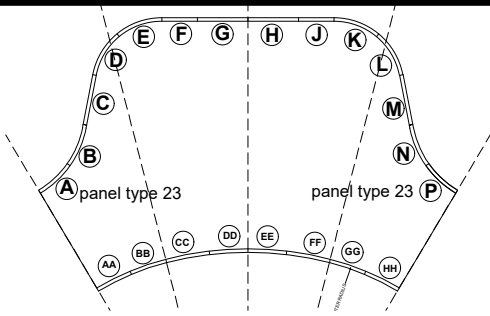
SEGMENT COLOUR KEY



PLAN: Embayment 3 scale 1: 50

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no.	date	description	checked	signed																															
Western Cape Government								FOR TENDER ONLY																											
								</																											

EMBAYMENT 3
Panel location within embayment



EMBAYMENT

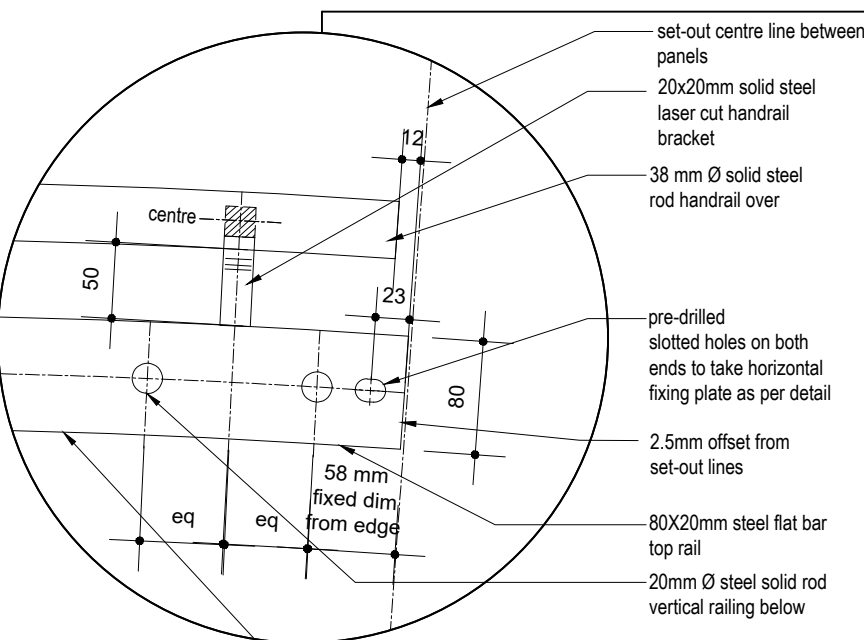
Embayment 3

PANEL TYPE 23 A panel type 23 P panel type 23

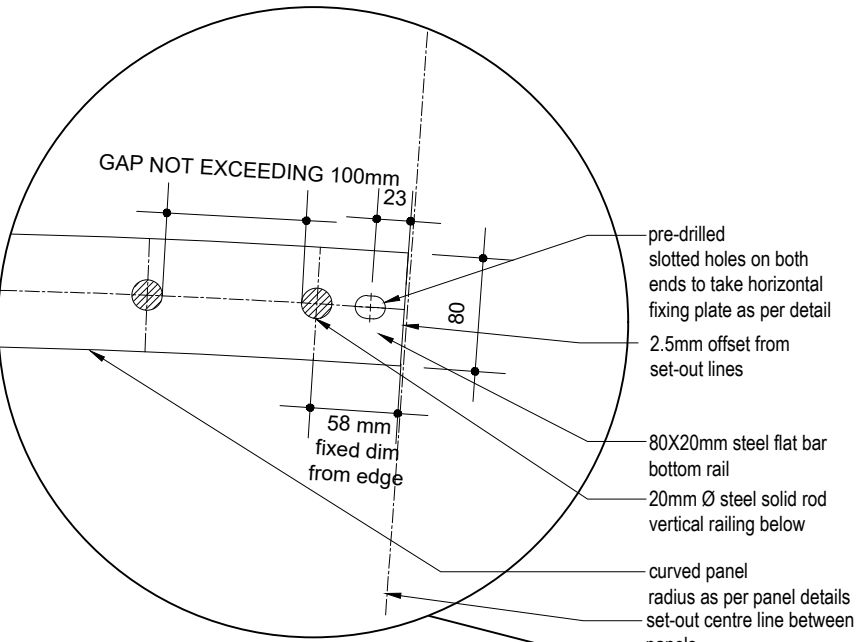


SEGMENT COLOUR KEY

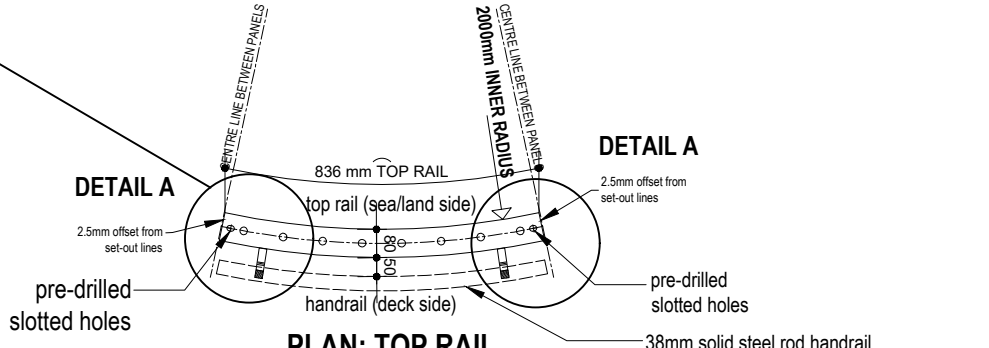
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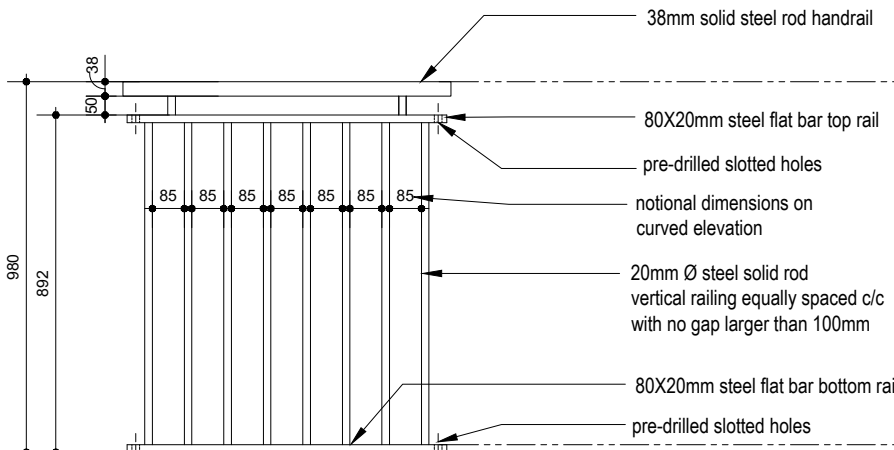
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SCALE 1:5



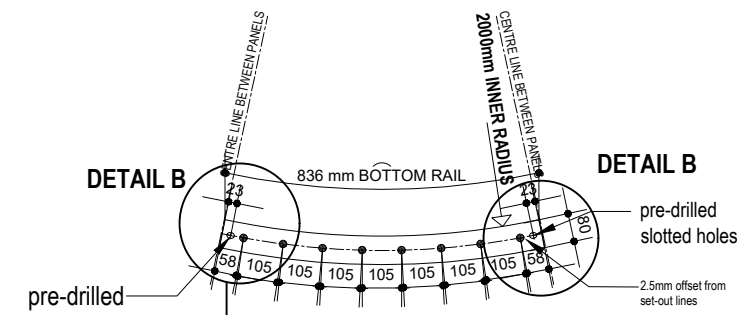
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SCALE 1:5



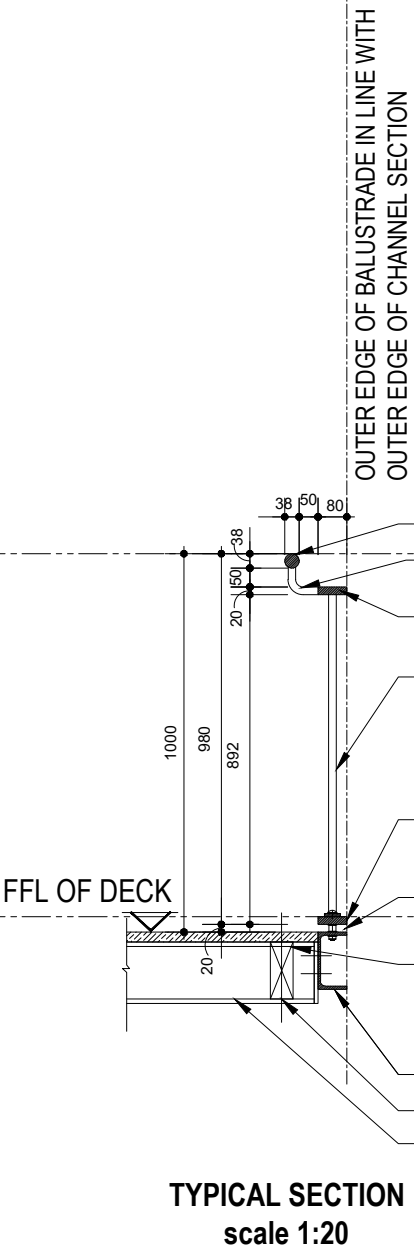
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scale 1:20



TYPICAL ELEVATION
scale 1:20



PLAN: BOTTOM RAIL
scale 1:20



TYPICAL SECTION
scale 1:20

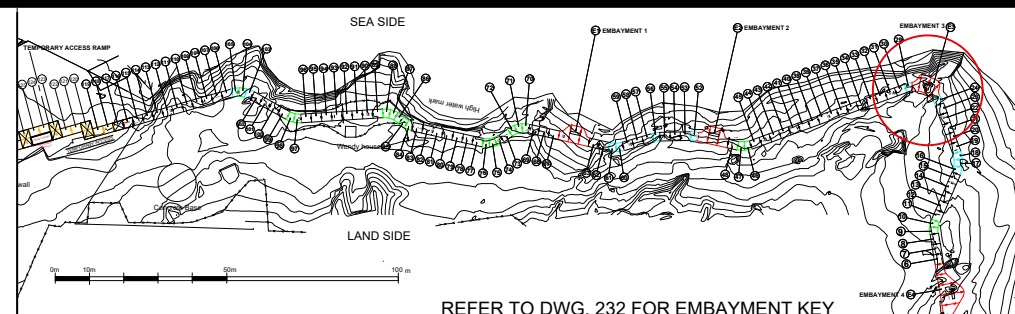
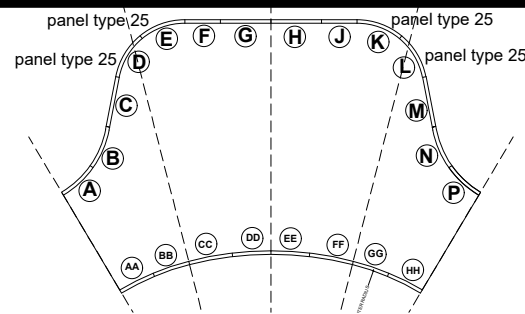
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FIT OF ALL COMPONENTS TO BE CHECKED PRIOR TO GALVANISING AND FINAL FINISH
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SHOPDRAWINGS TO BE APPROVED PRIOR TO MANUFACTURE

QUANTITY - PANEL TYPE 23

2

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Panel location within embayment



Embayment 3

PANEL TYPE 25

D panel type 25

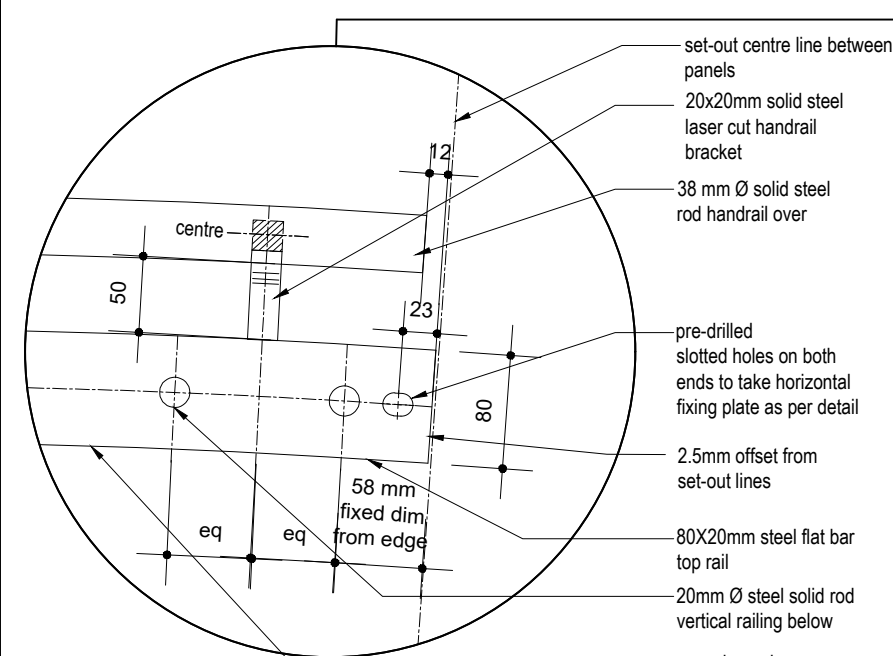
E panel type 25

K panel type 25

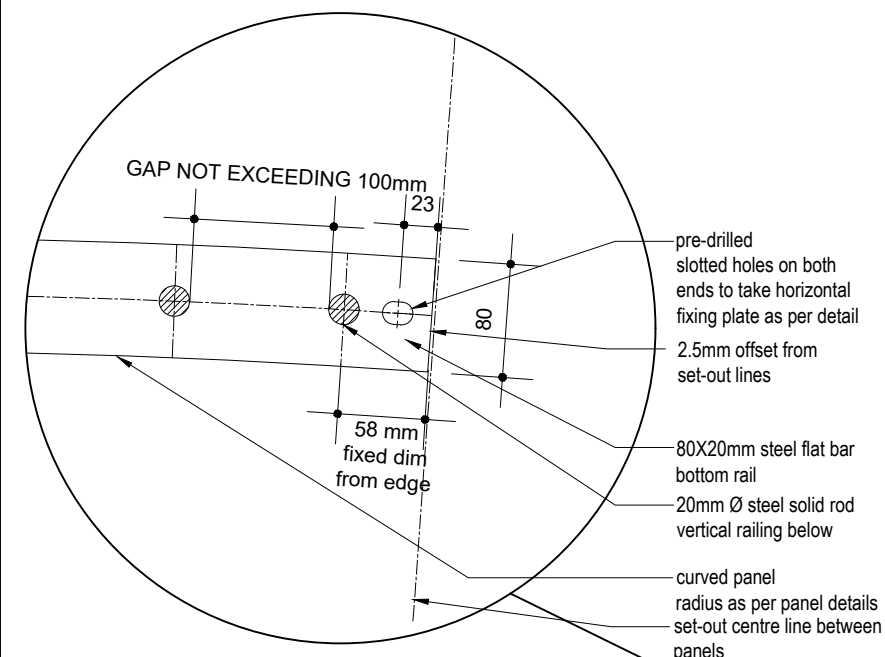
Ⓛ panel type 25

SEGMENT COLOUR KEY

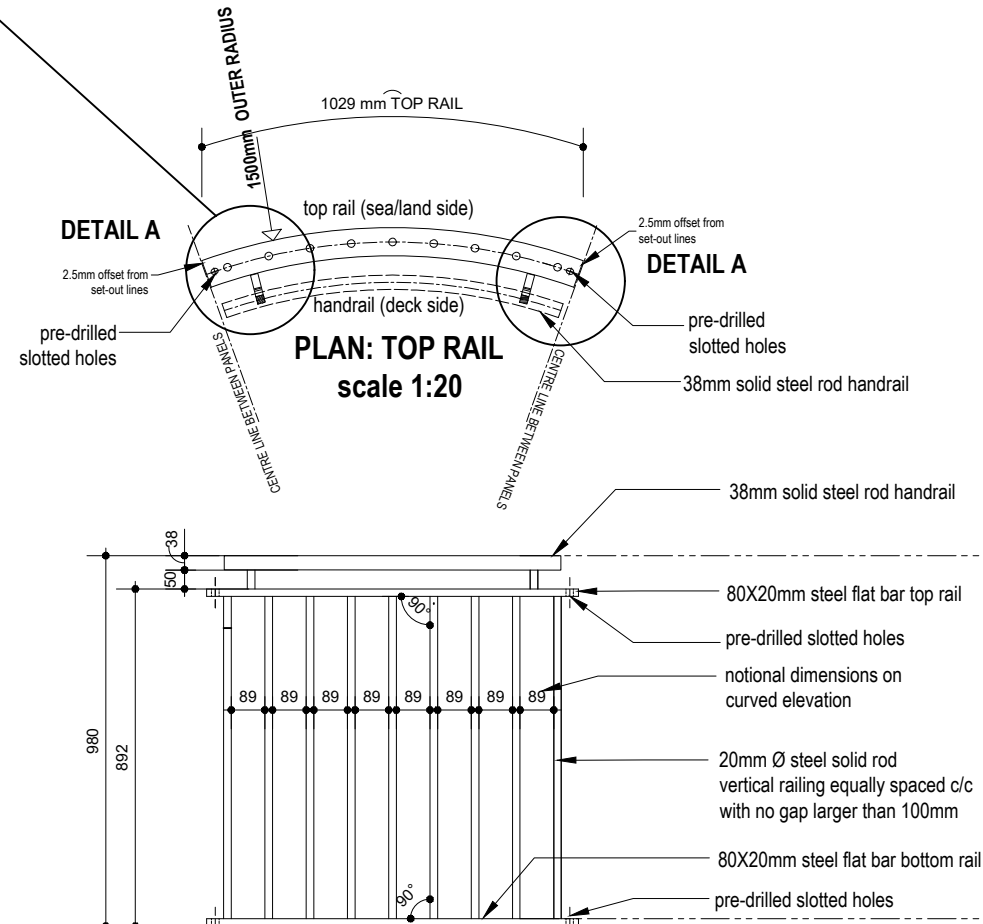
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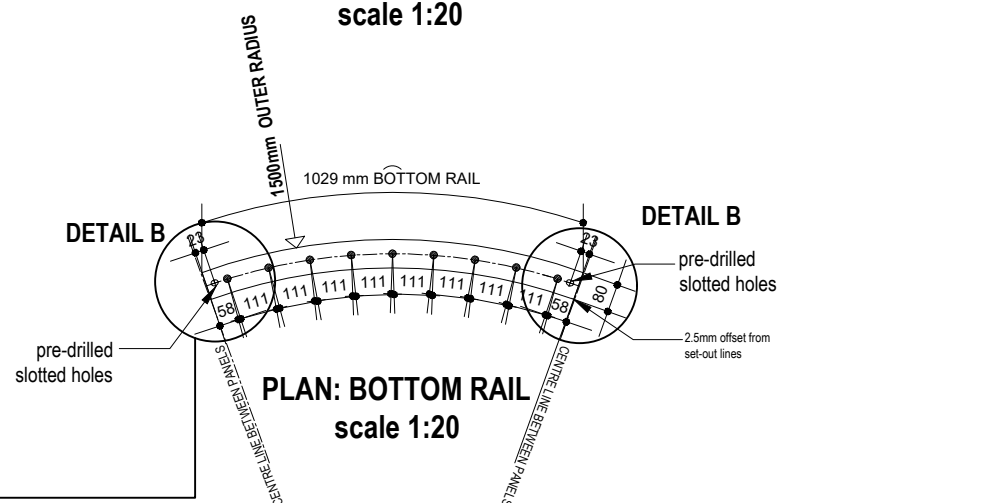
DETAIL A: TYPICAL TOP RAIL END
SCALE 1:5



DETAIL B: TYPICAL BOTTOM RAIL END
SCALE 1:5



TYPICAL ELEVATION
scale 1:20



PLAN: BOTTOM RAIL
scale 1:20

OUTER EDGE OF BALUSTRADE IN LINE WITH
OUTER EDGE OF CHANNEL SECTION

NOTES:
NO DRILLING OR WELDING ON SITE.

ALL COMPONENTS HAVE TO BE WELDED AND DRILLED PRIOR TO GALVANISING.

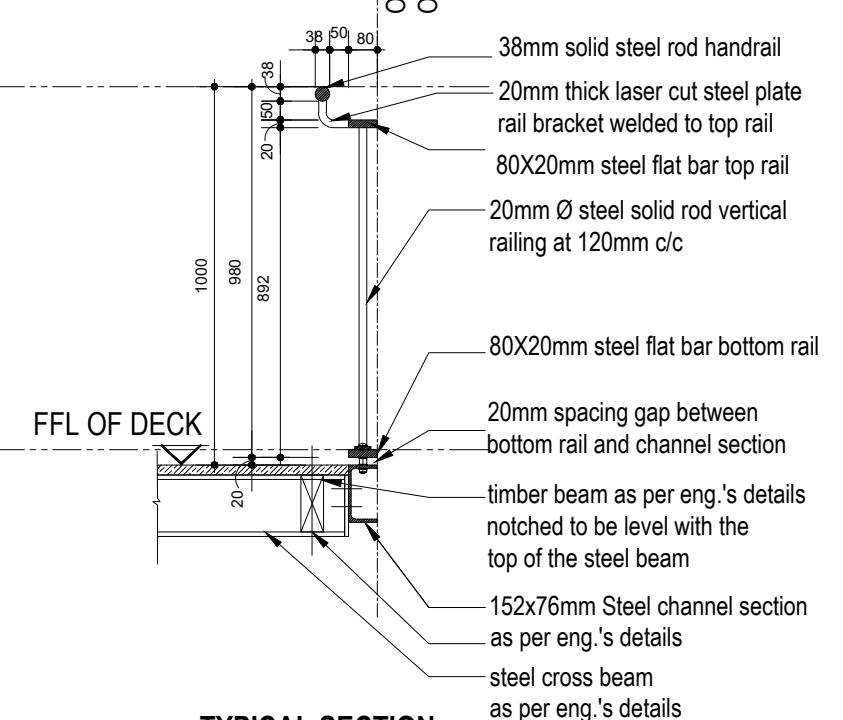
FIT OF ALL COMPONENTS TO BE CHECKED PRIOR TO GALVANISING AND FINAL FINISH

NO ADJUSTMENTS OR REMEDIAL WORK TO BE DONE AFTER GALVANISING AND FINAL FINISH HAVE BEEN COMPLETED.

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SHOPDRAWINGS TO BE APPROVED PRIOR TO MANUFACTURE



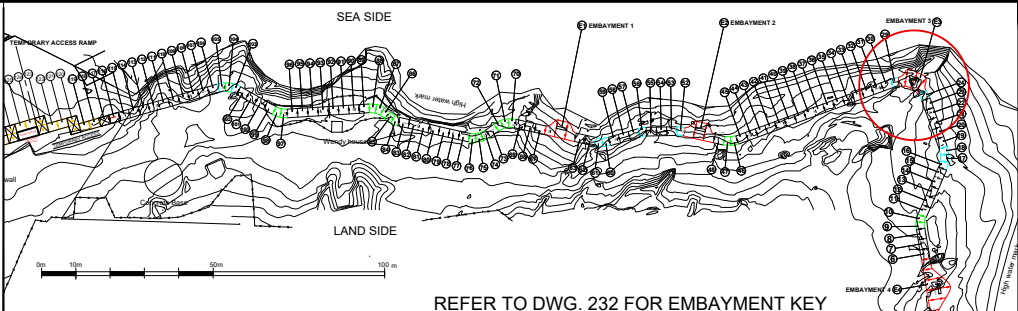
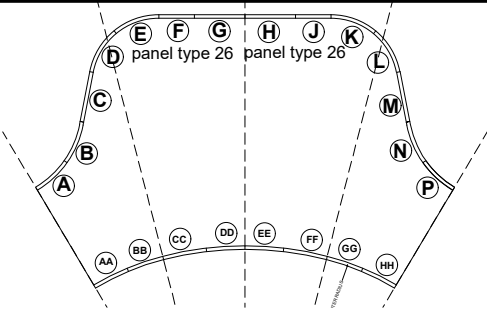
TYPICAL SECTION
scale 1:20

QUANTITY - PANEL TYPE 25

4

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EMBAYMENT 3
Panel location within embayment

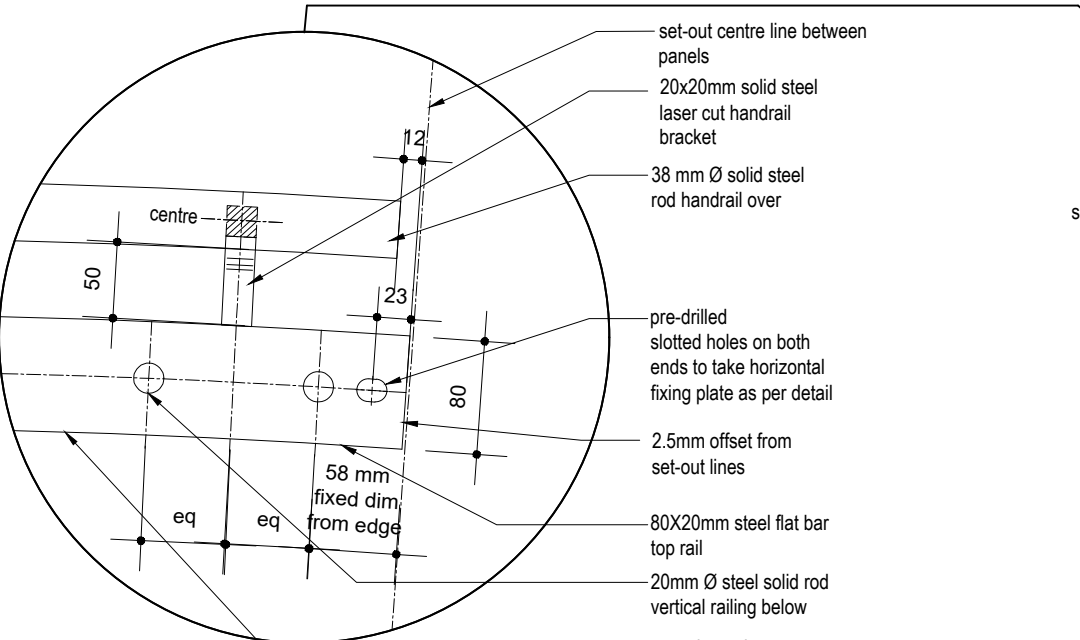


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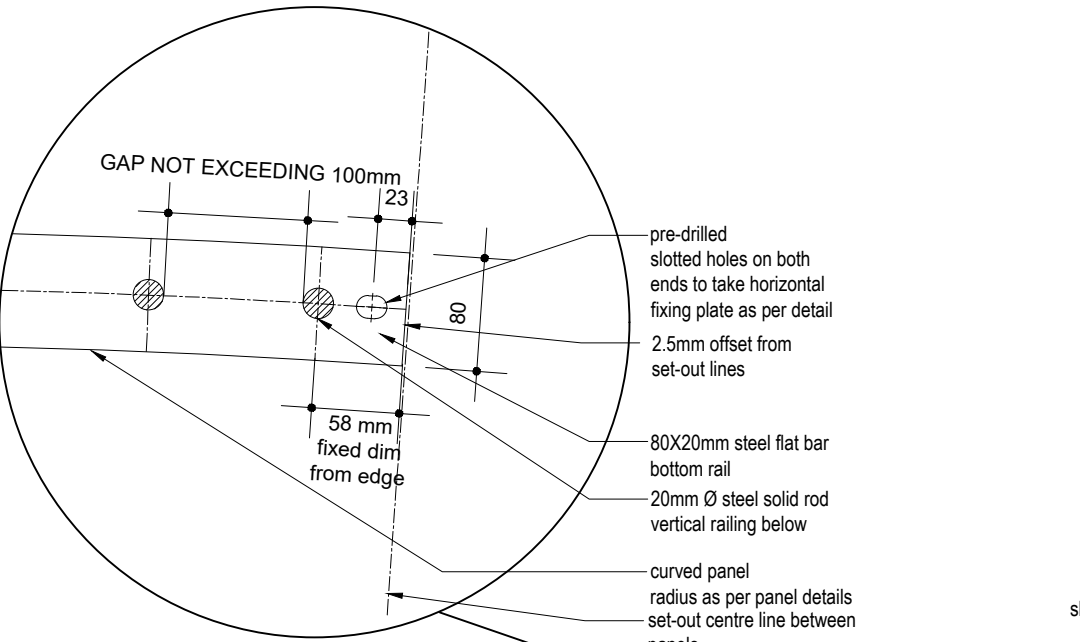
Embayment 3

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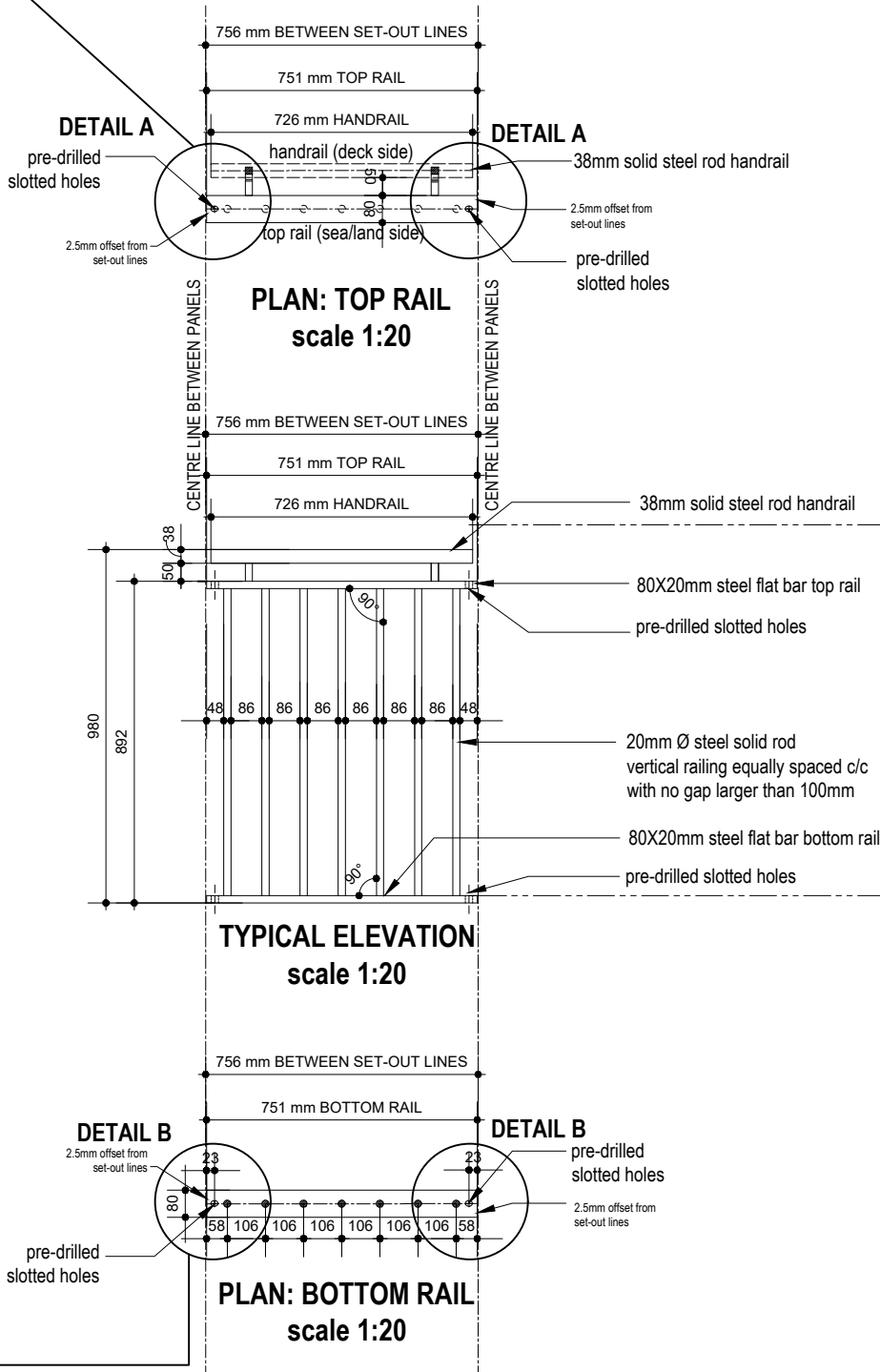
SEGMENT COLOUR KEY PANEL TYPE 26



DETAIL A: TYPICAL TOP RAIL END
SCALE 1:5



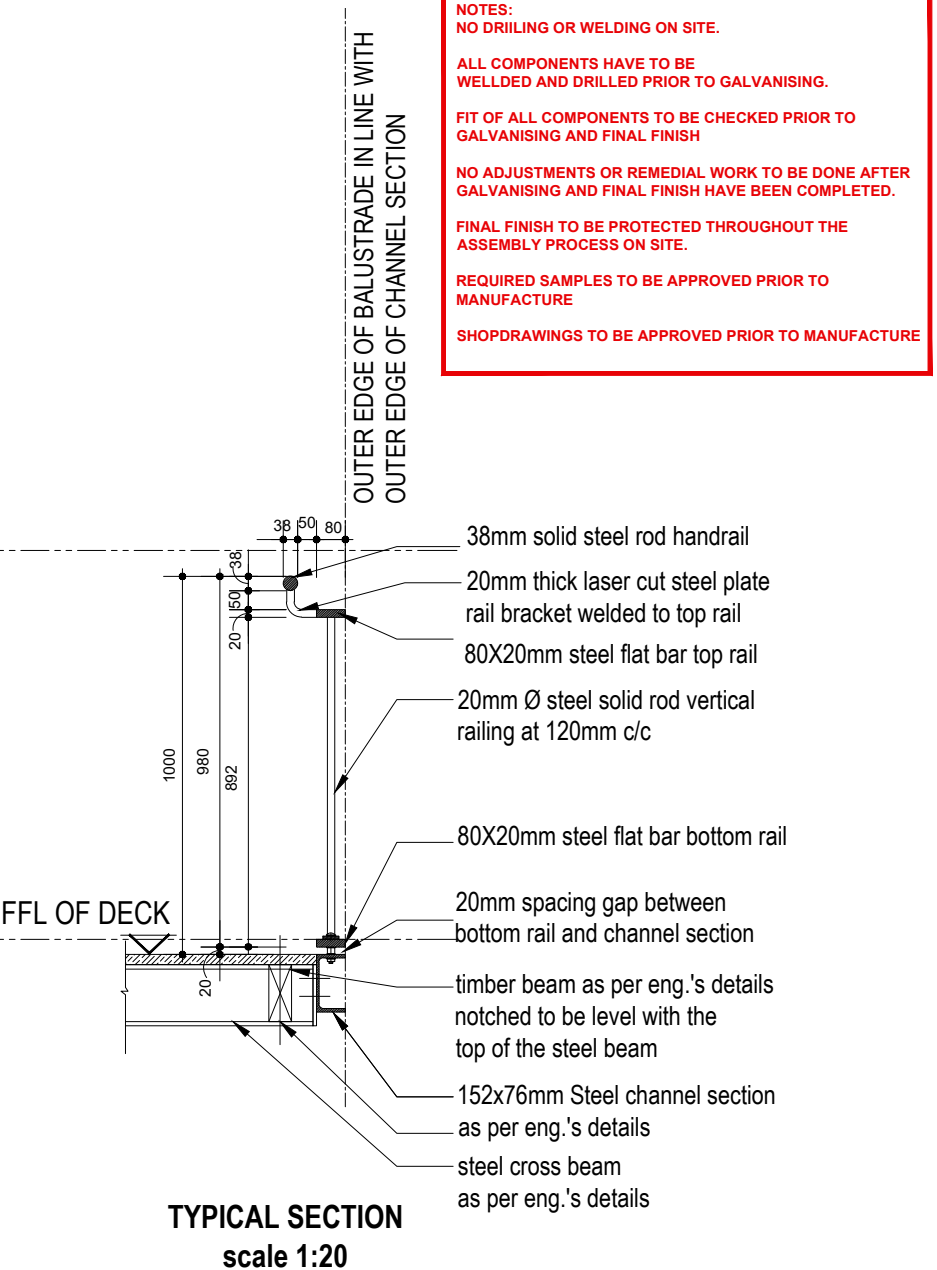
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SCALE 1:5



PLAN: TOP RAIL
scale 1:20

TYPICAL ELEVATION
scale 1:20

PLAN: BOTTOM RAIL
scale 1:20



TYPICAL SECTION
scale 1:20

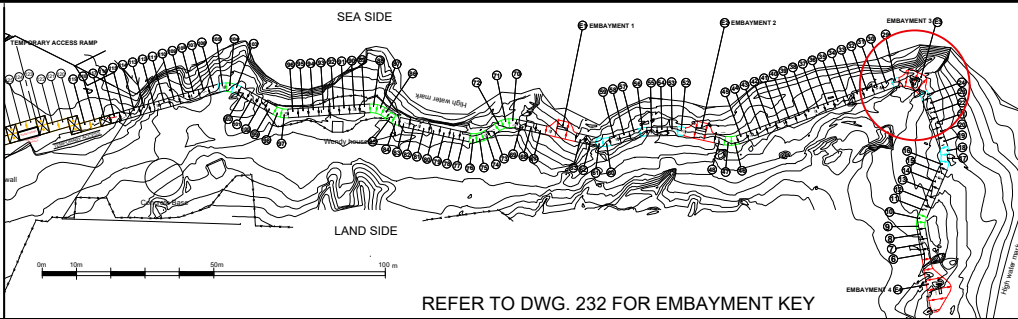
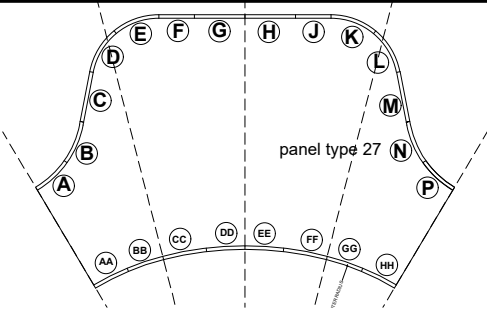
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QUANTITY - PANEL TYPE 26

2

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		no.	date	description	checked	signed																																				
												FOR TENDER ONLY																														

EMBAYMENT 3
Panel location within embayment



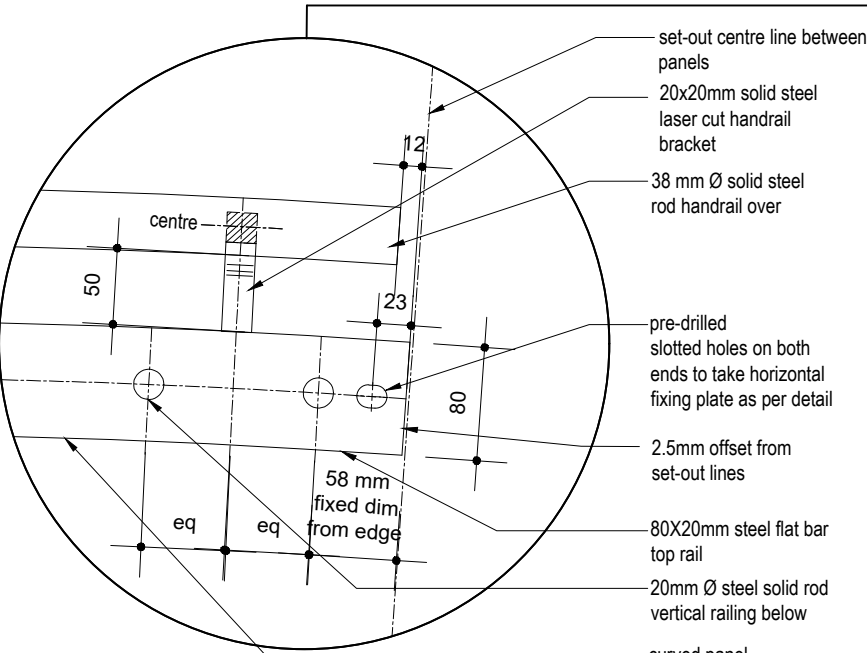
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Embayment 3

PANEL TYPE 27 N panel type 27

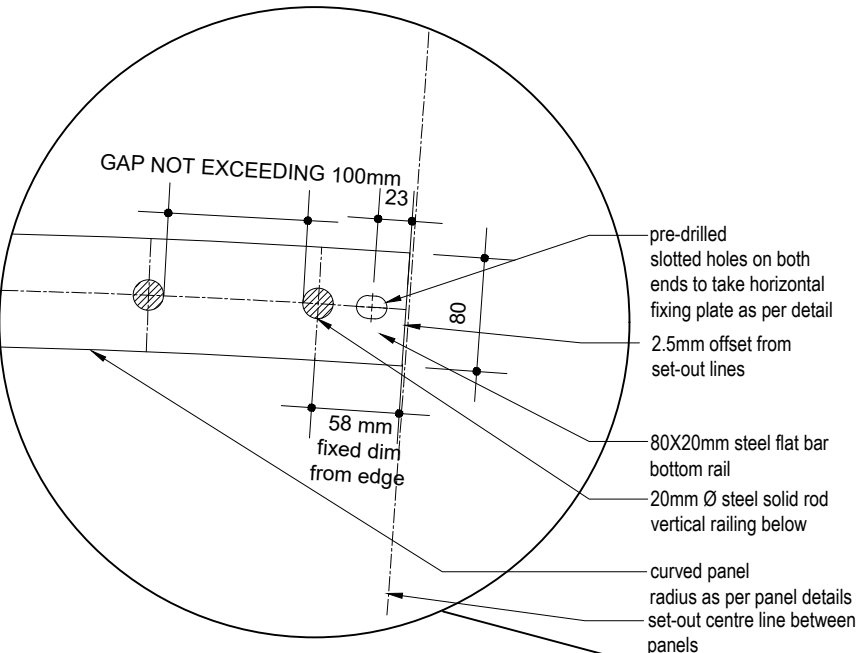


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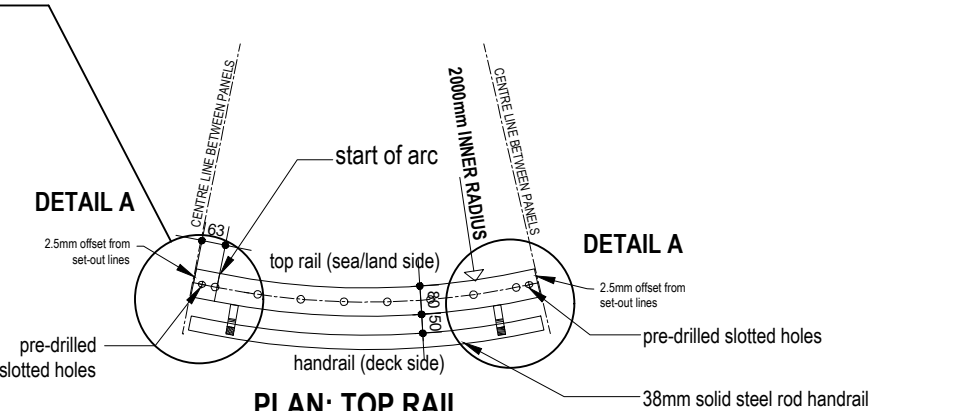
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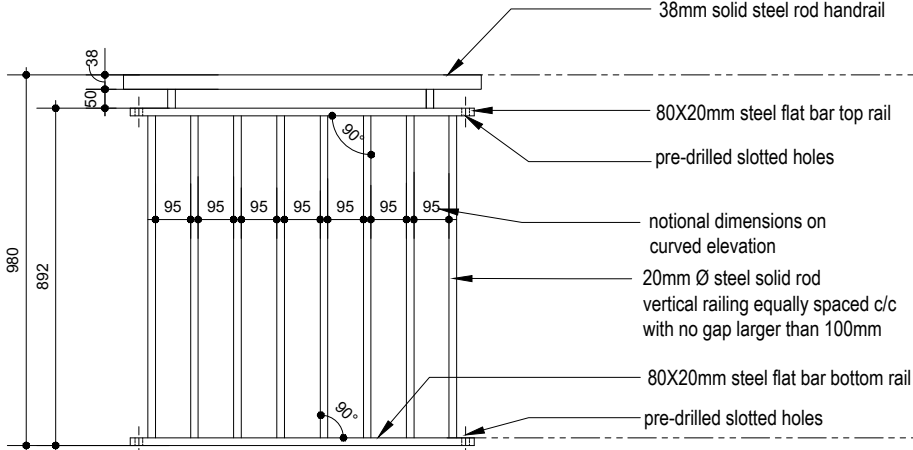
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SCALE 1:5



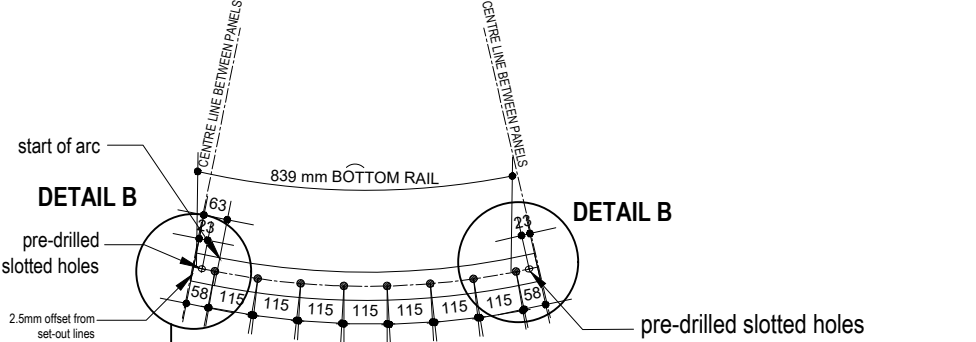
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SCALE 1:5



PLAN: TOP RAIL
scale 1:20



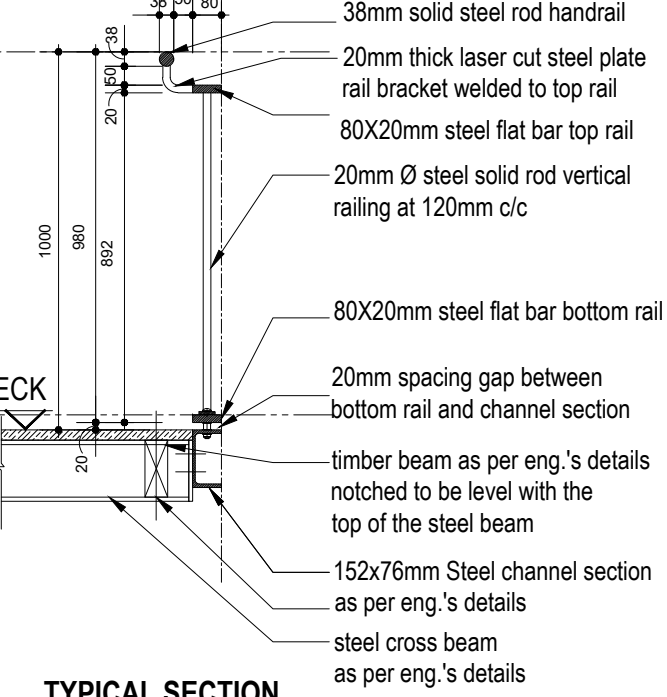
TYPICAL ELEVATION
scale 1:20



PLAN: BOTTOM RAIL
scale 1:20

OUTER EDGE OF BALUSTRADE IN LINE WITH
OUTER EDGE OF CHANNEL SECTION

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TYPICAL SECTION
scale 1:20

QUANTITY - PANEL TYPE 27

1

Project Number: CI000689



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Revisions					
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Client: CapeNature
Consultant: Urba

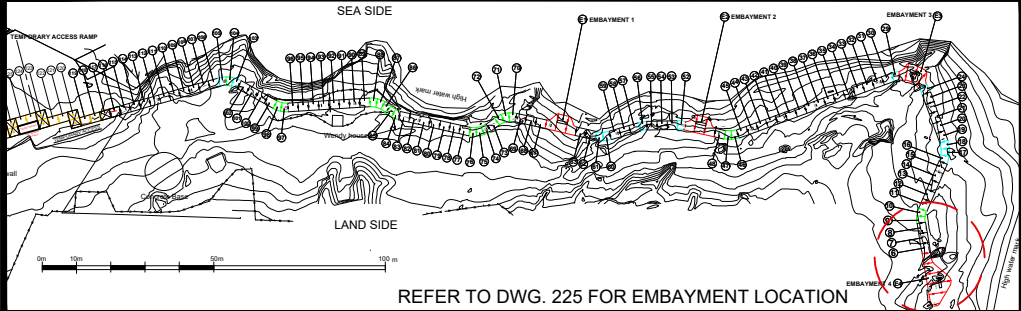
Project: STONY POINT NATURE RESERVE :
PHASE 1 - BOARDWALK UPGRADE

FOR TENDER
ONLY

Drawing Title: EMBAYMENT 3:
PANEL TYPE 27

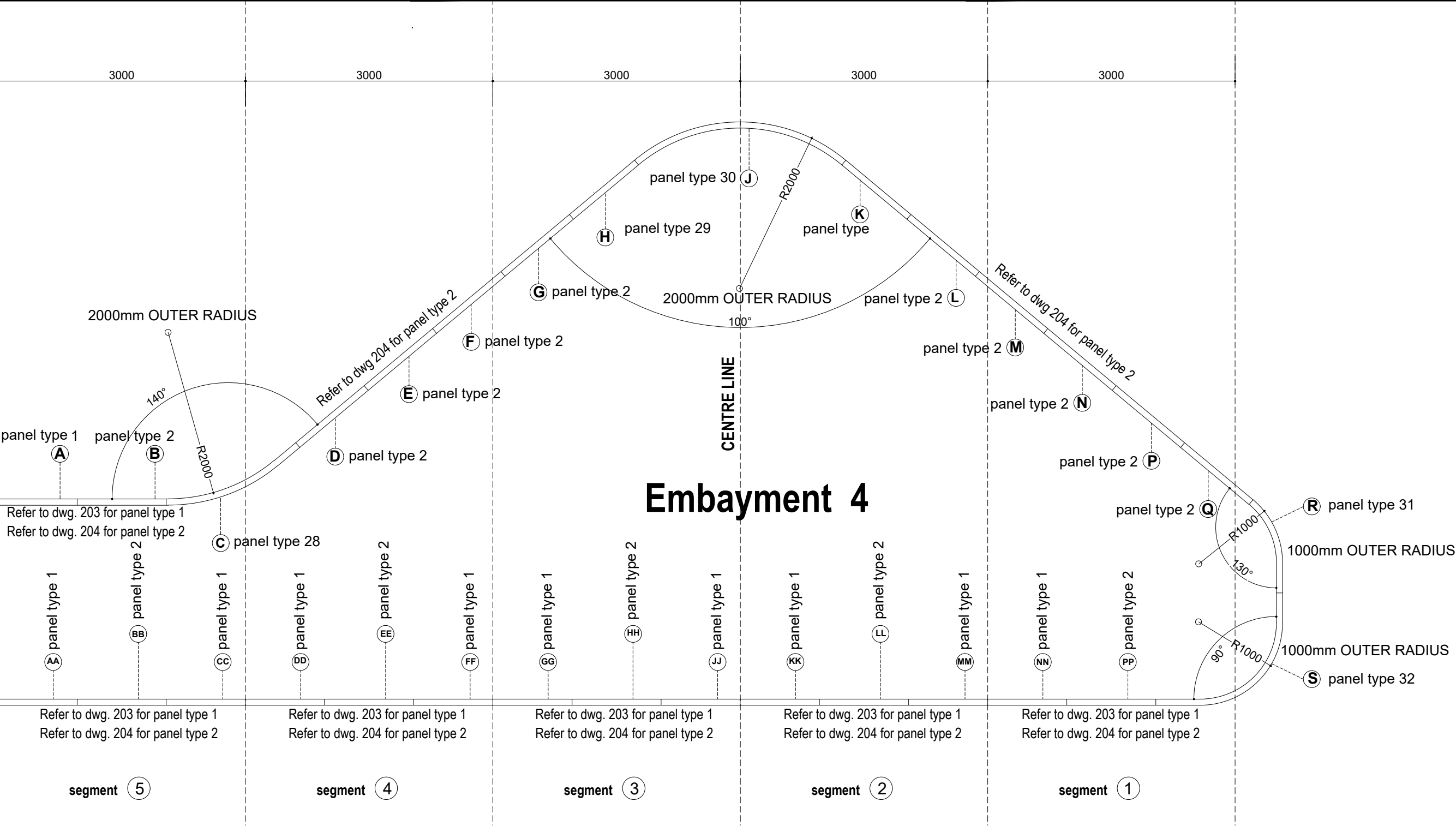
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EMBAYMENT 4



EMBAYMENT 4 KEY

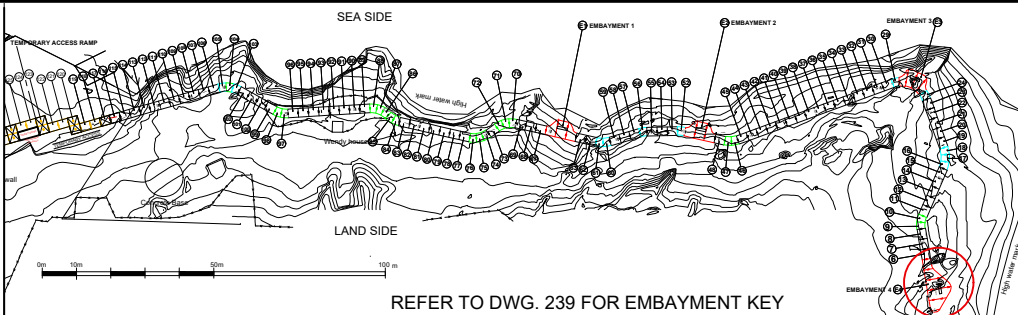
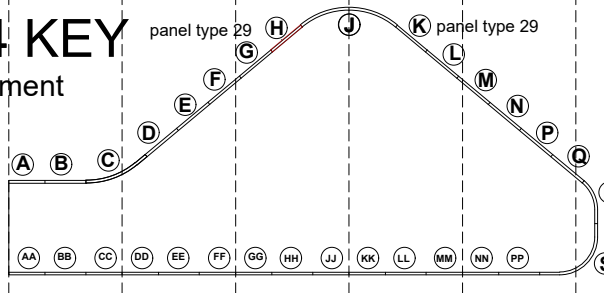
Segment numbers: 1 - 5



PLAN: Embayment 4 scale 1: 50

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DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE																																										
AR	18052	3900	0	T																																										

EMBAYMENT 4 KEY
Panel location within embayment



REFER TO DWG. 239 FOR EMBAYMENT KEY

EMBAYMENT

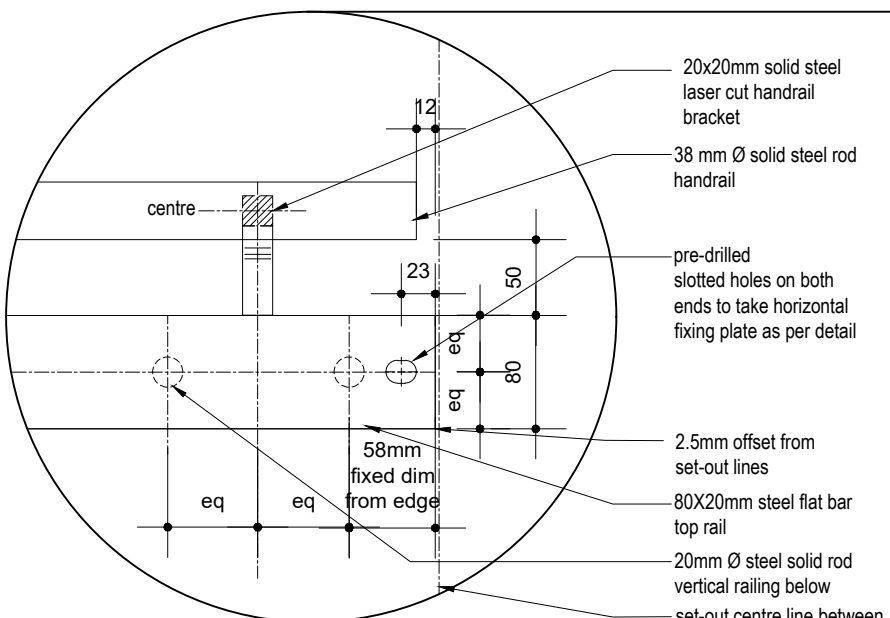
Embayment 4

PANEL TYPE 29 H panel type 29 K panel type 29

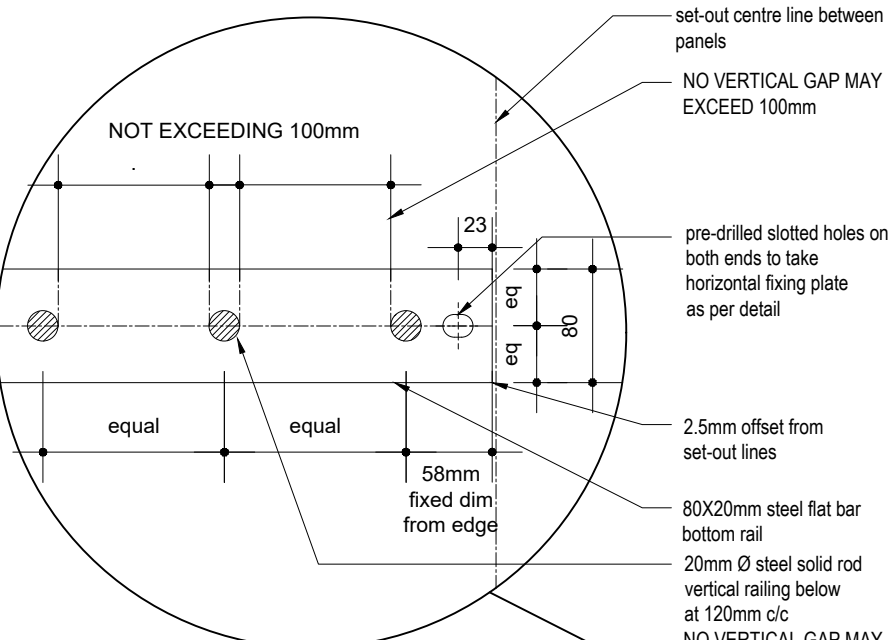


SEGMENT COLOUR KEY

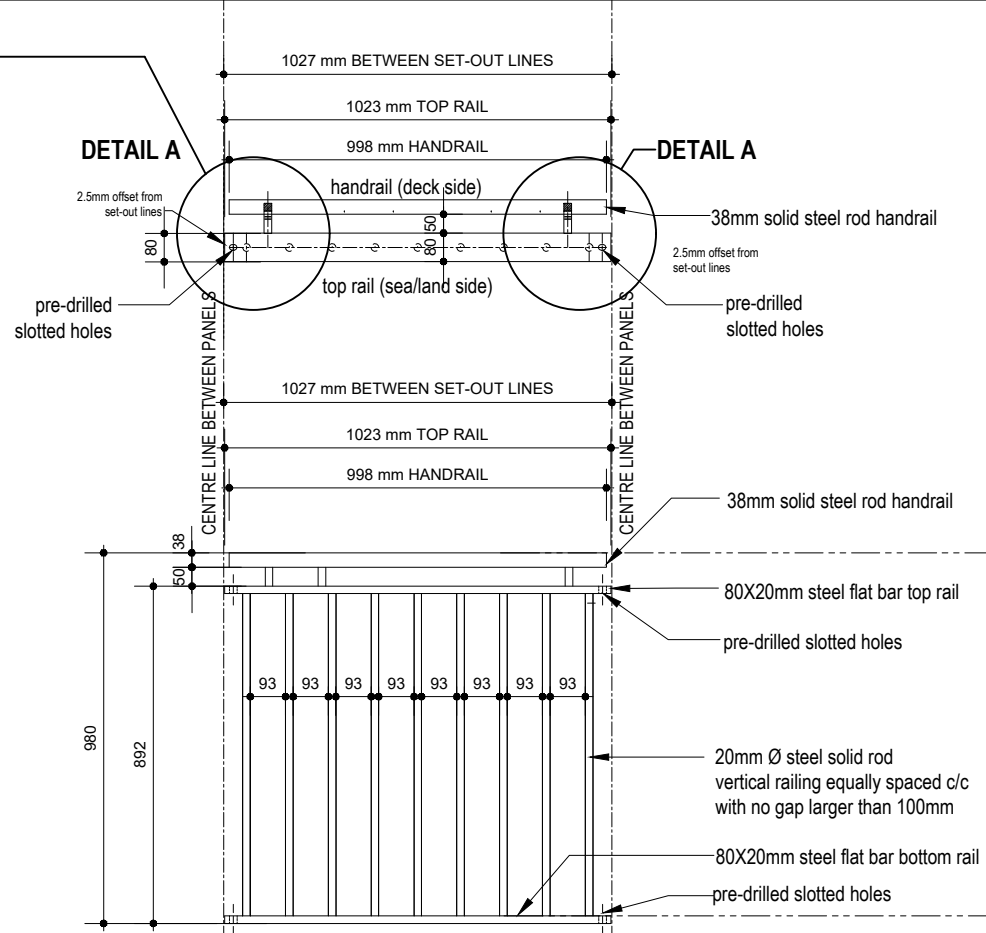
PANEL TYPE 29



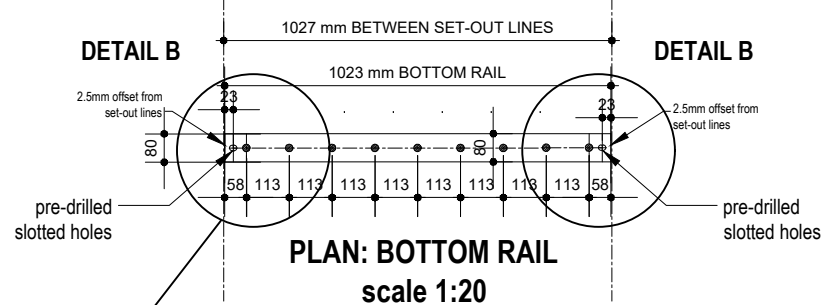
DETAIL A: TYPICAL TOP RAIL END
SCALE 1:5



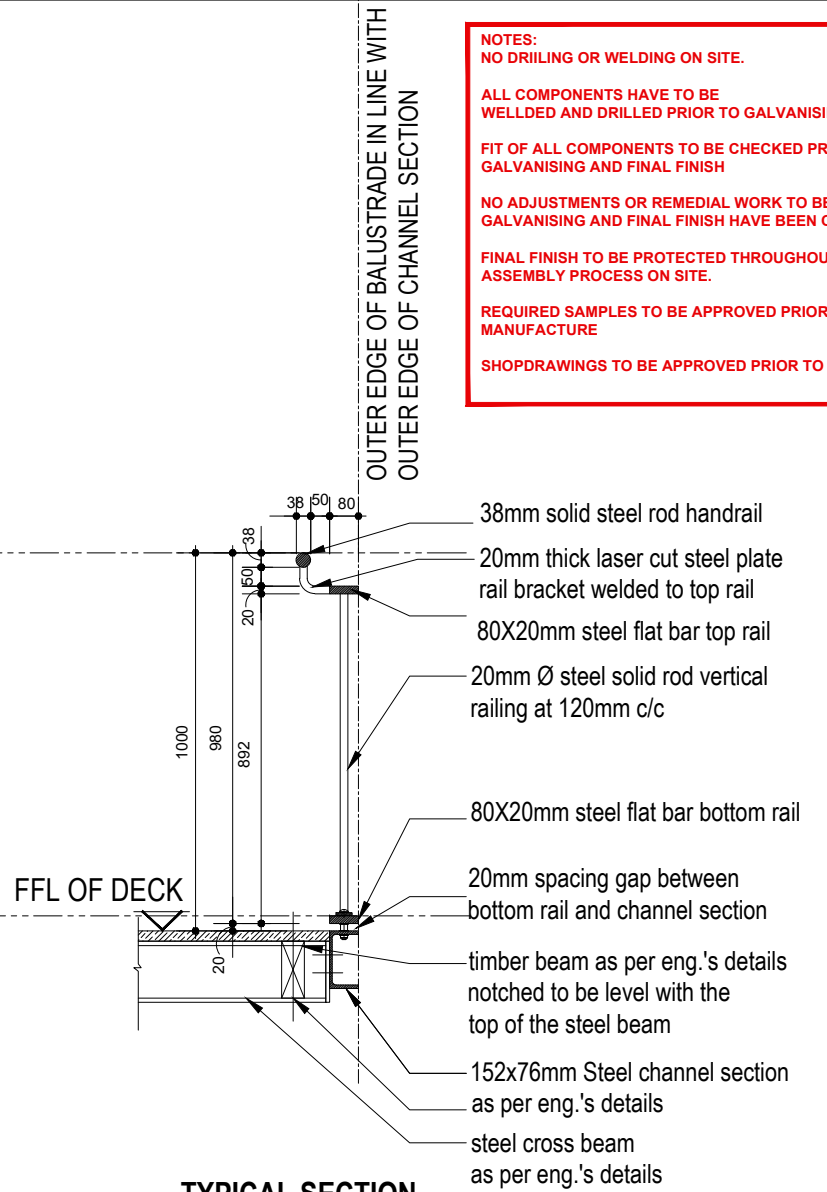
DETAIL B: TYPICAL BOTTOM RAIL END
SCALE 1:5



TYPICAL ELEVATION
scale 1:20



PLAN: BOTTOM RAIL
scale 1:20



TYPICAL SECTION
scale 1:20

NOTES:
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QUANTITY - PANEL TYPE 29

2

Project Number: CI000689



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no.	date	description	checked	signed	

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Client: CapeNature
Consultant: Urba

Project: STONY POINT NATURE RESERVE : PHASE 1 - BOARDWALK UPGRADE
FOR TENDER ONLY

Drawing Title:

EMBAYMENT 4: PANEL TYPE 29

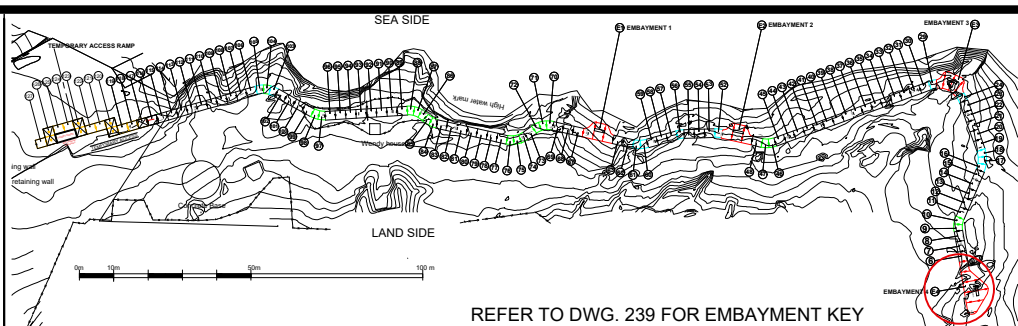
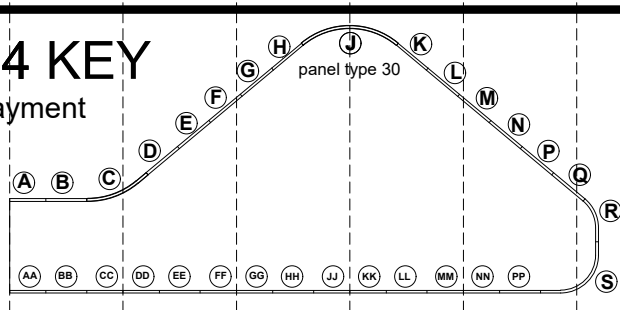
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	A.C.	2020-09-07	1:20 ON A3	

This drawing to be read in conjunction with drawing no:

Drawing Number

DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE
AR	18052	4100	0	T

EMBAYMENT 4 KEY
Panel location within embayment

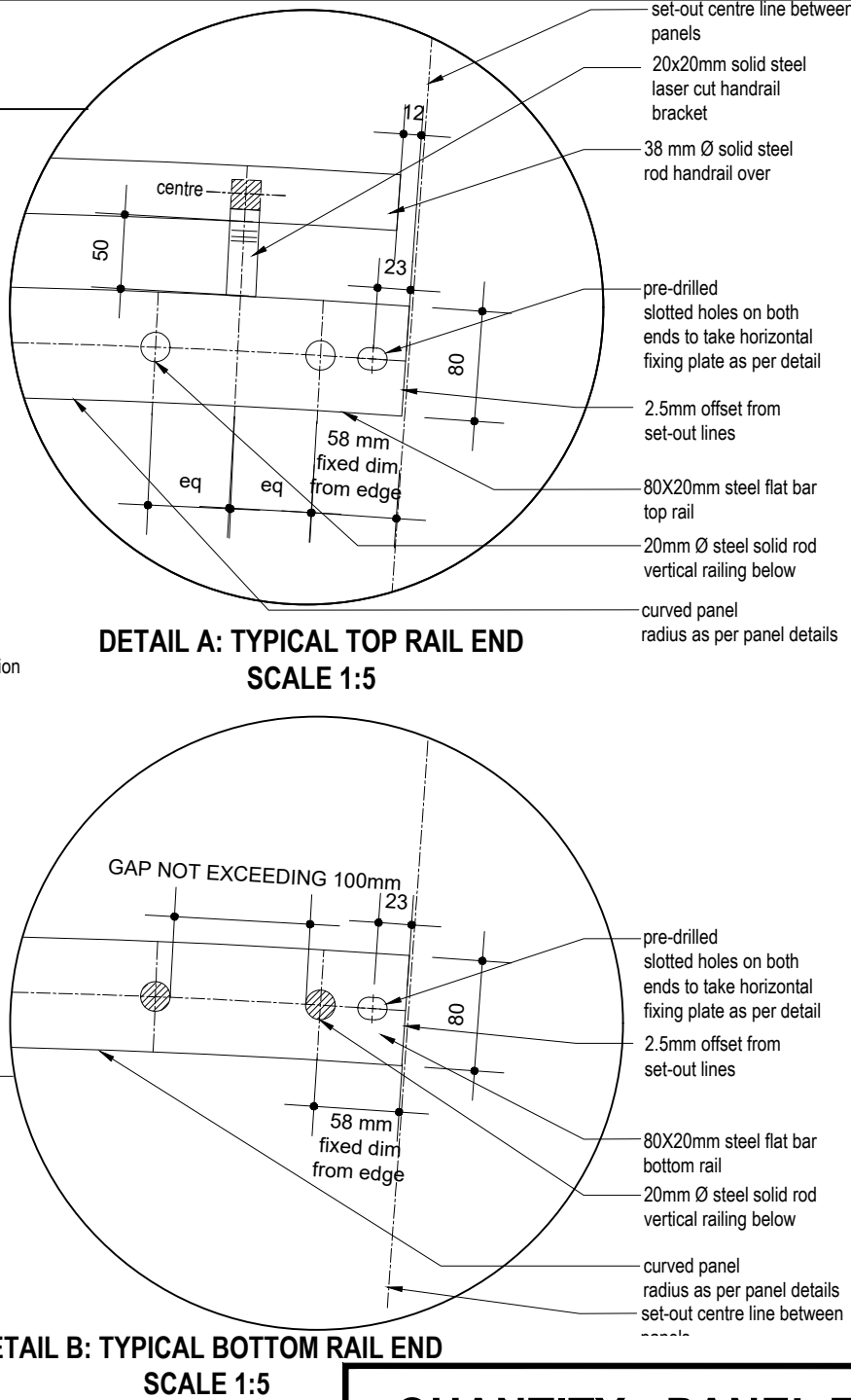
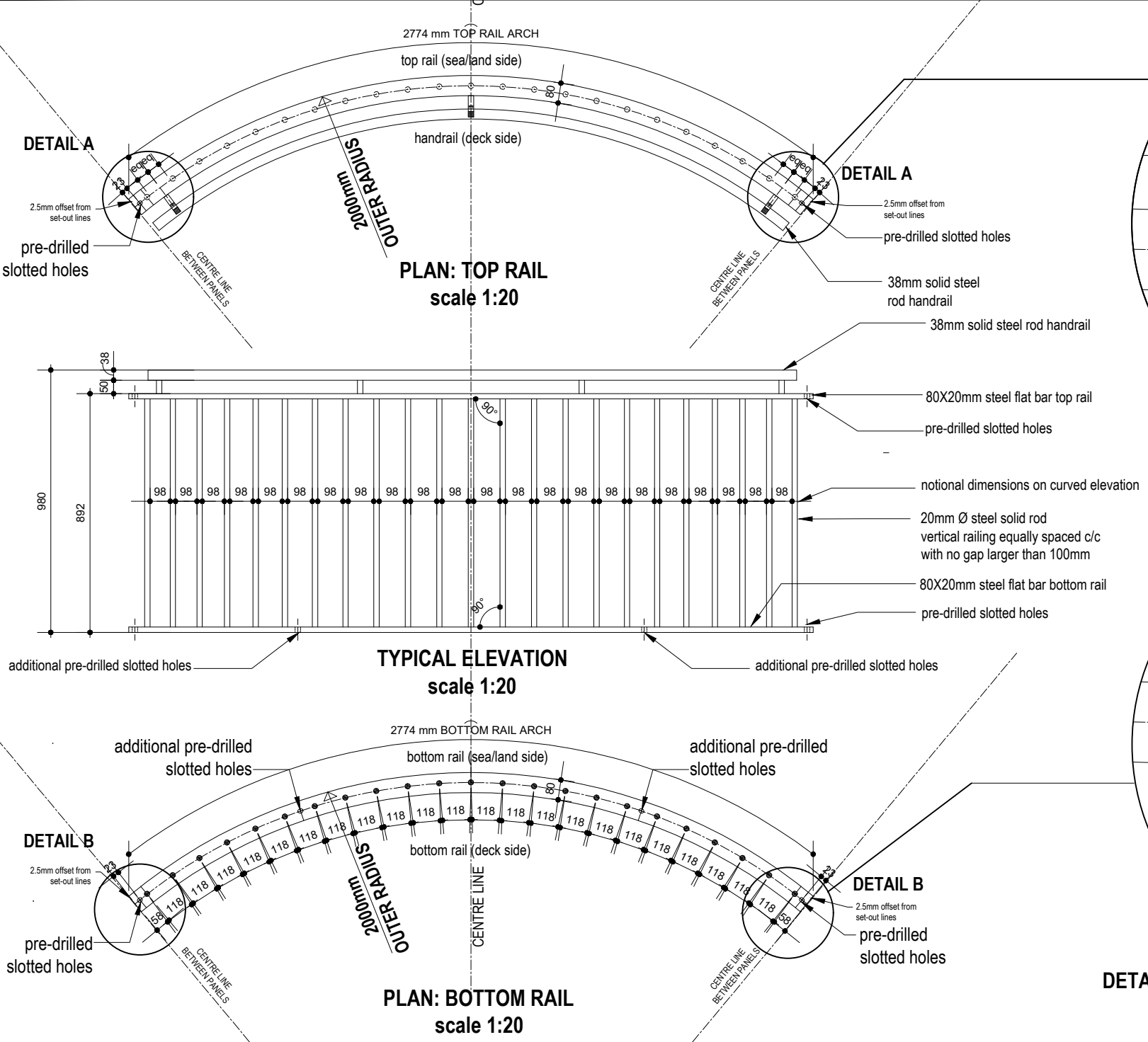


EMBAYMENT
Embayment 4

PANEL TYPE 30 J panel type 30

SEGMENT COLOUR KEY

PANEL TYPE 30



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NOTE:
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QUANTITY - PANEL TYPE 30		1
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Project Number: CI000689

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Client: CapeNature

Consultant: Urba

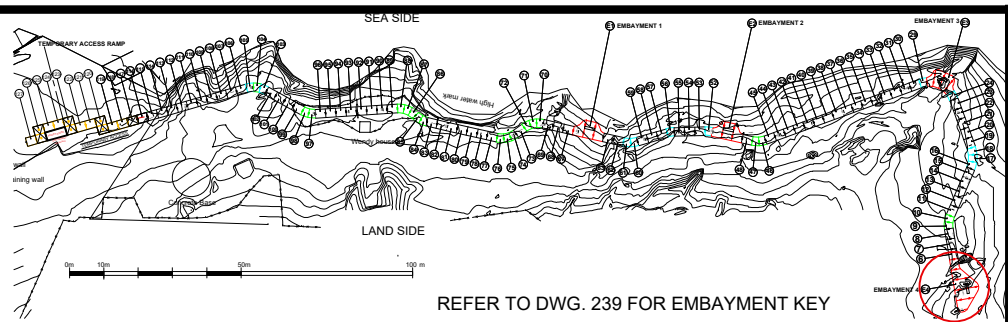
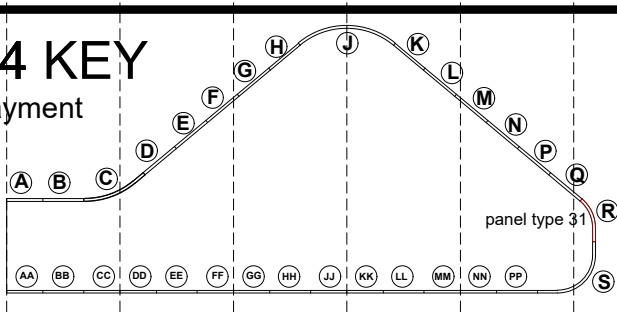
Project: STONY POINT NATURE RESERVE : PHASE 1 - BOARDWALK UPGRADE

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Drawing Title: EMBAYMENT 4: PANEL TYPE 30

DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE
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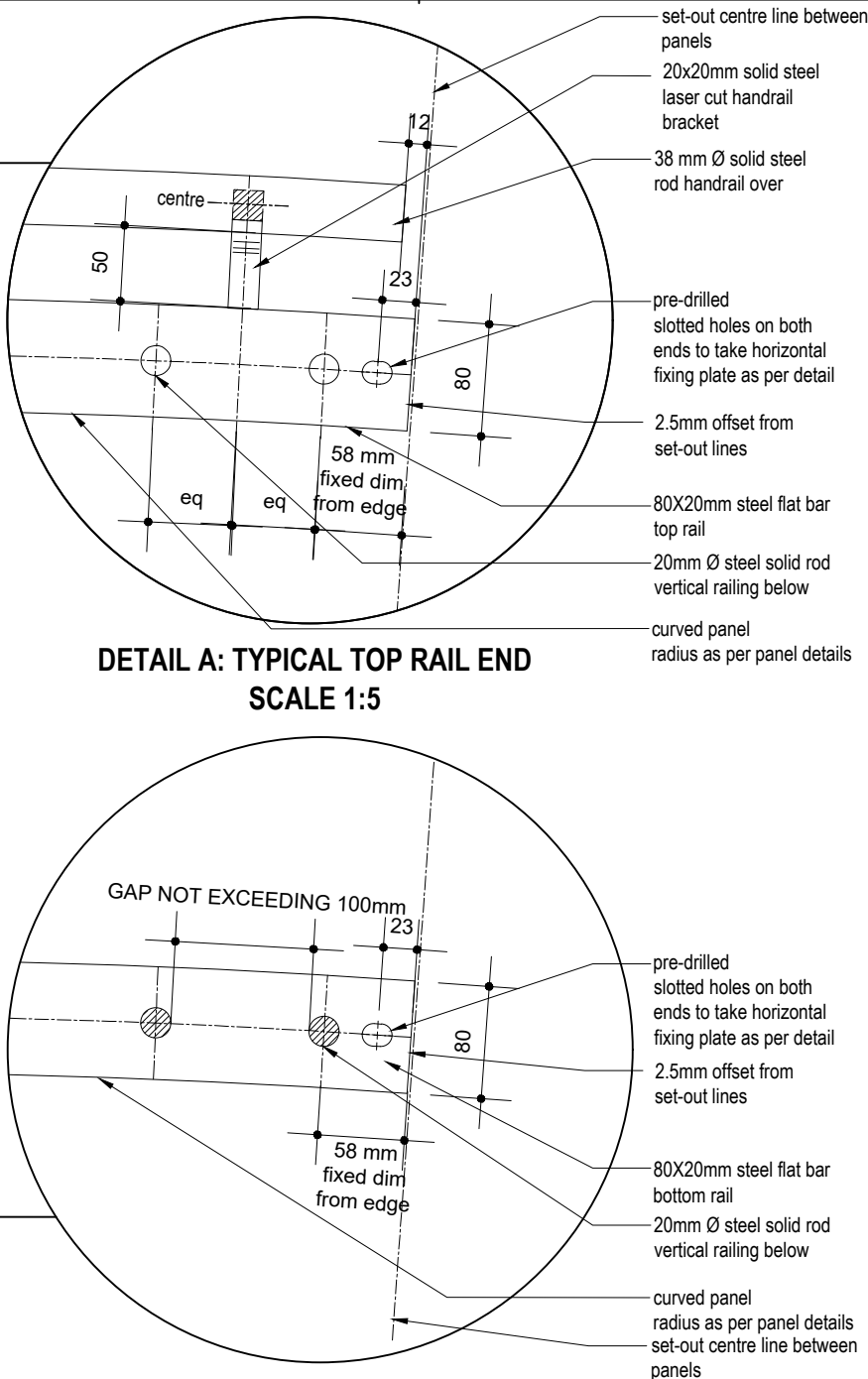
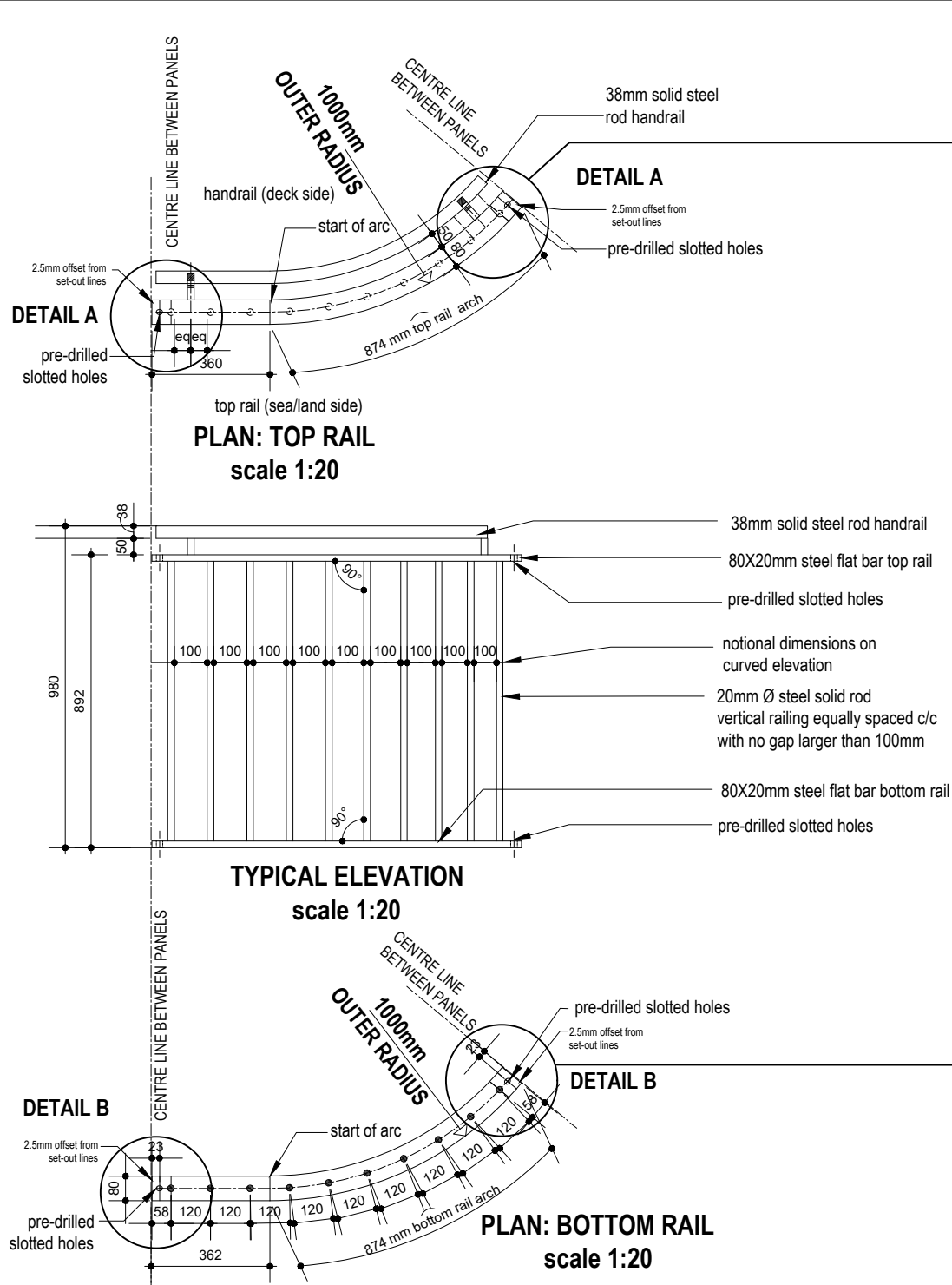
EMBAYMENT 4 KEY
Panel location within embayment



EMBAYMENT
Embayment 4

PANEL TYPE 31 **R** panel type 31

SEGMENT COLOUR KEY
PANEL TYPE **31**



NOTES:
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NO ADJUSTMENTS OR REMEDIAL WORK TO BE DONE AFTER GALVANISING AND FINAL FINISH HAVE BEEN COMPLETED.

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SHOPDRAWINGS TO BE APPROVED PRIOR TO MANUFACTURE

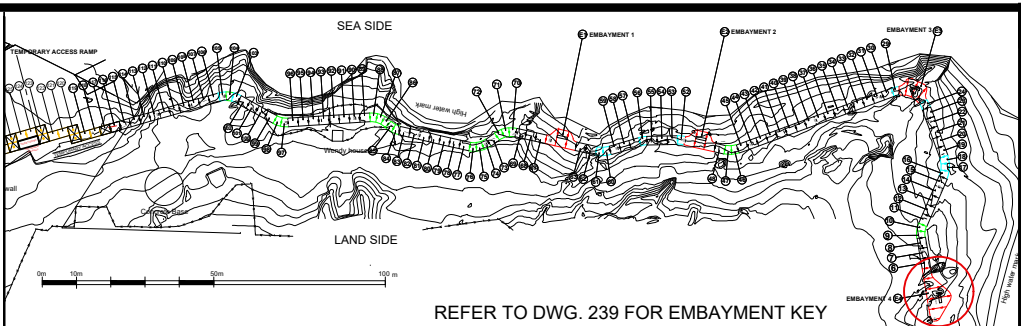
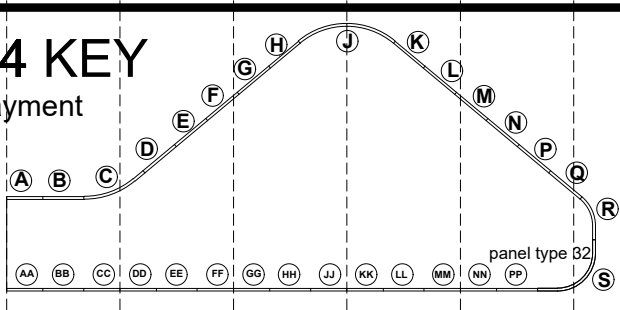
NOTE:
REFER TO PREVIOUS SHEDULE SHEETS FOR TYPICAL SECTION

QUANTITY - PANEL TYPE 31

1

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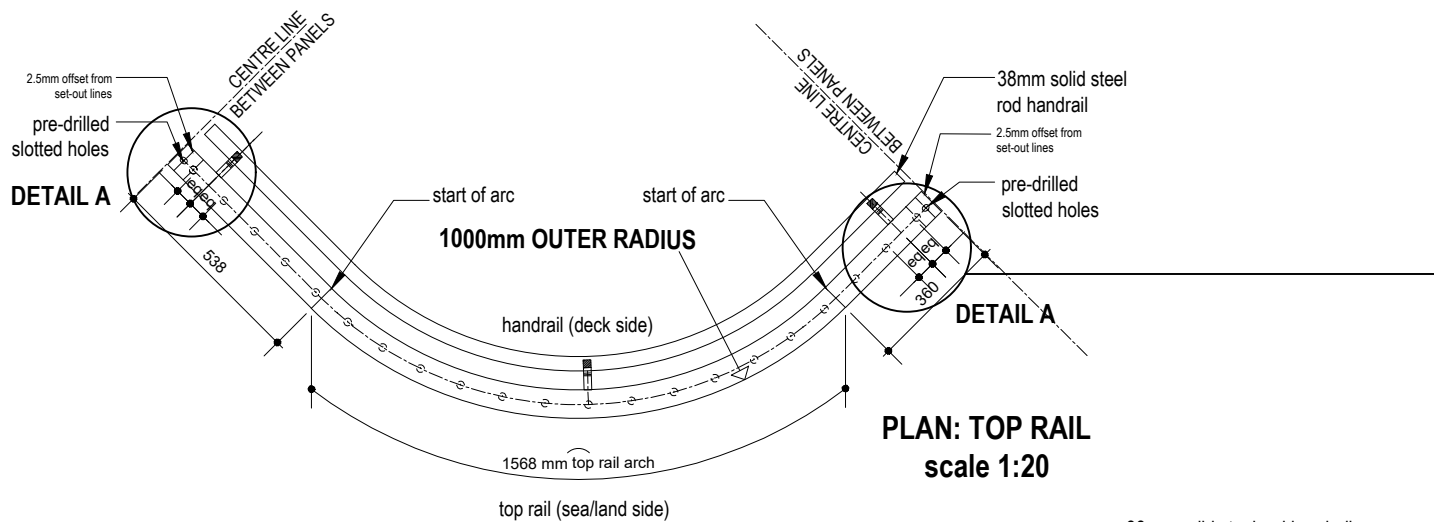
EMBAYMENT 4 KEY
Panel location within embayment



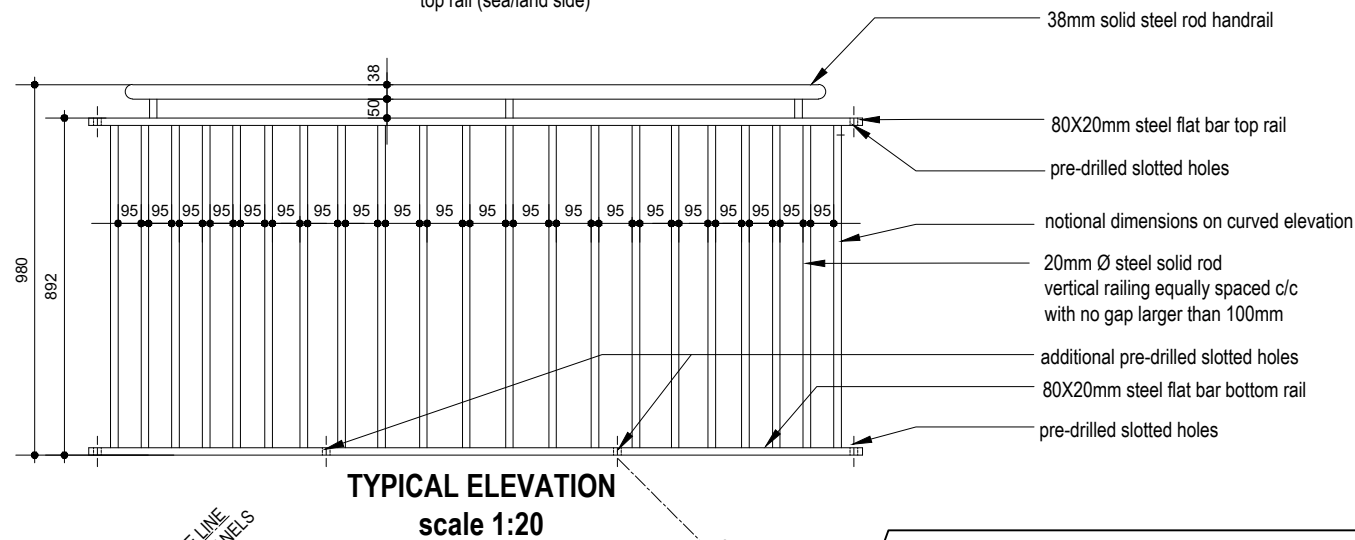
EMBAYMENT
Embayment 4

PANEL TYPE 32 S panel type 32

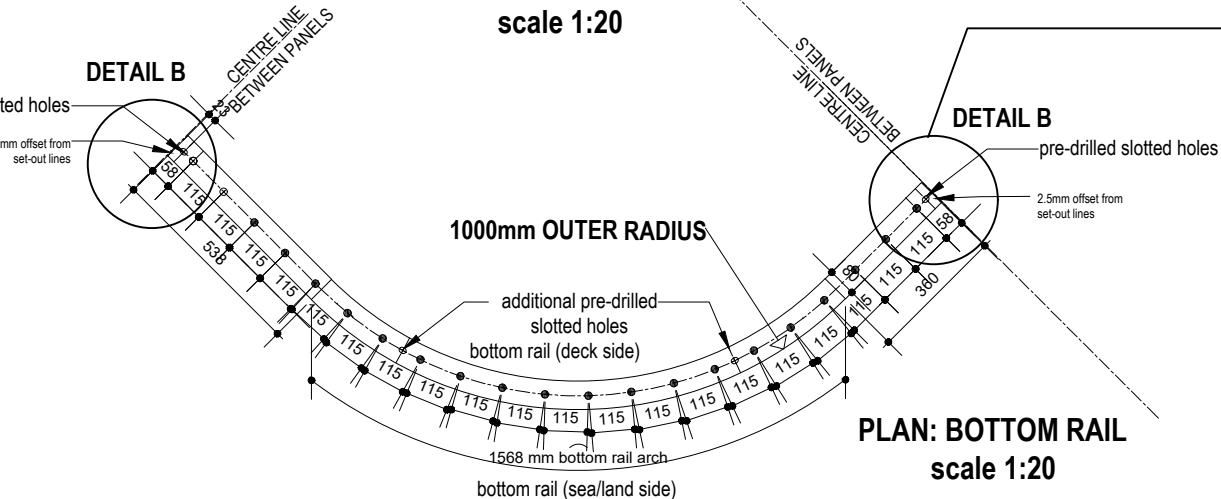
SEGMENT COLOUR KEY PANEL TYPE 32



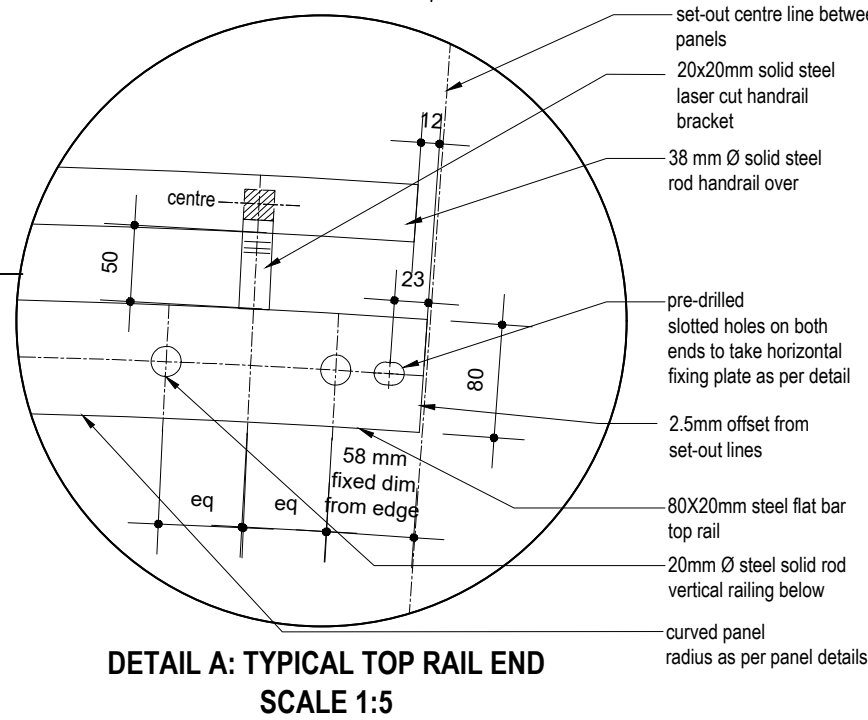
PLAN: TOP RAIL
scale 1:20



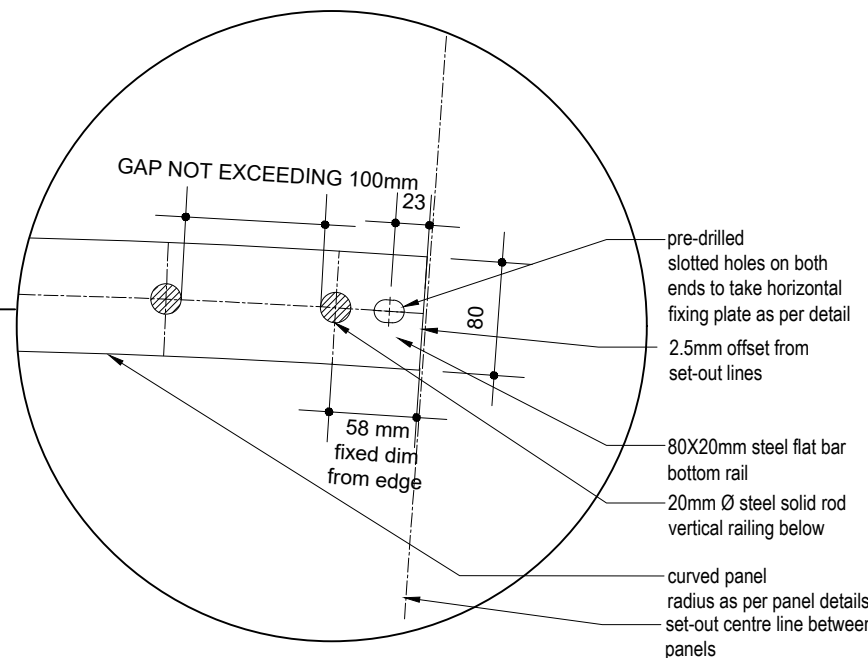
TYPICAL ELEVATION
scale 1:20



PLAN: BOTTOM RAIL
scale 1:20



DETAIL A: TYPICAL TOP RAIL END
SCALE 1:5



DETAIL B: TYPICAL BOTTOM RAIL END
SCALE 1:5

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QUANTITY - PANEL TYPE 32

1

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Consultant: Urba

Project: STONY POINT NATURE RESERVE : PHASE 1 - BOARDWALK UPGRADE

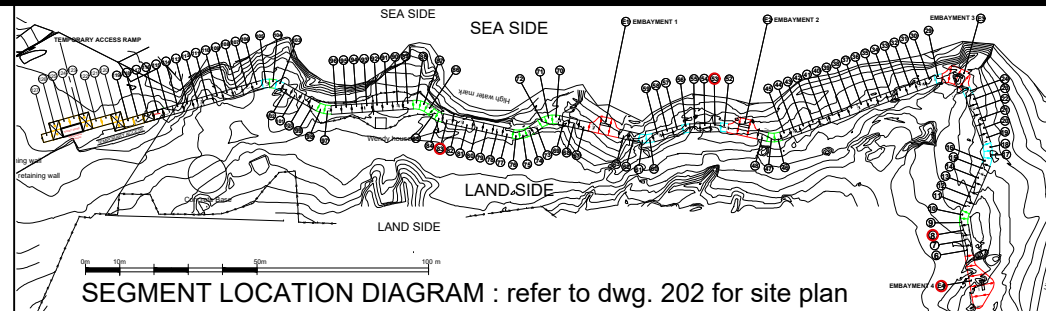
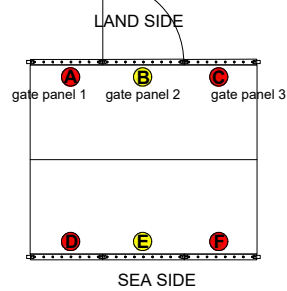
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Drawing Title: EMBAYMENT 4: PANEL TYPE 32

DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE
AR	18052	4400	T	

SEGMENT KEY:

Panel location within segment



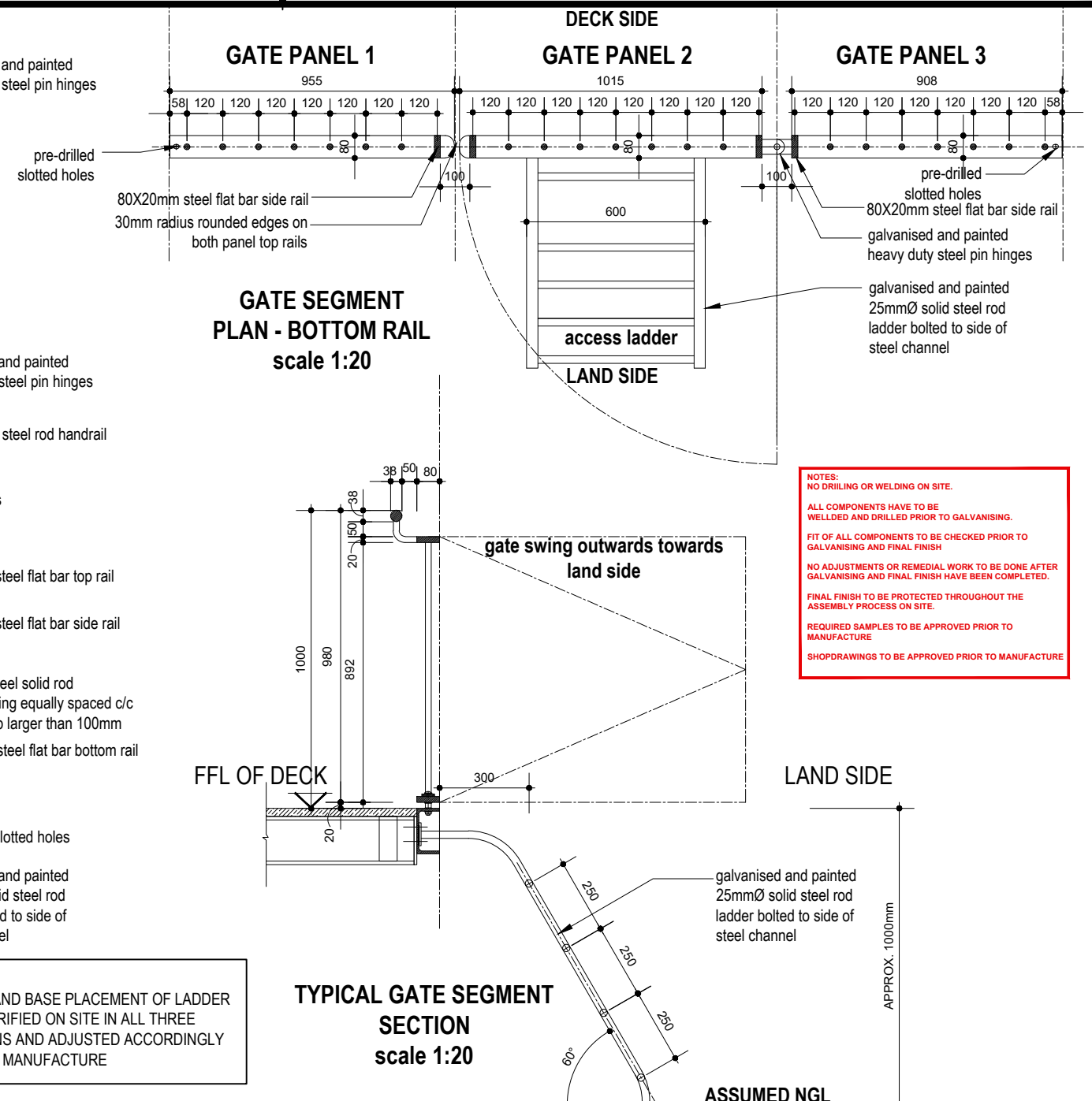
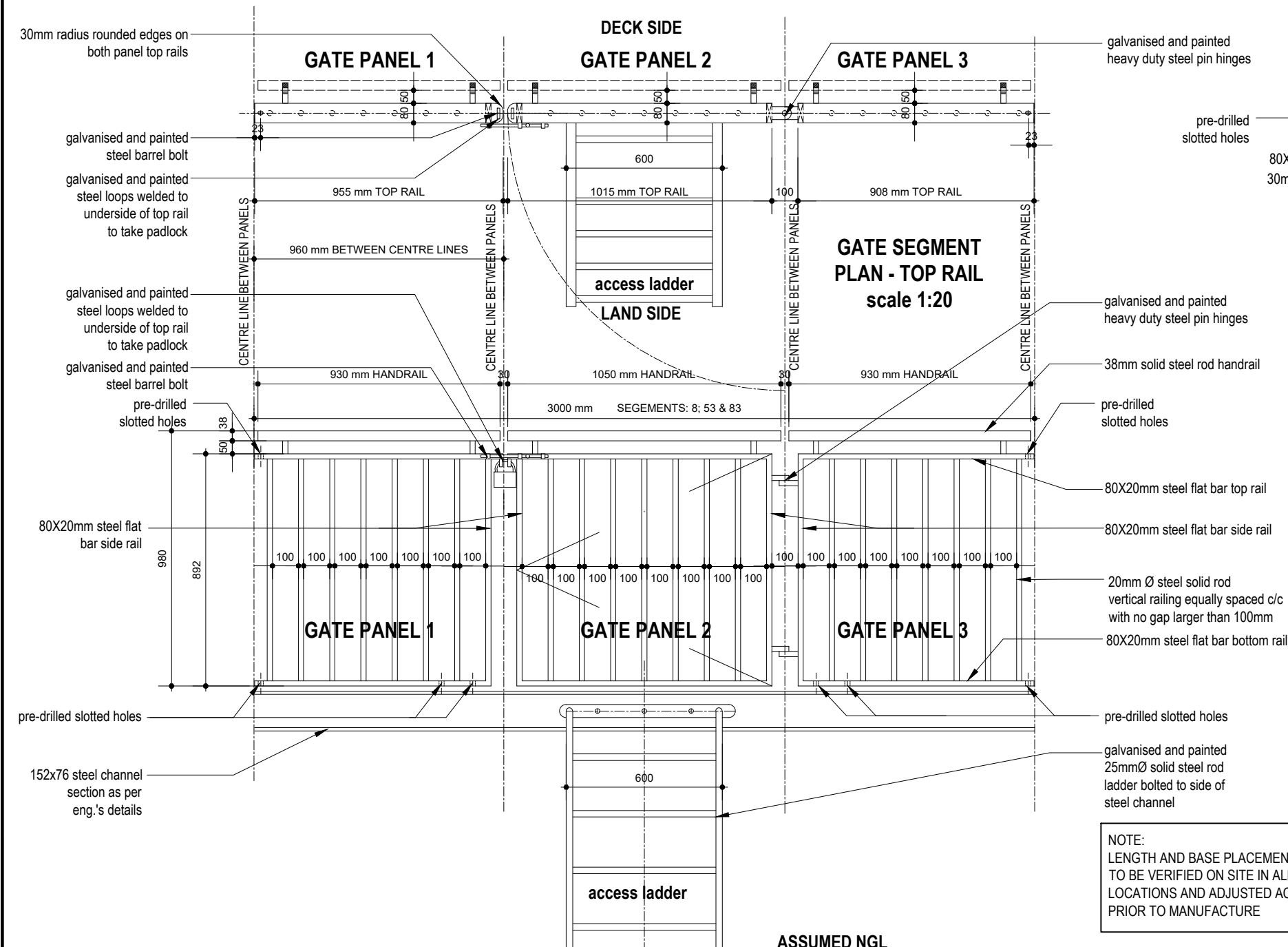
GATE PANELS & LADDERS

Applicable segment numbers:
8(land side only); 53(land side only)
& 83(land side only)

GATE PANELS: A gate panel 1 B gate panel 2 C gate panel 3

SEGMENT COLOUR KEY

GATE PANELS



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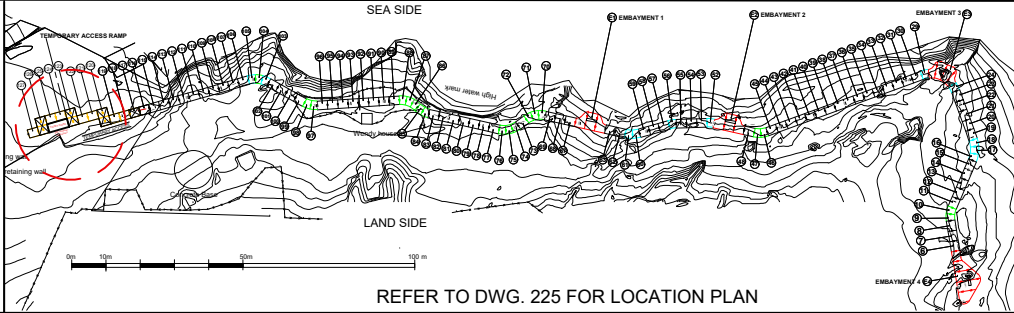
NOTE:
LENGTH AND BASE PLACEMENT OF LADDER TO BE VERIFIED ON SITE IN ALL THREE LOCATIONS AND ADJUSTED ACCORDINGLY PRIOR TO MANUFACTURE

TYPICAL GATE SEGMENT ELEVATION scale 1:20

QUANTITY - GATE PANELS

3 SETS

TEMPORARY ENTRANCE RAMP KEY

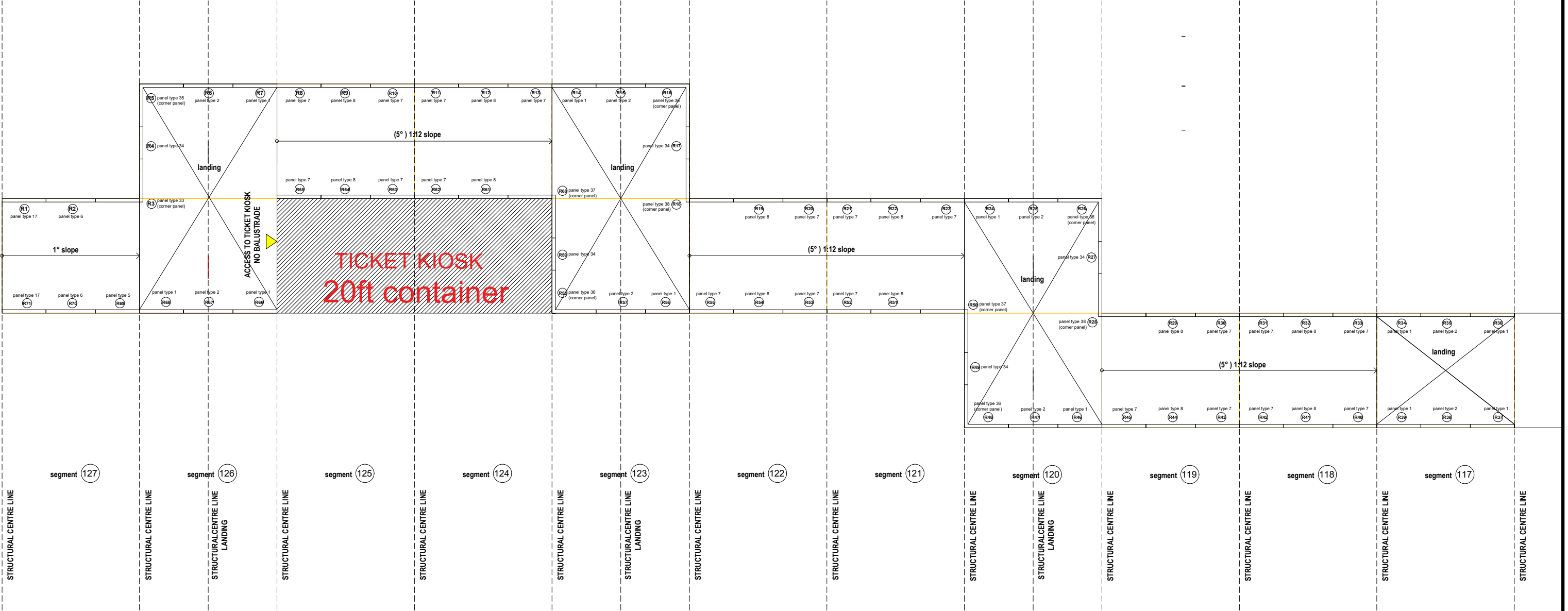


TEMPORARY ACCESS RAMP

Applicable segment numbers:
117, 118, 119, 120, 121, 122, 123, 124,
125, 126,127

SEGMENT COLOUR KEY

NOTE
Temporary access ramp structure as per engineer's details.



PLAN: Temporary entrance ramp NOT TO SCALE

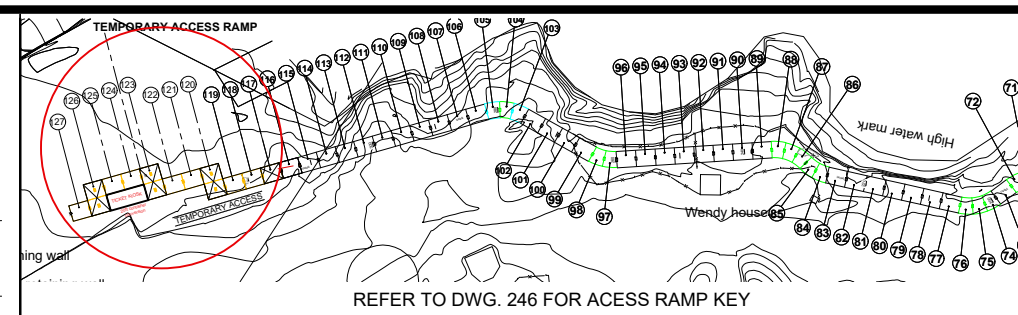
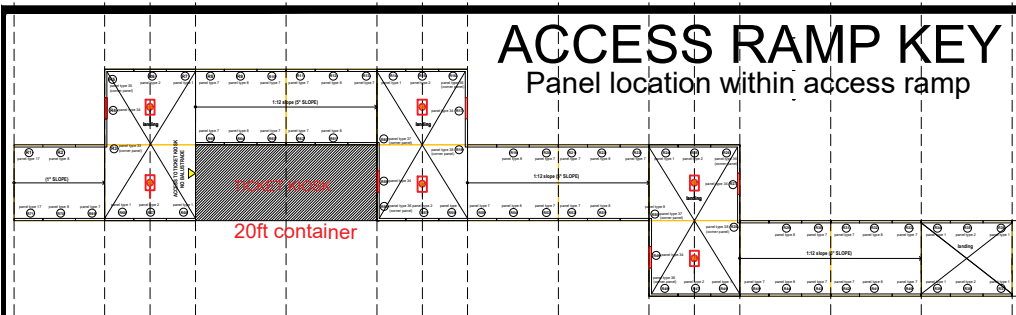
Project Number: CI000689		COPYRIGHT NOTICE		General Notes		Revisions		NOTES: - NO DRILLING, CUTTING, FILLING OR ANY FORM OF STRUCTURAL ADJUSTMENT ALLOWED AFTER THE COMPLETION OF THE GALVANISING PROCESS OR WHEN ASSEMBLING ON SITE. FIT OF ALL ELEMENTS TO BE CHECKED PRIOR TO GALVANISING. - ALL STEEL ELEMENTS TO BE GALVANISED AND PAINTED AS PER SPECIFICATION - ALL BOLTS AND NUTS TO BE STAINLESS STEEL - ALL WASHERS TO BE BLACK NYLON WASHERS - ALL STEEL ELEMENTS TO BE PROTECTED AT ALL TIMES AFTER GALVANISING AND PAINTING HAS BEEN COMPLETED UNTIL AFTER ASSEMBLY ON SITE IS COMPLETE.		Client: CapeNature		Project: STONY POINT NATURE RESERVE : PHASE 1 - BOARDWALK UPGRADE		Drawing Title: TEMPORARY ACCESS RAMP KEY																					
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PANEL TYPE 33

1

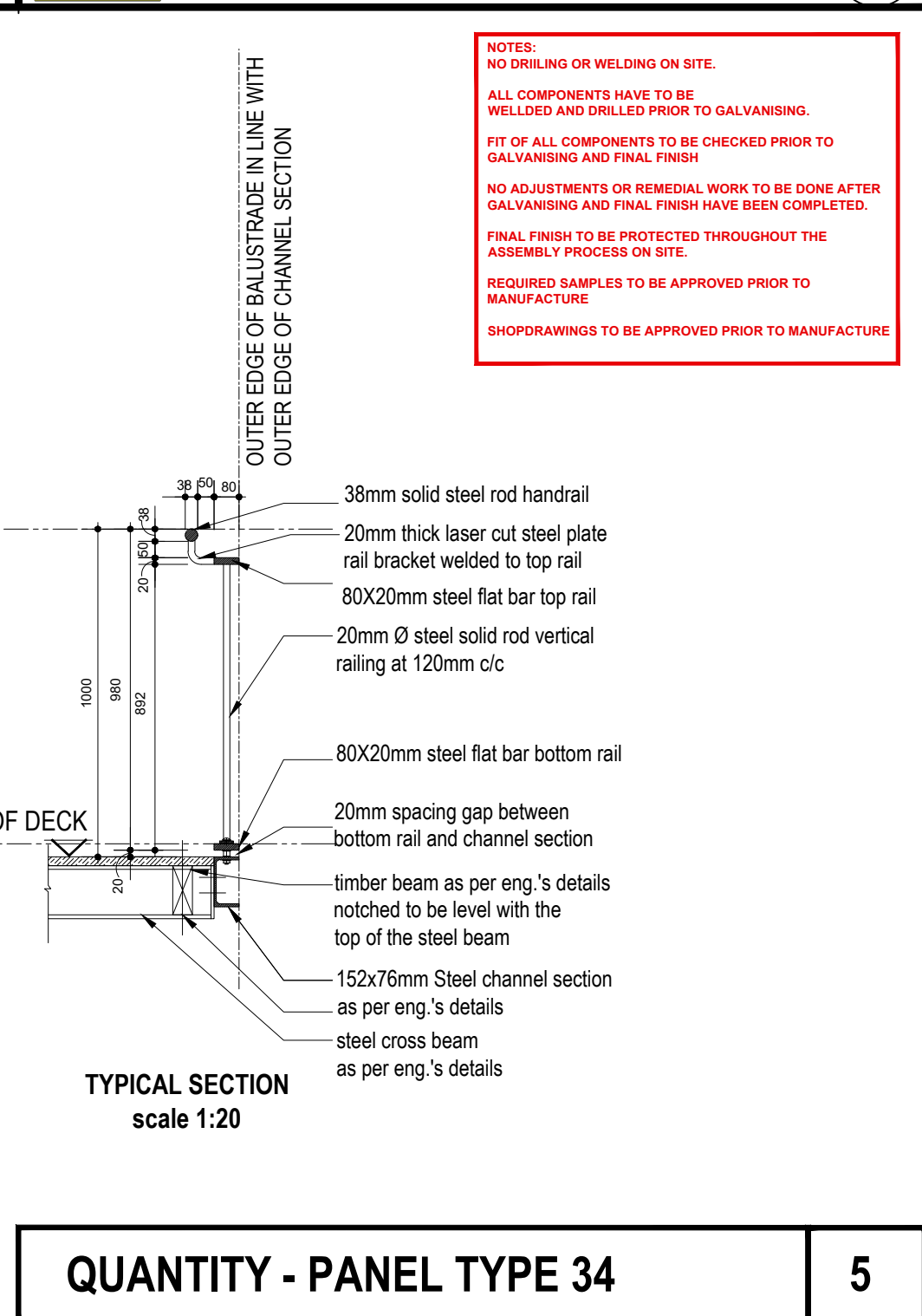
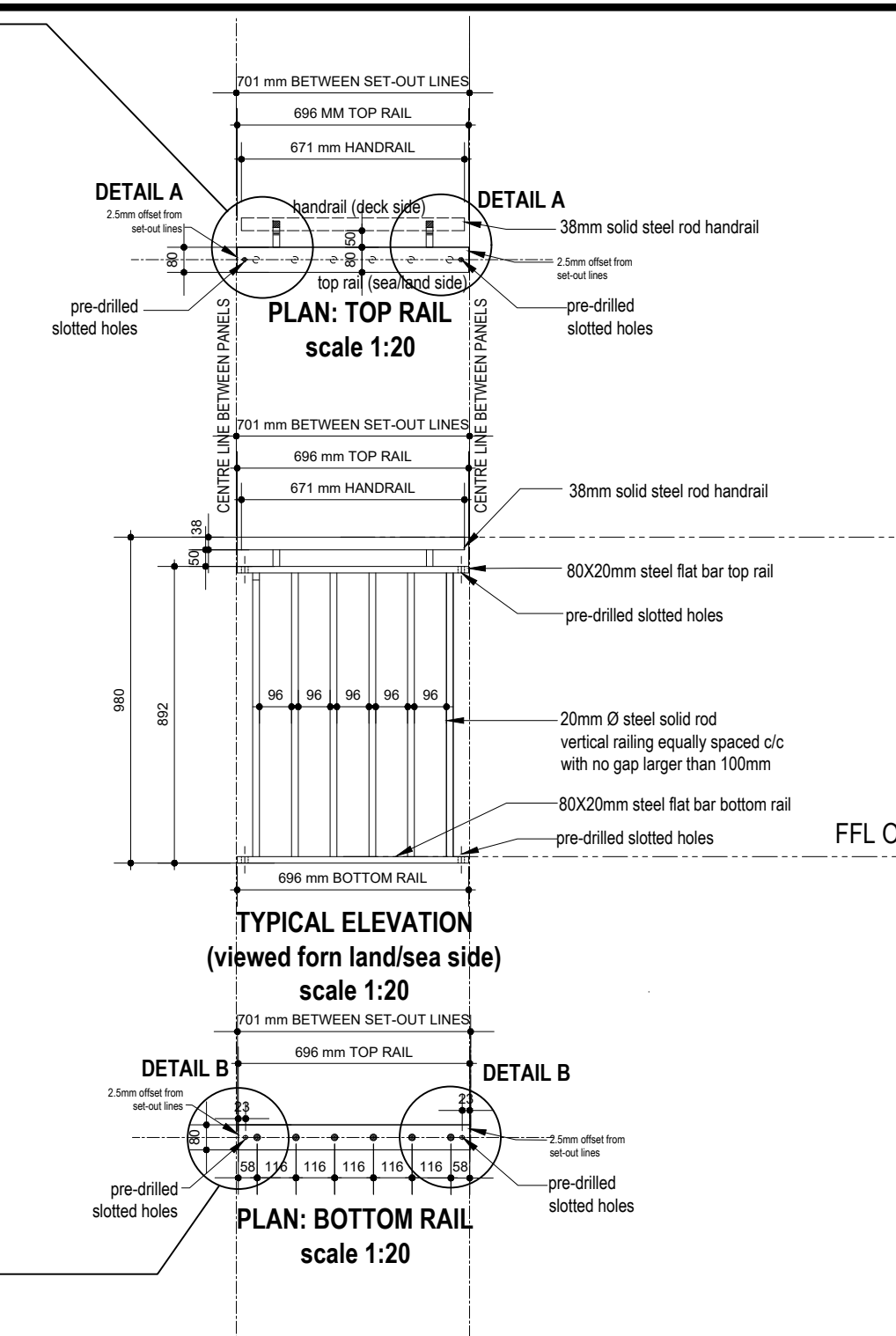
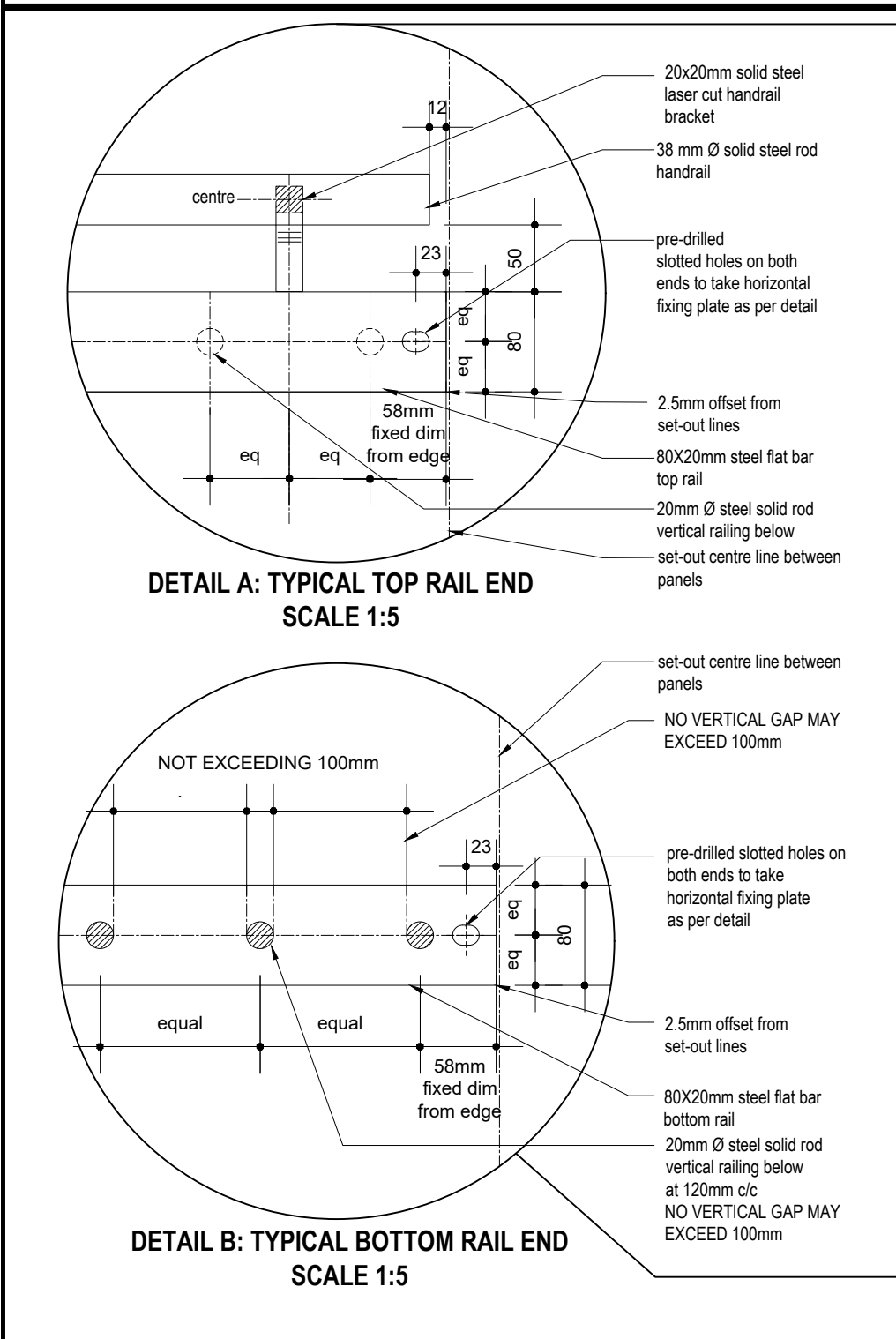
Project Number:		C1000689	COPYRIGHT NOTICE		General Notes		Revisions		NOTES: - NO DRILLING, CUTTING, FILLING OR ANY FORM OF STRUCTURAL ADJUSTMENT ALLOWED AFTER THE COMPLETION OF THE GALVANISING PROCESS OR WHEN ASSEMBLING ON SITE. FIT OF ALL ELEMENTS TO BE CHECKED PRIOR TO GALVANISING. - ALL STEEL ELEMENTS TO BE GALVANISED AND PAINTED AS PER SPECIFICATION - ALL BOLTS AND NUTS TO BE STAINLESS STEEL - ALL WASHERS TO BE BLACK NYLON WASHERS - ALL STEEL ELEMENTS TO BE PROTECTED AT ALL TIMES AFTER GALVANISING AND PAINTING HAS BEEN COMPLETED UNTIL AFTER ASSEMBLY ON SITE IS COMPLETE.		Client:		Project:		Drawing Title:		
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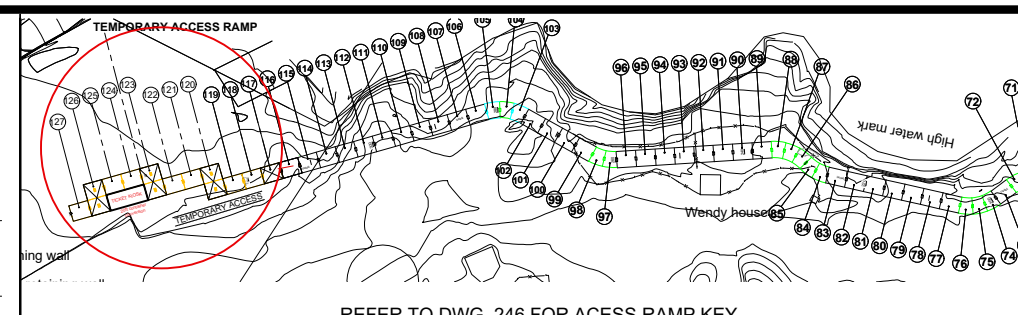
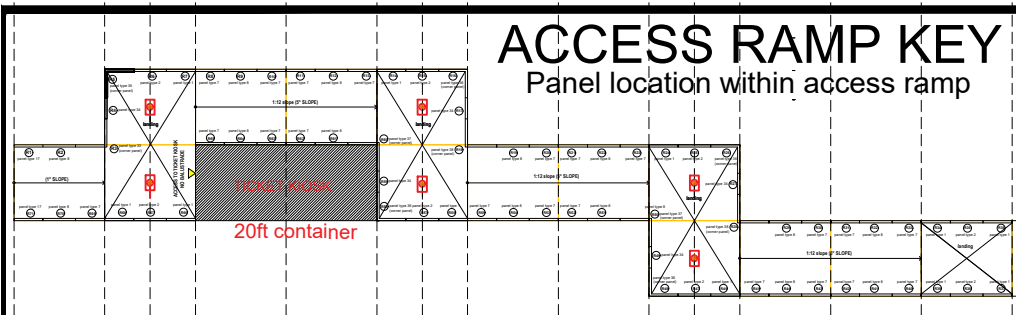
PANEL TYPE 34 (R4) panel type 34 (R17) panel type 34 (R27) panel type 34 (R49) panel type 34 (R59) panel type 34

SEGMENT COLOUR KEY **PANEL TYPE 34**



NOTES:
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FIT OF ALL COMPONENTS TO BE CHECKED PRIOR TO GALVANISING AND FINAL FINISH
NO ADJUSTMENTS OR REMEDIAL WORK TO BE DONE AFTER GALVANISING AND FINAL FINISH HAVE BEEN COMPLETED.
FINAL FINISH TO BE PROTECTED THROUGHOUT THE ASSEMBLY PROCESS ON SITE.
REQUIRED SAMPLES TO BE APPROVED PRIOR TO MANUFACTURE
SHOPDRAWINGS TO BE APPROVED PRIOR TO MANUFACTURE

QUANTITY - PANEL TYPE 34 **5**



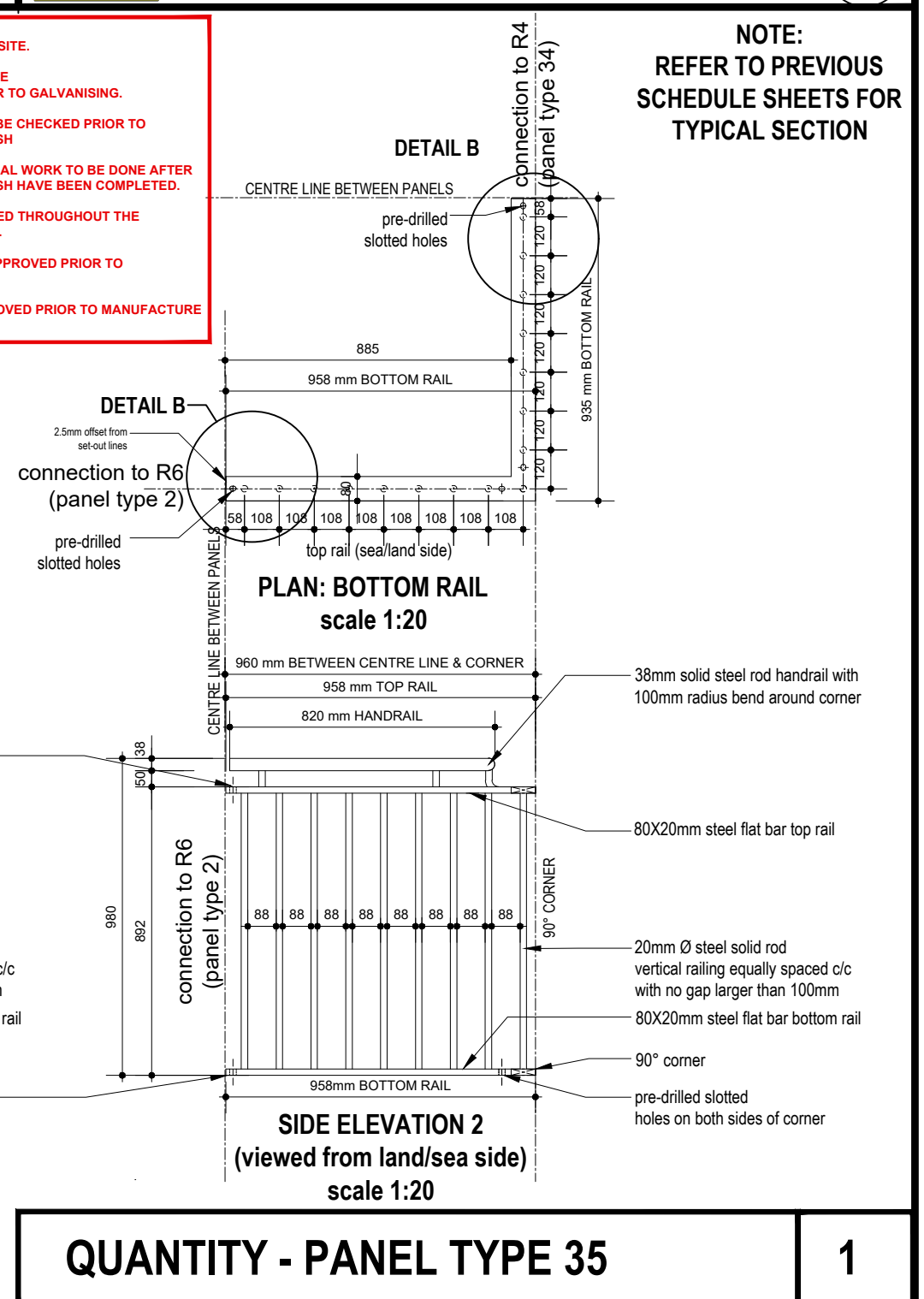
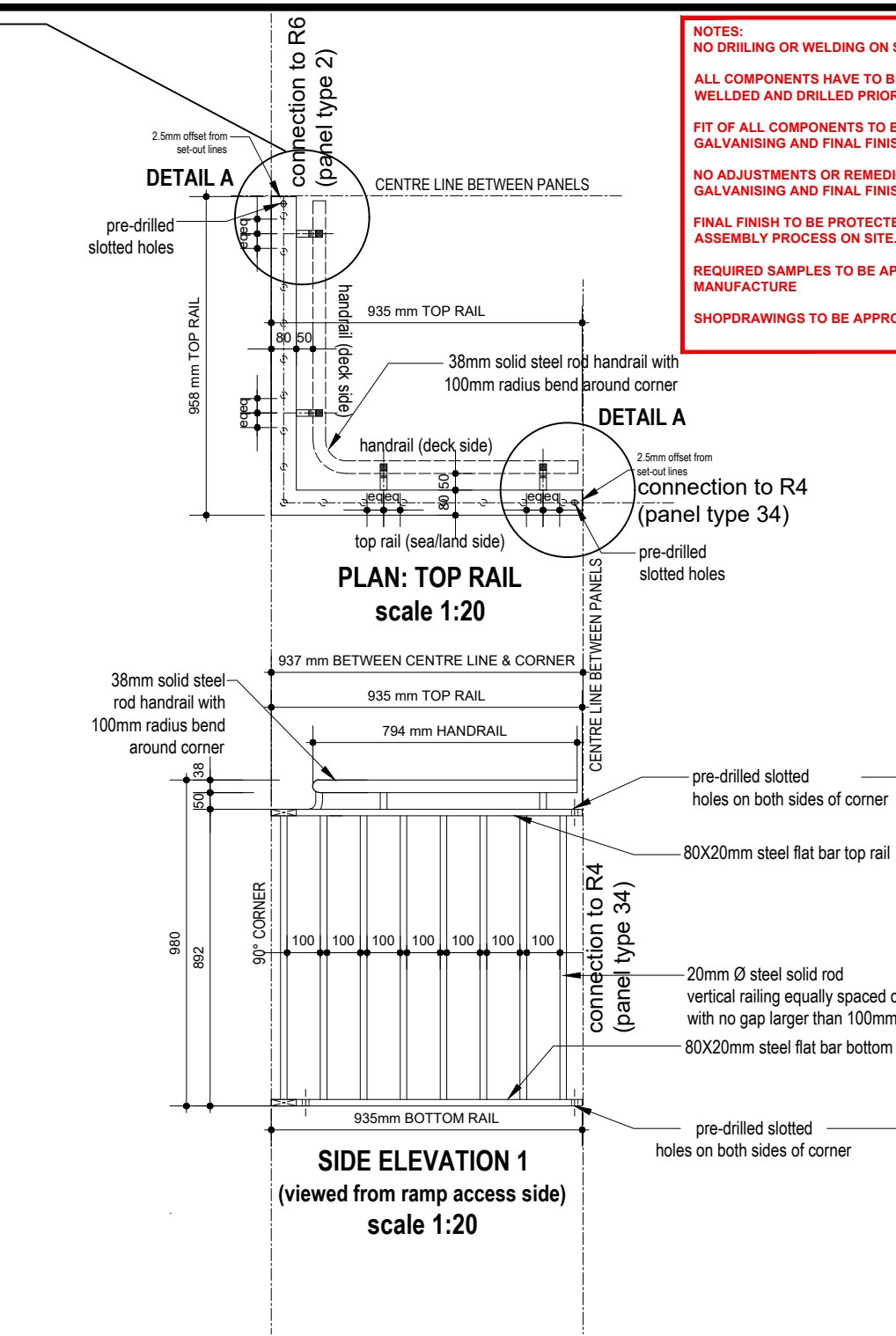
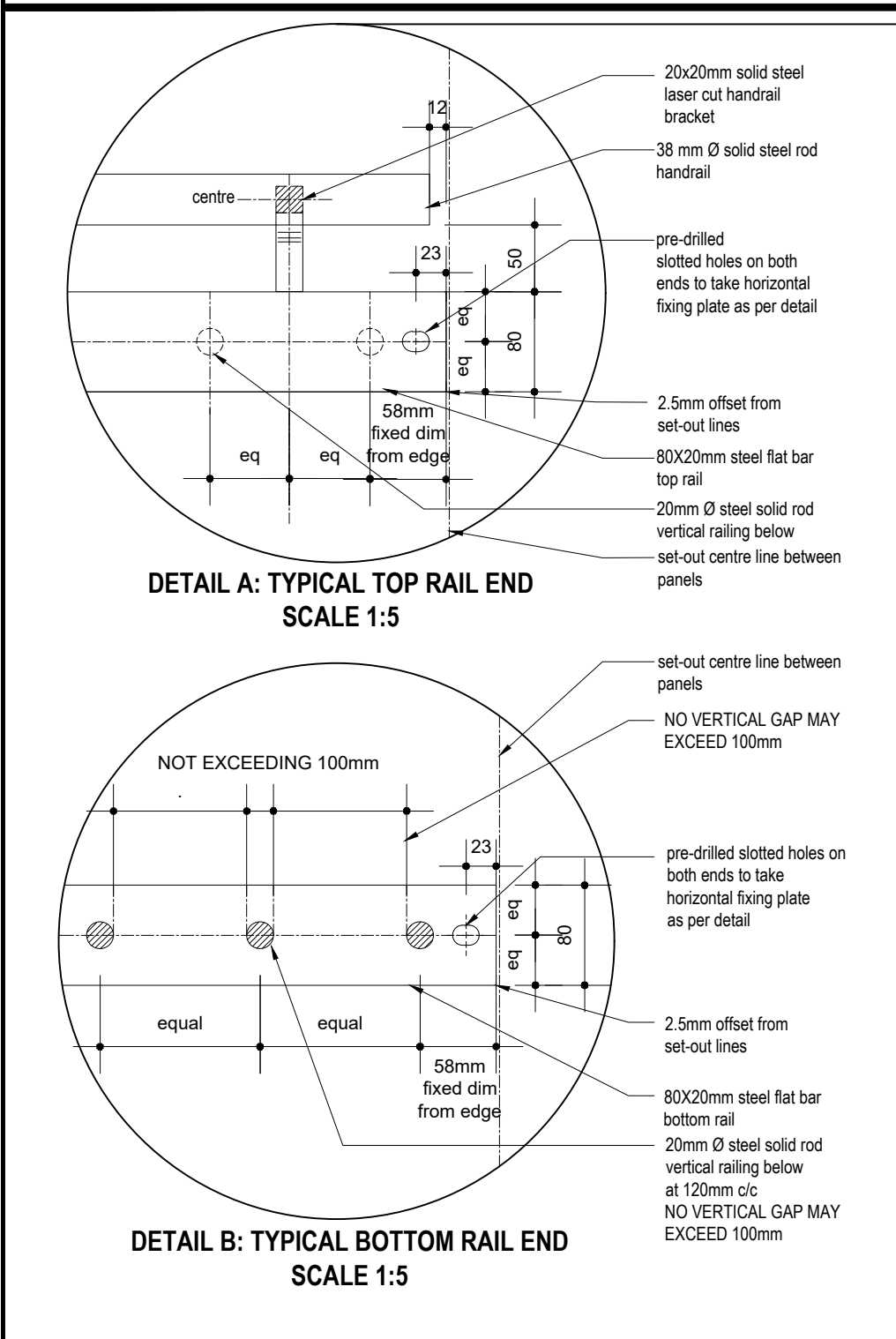
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SEGMENT COLOUR KEY

PANEL TYPE 35

PANEL TYPE 35

R5 panel type 35

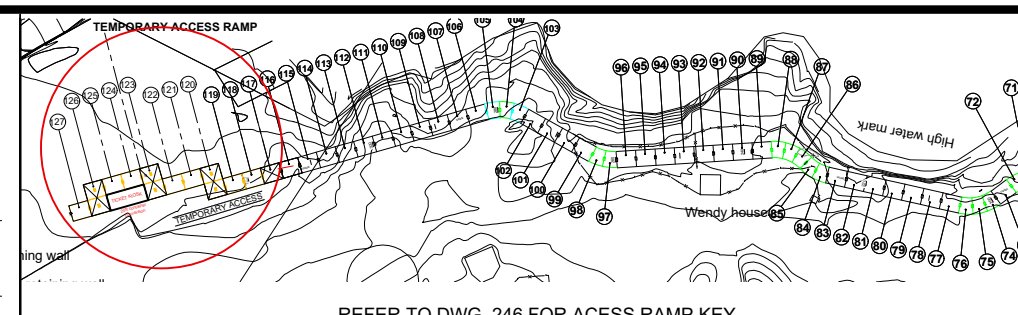
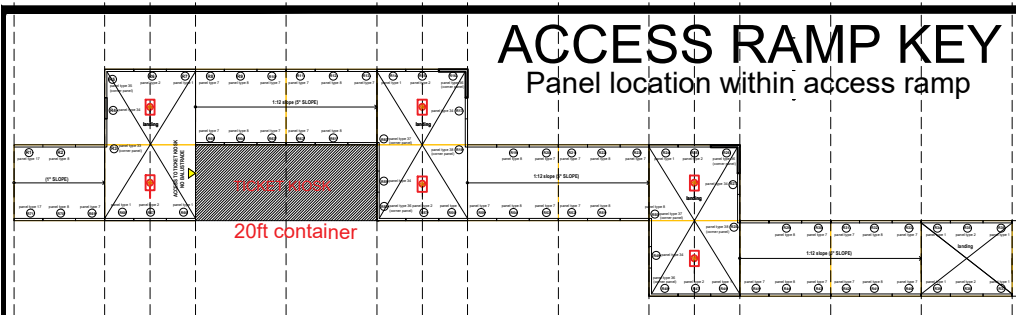


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SHOPDRAWINGS TO BE APPROVED PRIOR TO MANUFACTURE

NOTE:
REFER TO PREVIOUS SCHEDULE SHEETS FOR TYPICAL SECTION

QUANTITY - PANEL TYPE 35

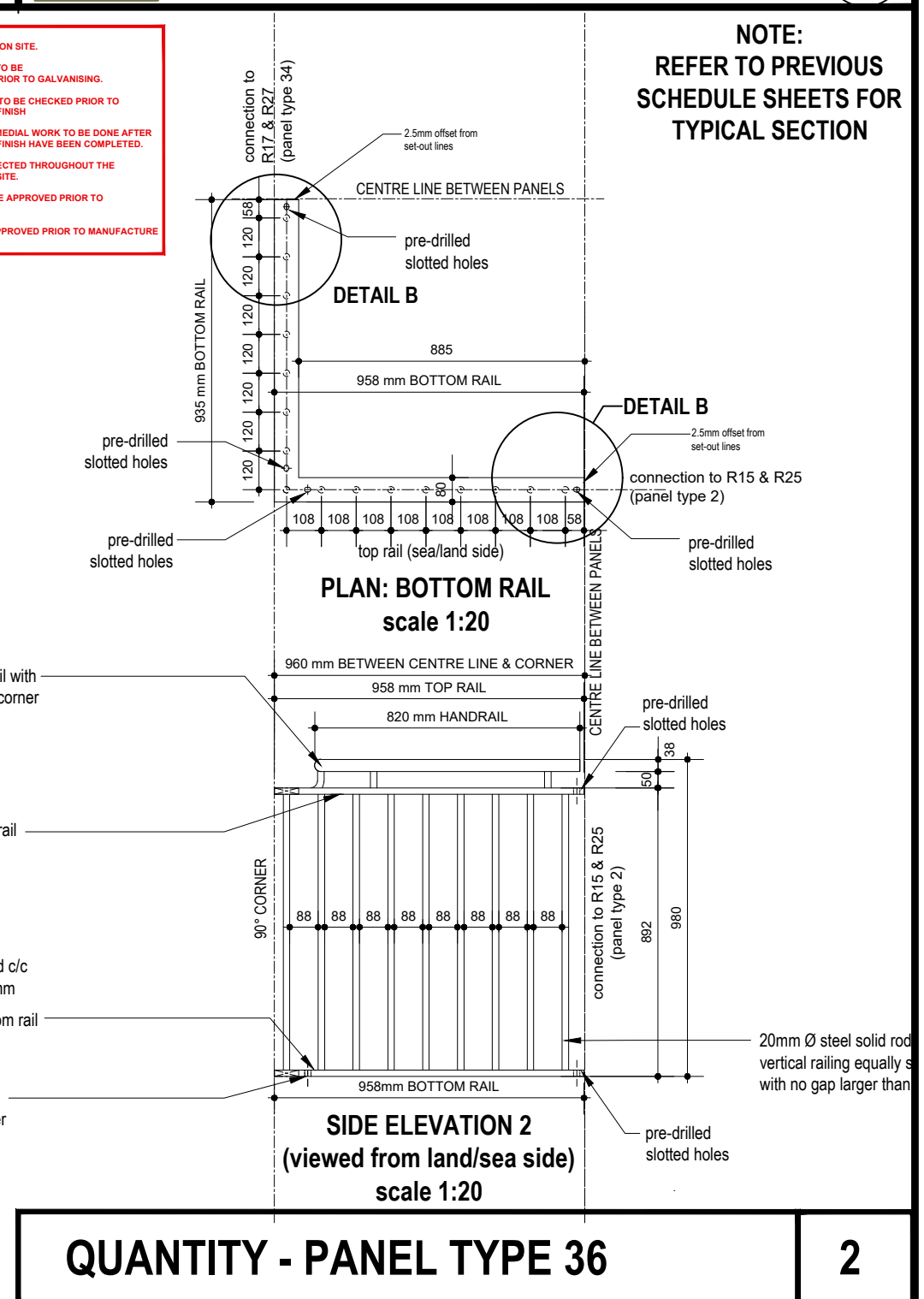
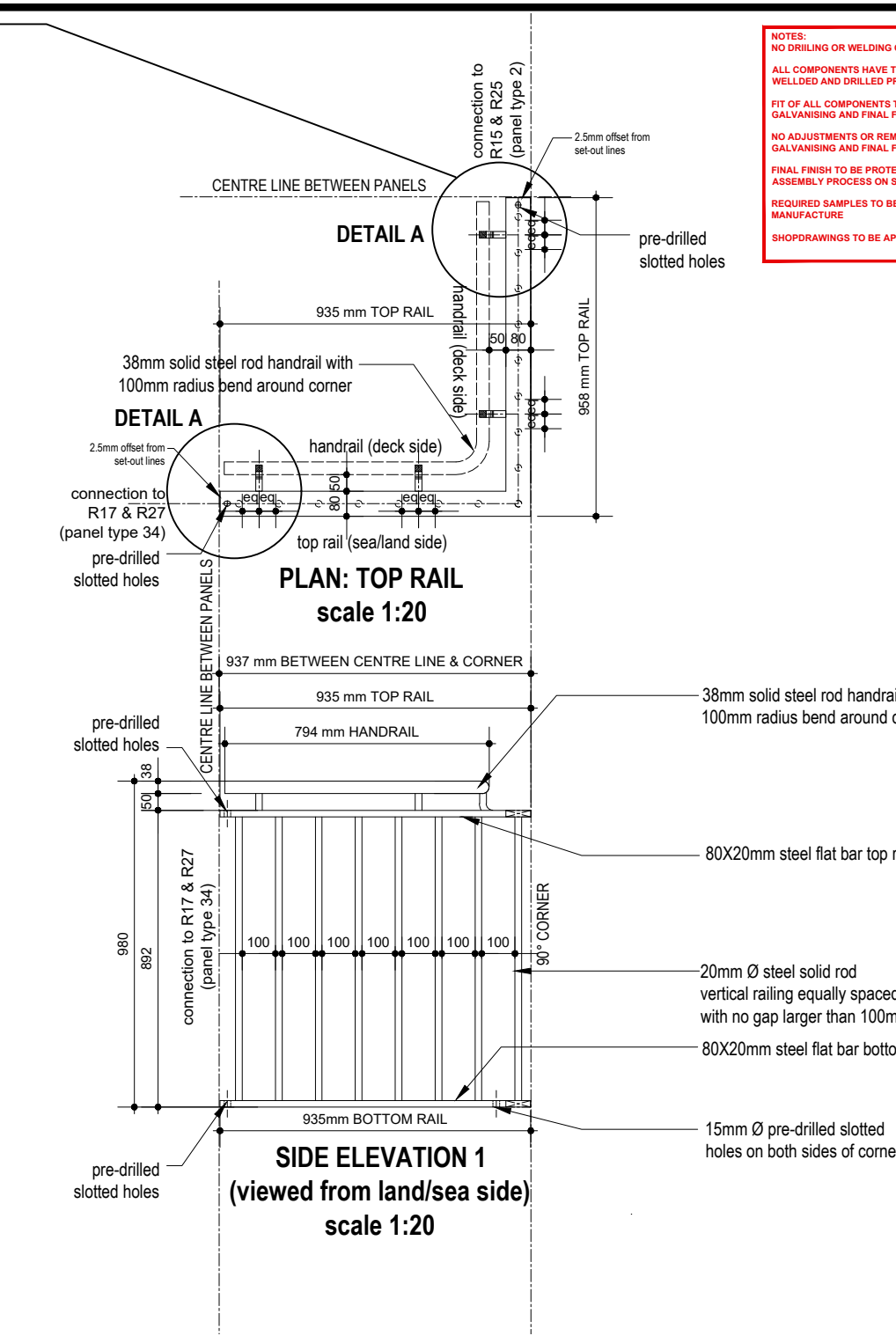
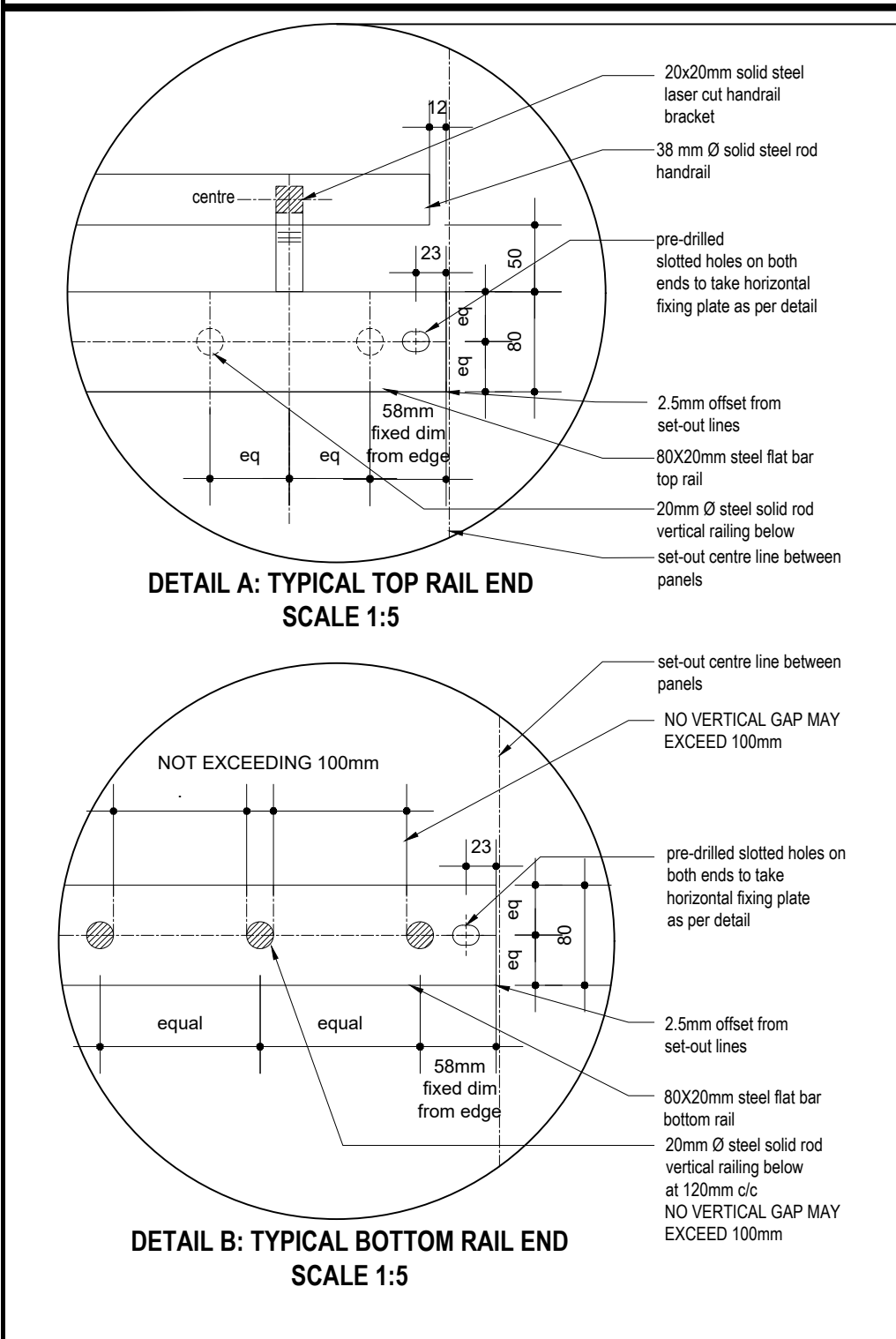
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TEMPORARY ACCESS RAMP

PANEL TYPE 36 R16 panel type 36 R26 panel type 36

SEGMENT COLOUR KEY PANEL TYPE 36



NOTES:
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NOTE:
REFER TO PREVIOUS
SCHEDULE SHEETS FOR
TYPICAL SECTION

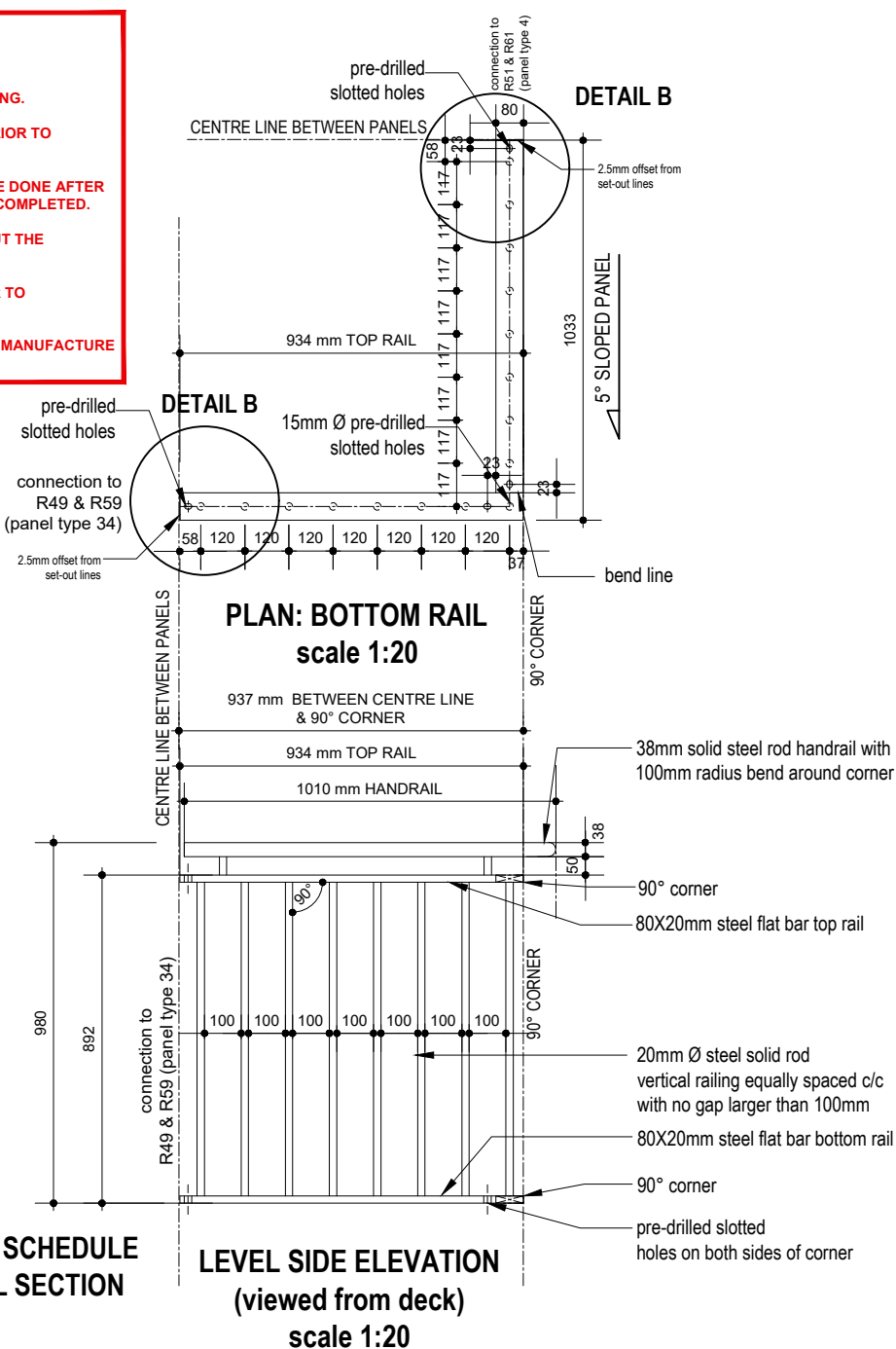
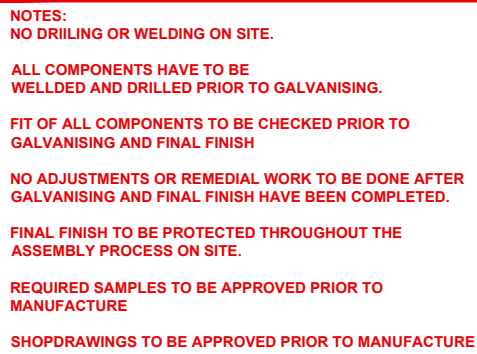
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(R50) panel type 37 (corner panel) (R60) panel type 37 (corner panel)

SEGMENT COLOUR KEY

PANEL TYPE 37

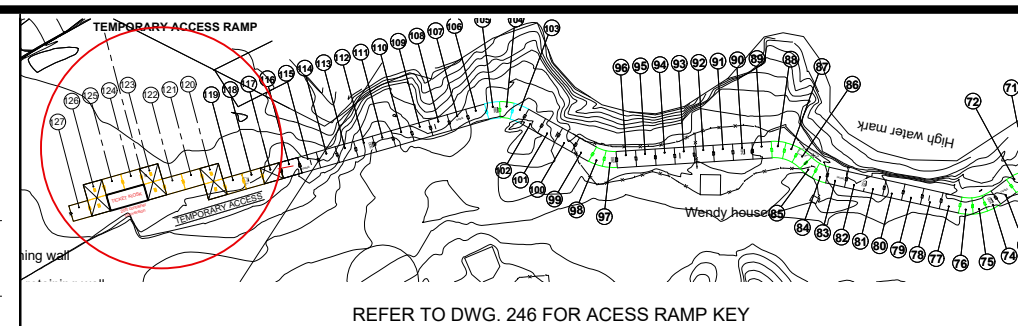
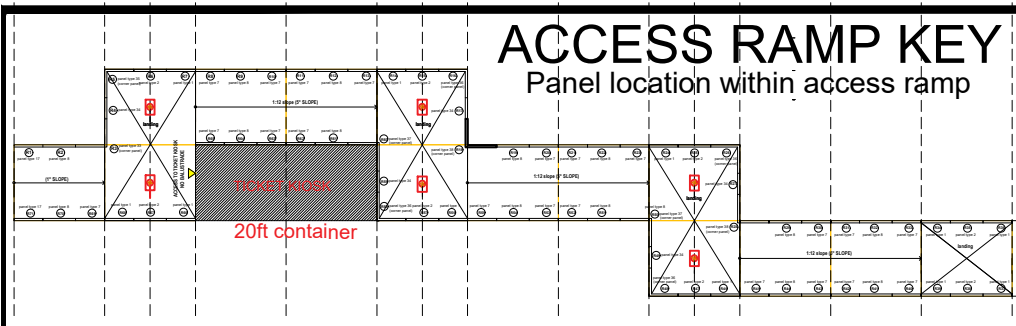


NOTE:
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SHEETS FOR TYPICAL SECTION

QUANTITY - PANEL TYPE 37

2

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CapeNature		Consultant:		Urba		STONY POINT NATURE RESERVE : PHASE 1 - BOARDWALK UPGRADE		RAMP: PANEL TYPE 37												
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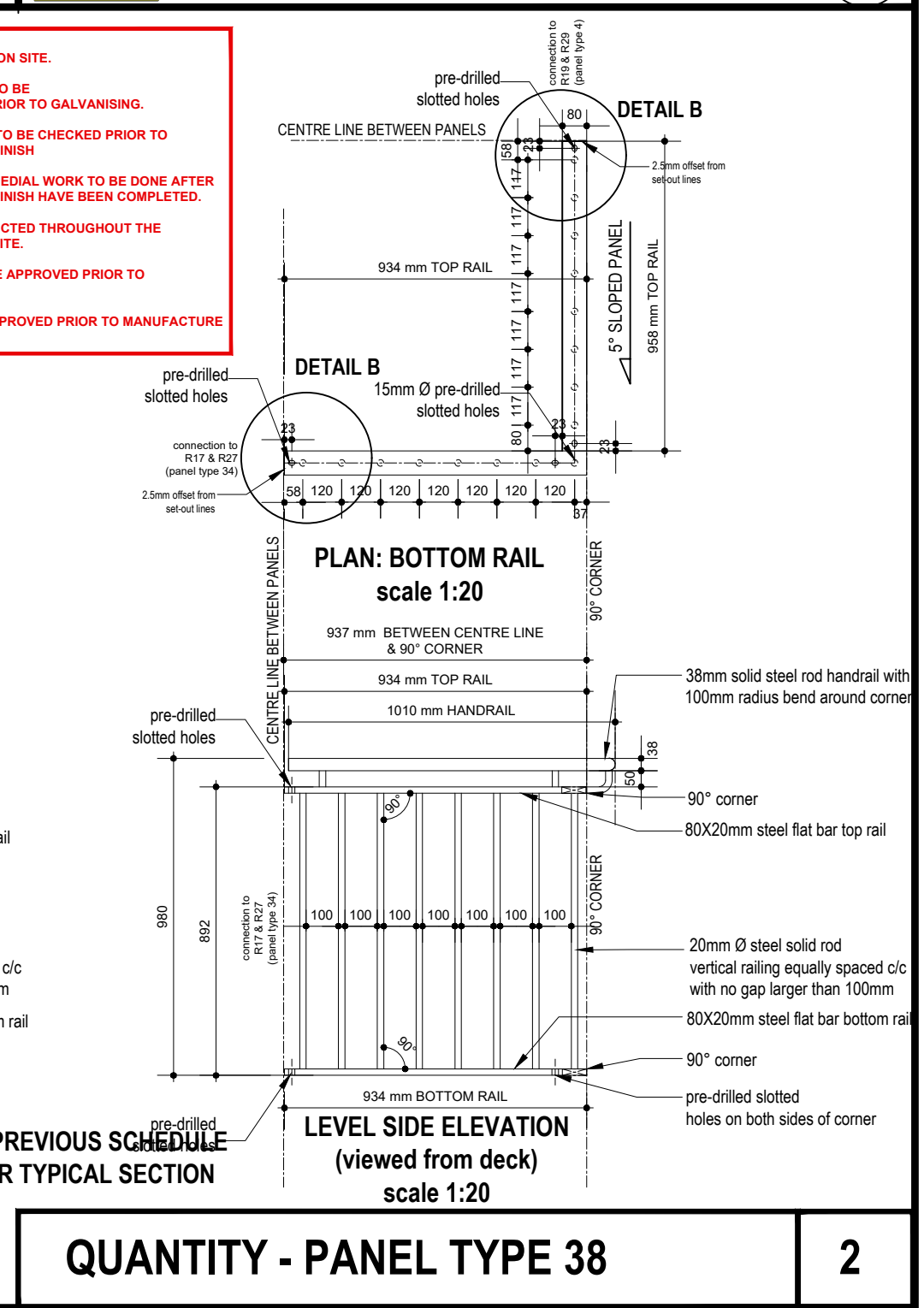
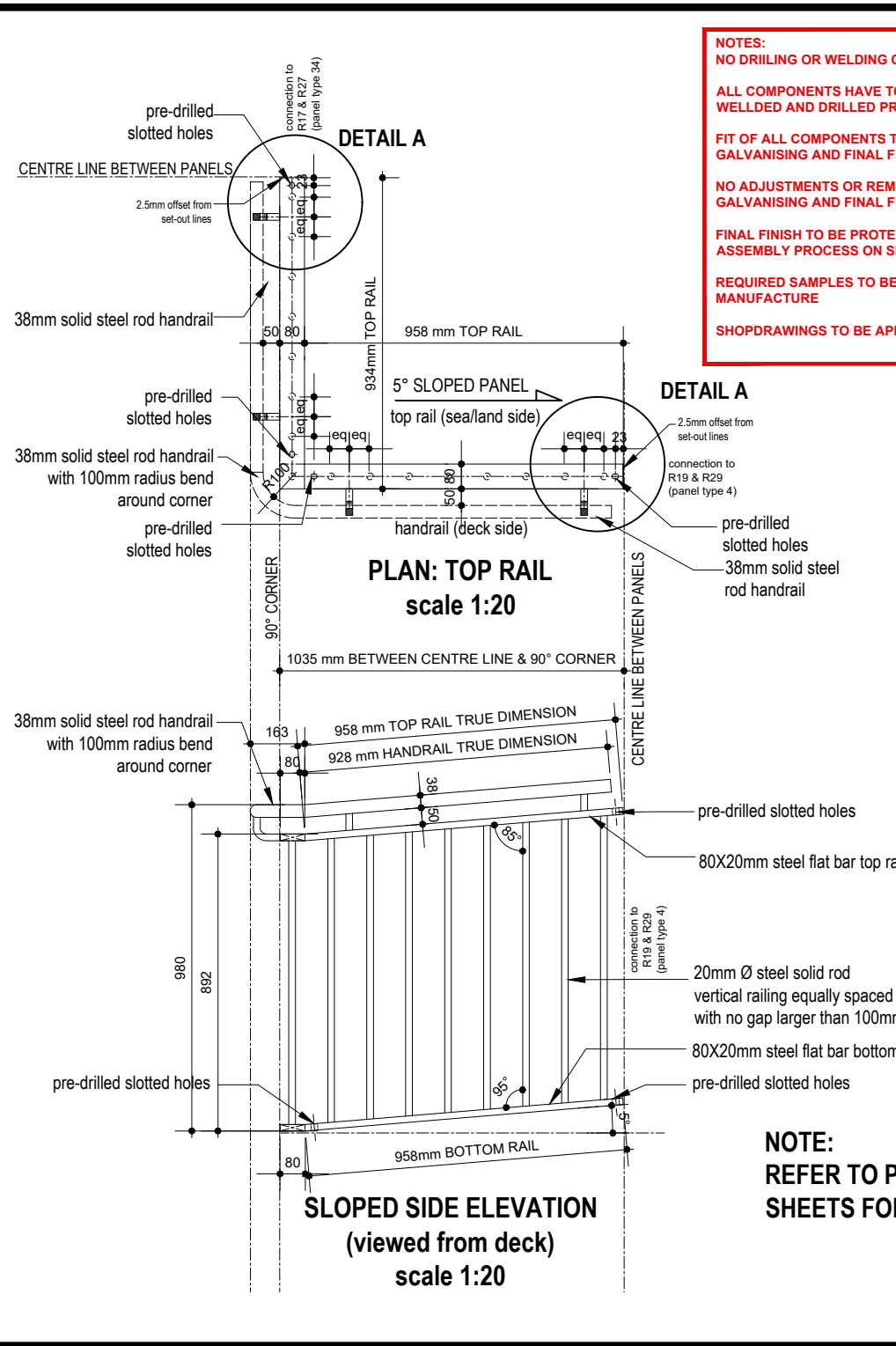
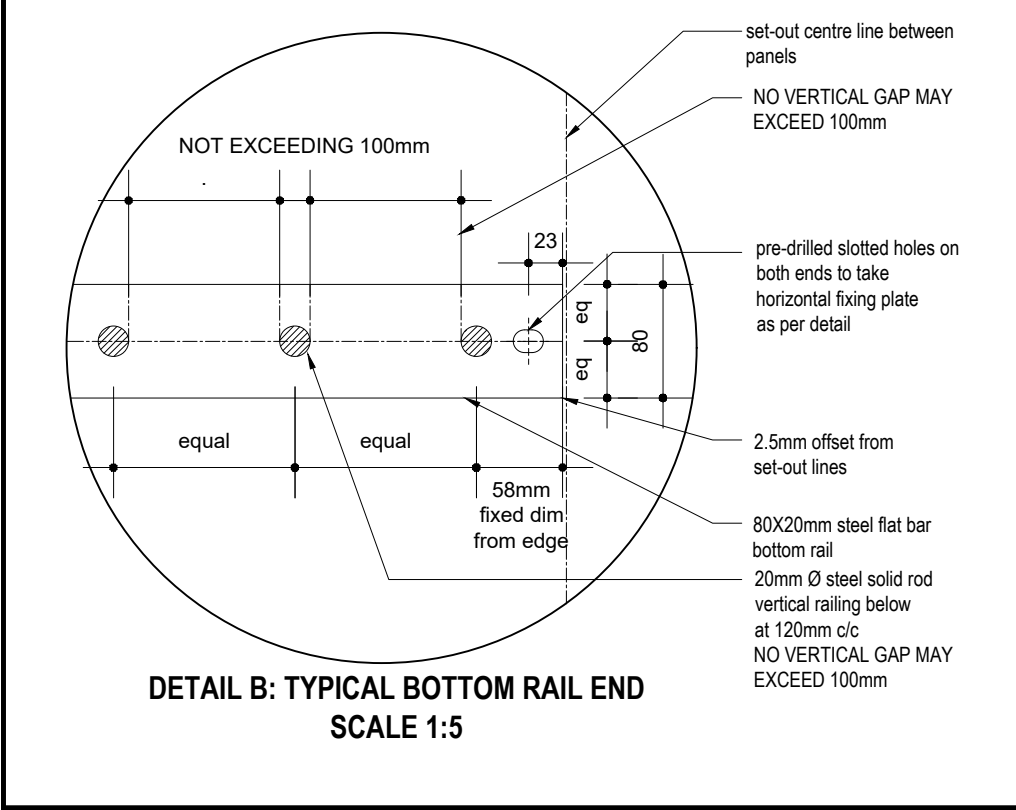
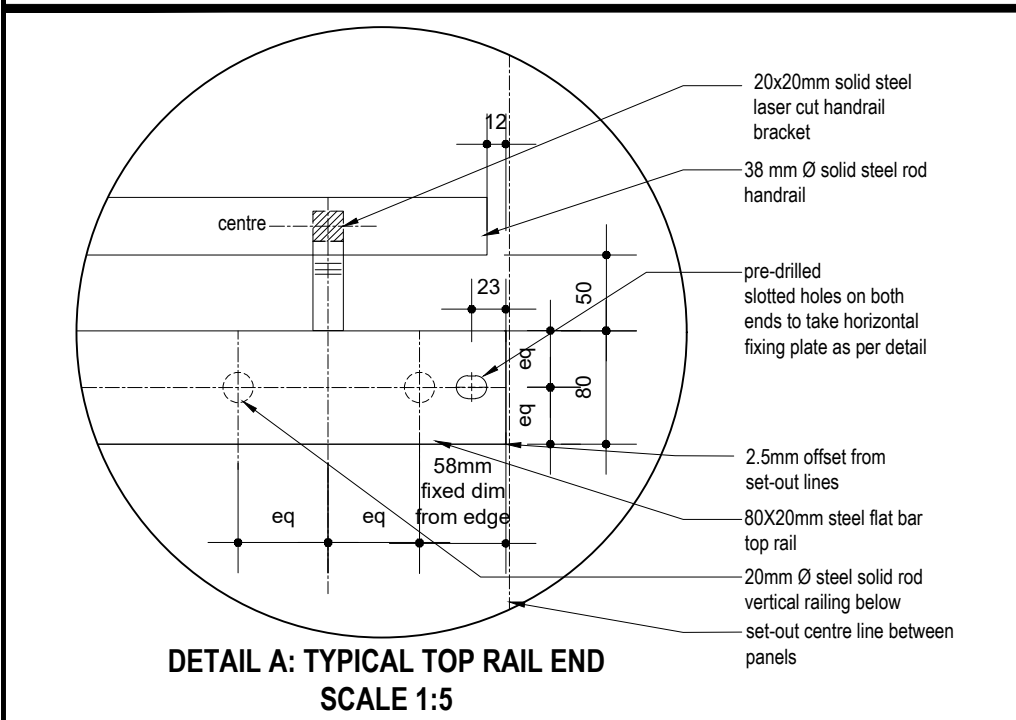


TEMPORARY ACCESS RAMP

PANEL TYPE 38

PANEL TYPE 38 (R18) panel type 38 (corner panel) (R28) panel type 38 (corner panel)

SEGMENT COLOUR KEY **PANEL TYPE 38**

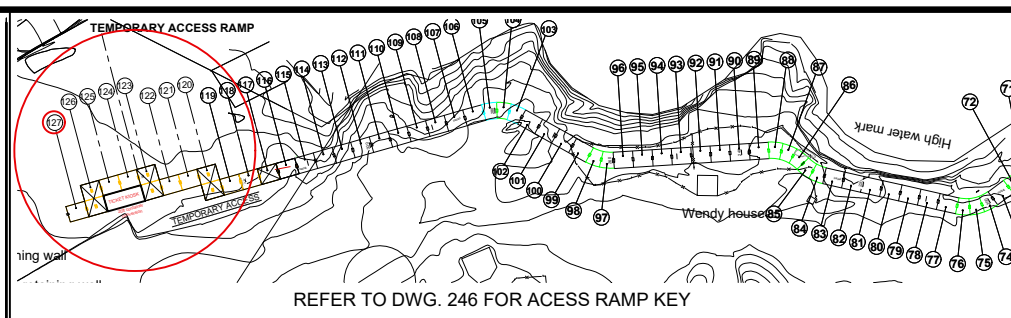
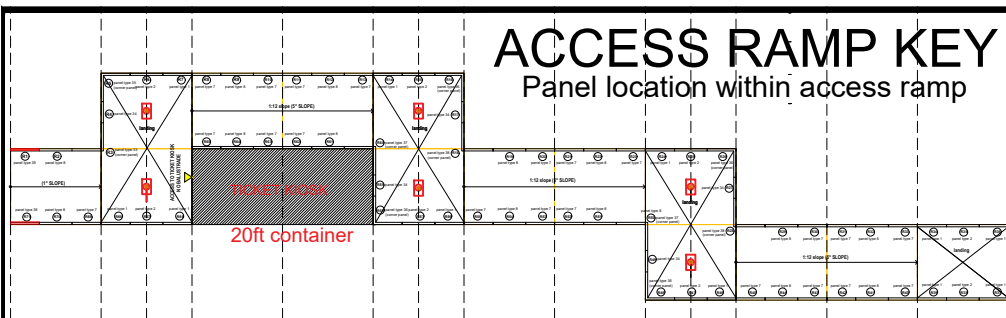


NOTES:
NO DRILLING OR WELDING ON SITE.
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FIT OF ALL COMPONENTS TO BE CHECKED PRIOR TO GALVANISING AND FINAL FINISH
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REQUIRED SAMPLES TO BE APPROVED PRIOR TO MANUFACTURE
SHOPDRAWINGS TO BE APPROVED PRIOR TO MANUFACTURE

NOTE:
REFER TO PREVIOUS SCHEDULE SHEETS FOR TYPICAL SECTION

QUANTITY - PANEL TYPE 38

2



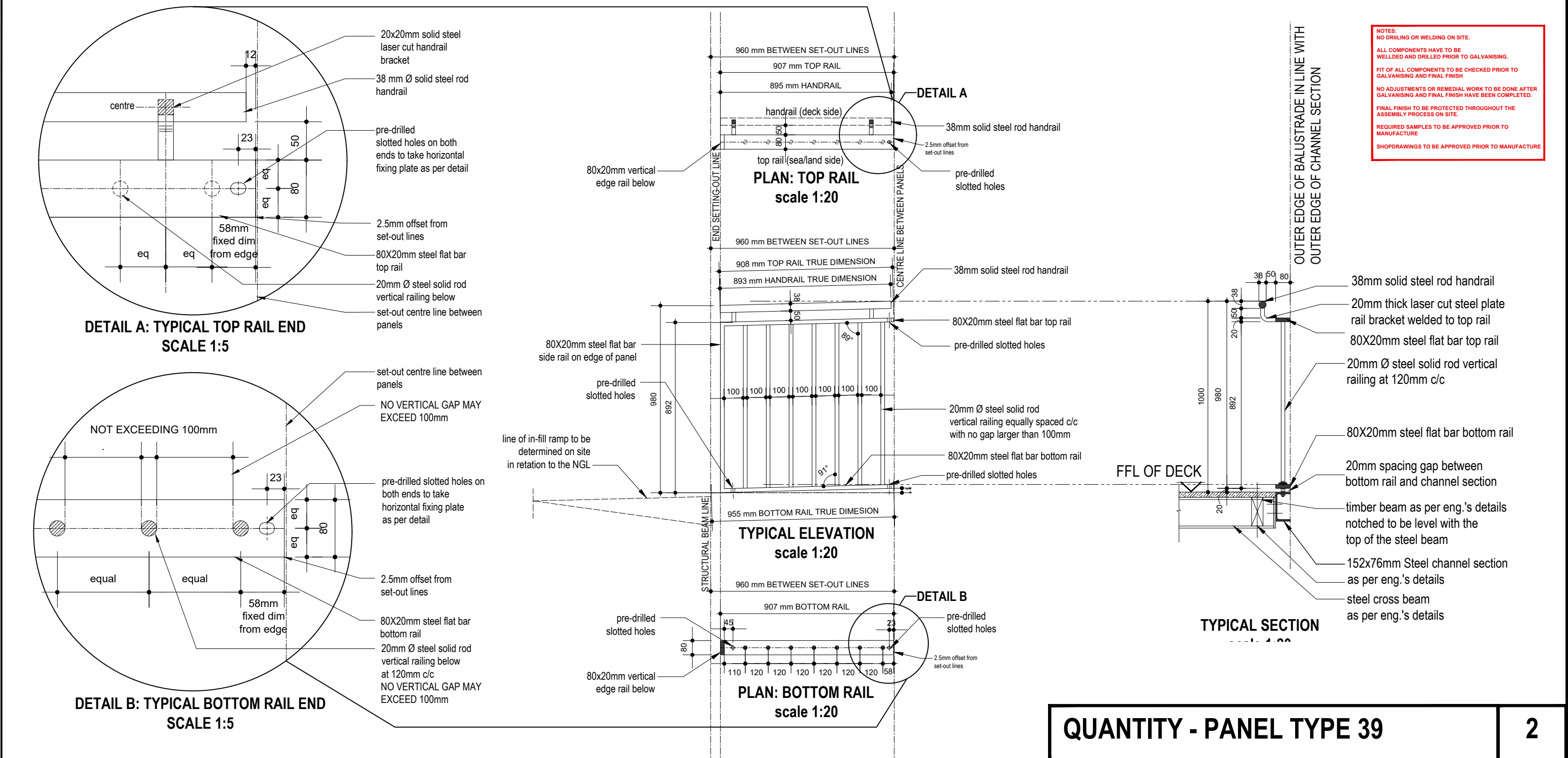
SLOPED SEGMENTS AT 1° ANGLE

Segment numbers: 124

PANEL TYPE 39: (R1) panel type 39 (R71) panel type 39

SEGMENT COLOUR KEY

PANEL TYPE **39**



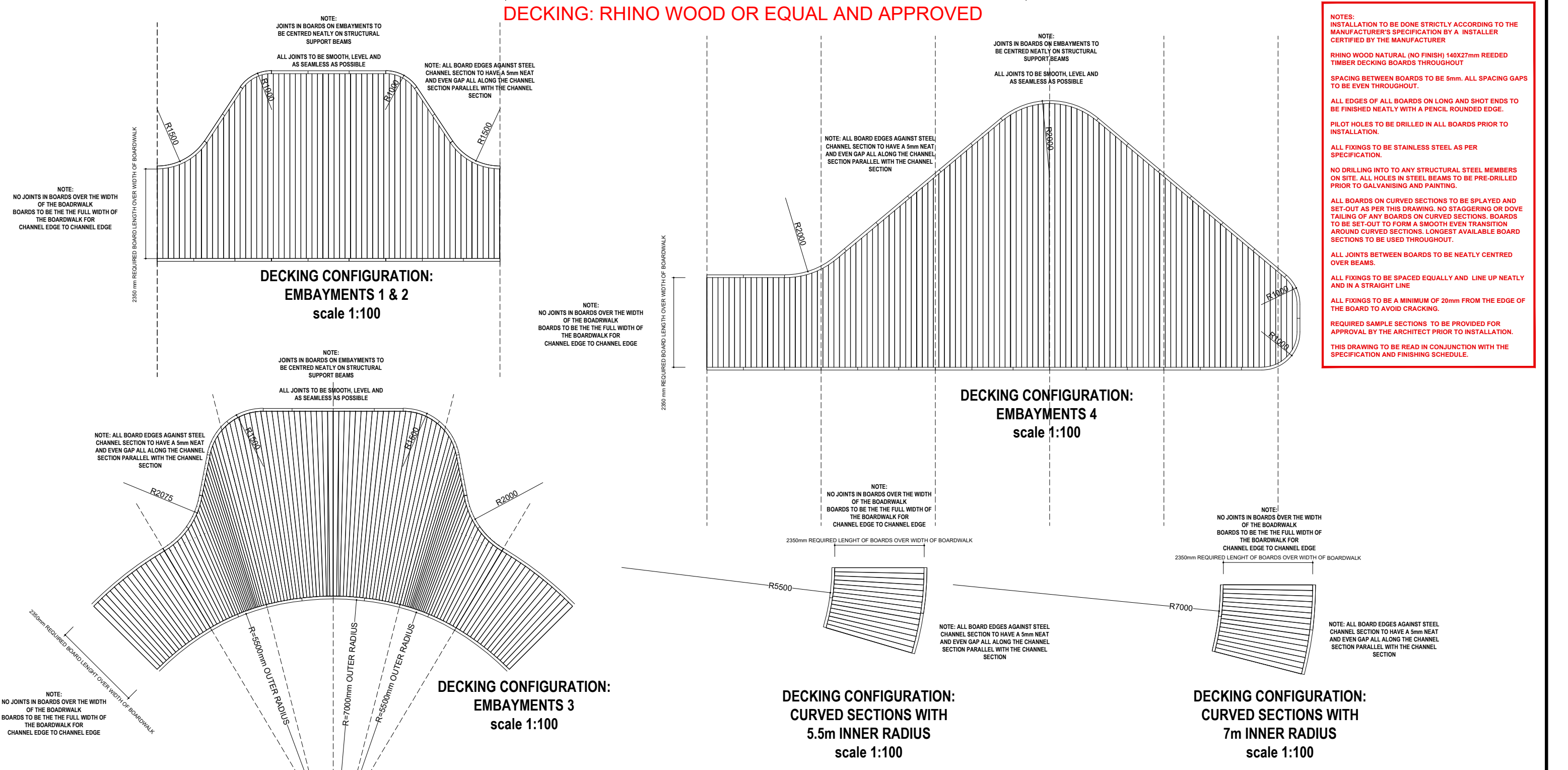
QUANTITY - PANEL TYPE 39

2

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Urba		FOR TENDER ONLY		<table><thead><tr><th>DRAWN</th><th>CHECKED</th><th>DATE</th><th>SCALE</th><th>PAGE SIZE</th></tr></thead><tbody><tr><td>A.C.</td><td>2020-09-07</td><td>1:20</td><td>ON A3</td><td></td></tr></tbody></table> This drawing to be read in conjunction with drawing no: Drawing Number <table><thead><tr><th>DISCIPLINE</th><th>PROJECT NUMBER</th><th>DRAWING NUMBER</th><th>REVISION</th><th>STAGE</th></tr></thead><tbody><tr><td>AR</td><td></td><td>180525300</td><td>T</td><td></td></tr></tbody></table>		DRAWN	CHECKED	DATE	SCALE	PAGE SIZE	A.C.	2020-09-07	1:20	ON A3		DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE	AR		180525300	T												
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DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE																																
AR		180525300	T																																	

DECKING BOARD LAYOUT DETAILS:
CURVED SECTIONS: 5.5m INNER RADIUS & 7m INNER RADIUS
EMBAYMENTS 1 & 2
EMBAYMENT 3
EMBAYMENT 4

DECKING: RHINO WOOD OR EQUAL AND APPROVED



NOTES:
INSTALLATION TO BE DONE STRICTLY ACCORDING TO THE MANUFACTURER'S SPECIFICATION BY A INSTALLER CERTIFIED BY THE MANUFACTURER

RHINO WOOD NATURAL (NO FINISH) 140X27mm REEDED TIMBER DECKING BOARDS THROUGHOUT

SPACING BETWEEN BOARDS TO BE 5mm. ALL SPACING GAPS TO BE EVEN THROUGHOUT.

ALL EDGES OF ALL BOARDS ON LONG AND SHOT ENDS TO BE FINISHED NEATLY WITH A PENCIL ROUNDED EDGE.

PILOT HOLES TO BE DRILLED IN ALL BOARDS PRIOR TO INSTALLATION.

ALL FIXINGS TO BE STAINLESS STEEL AS PER SPECIFICATION.

NO DRILLING INTO TO ANY STRUCTURAL STEEL MEMBERS ON SITE. ALL HOLES IN STEEL BEAMS TO BE PRE-DRILLED PRIOR TO GALVANISING AND PAINTING.

ALL BOARDS ON CURVED SECTIONS TO BE SPLAYED AND SET-OUT AS PER THIS DRAWING. NO STAGGERING OR DOVE TAILING OF ANY BOARDS ON CURVED SECTIONS. BOARDS TO BE SET-OUT TO FORM A SMOOTH EVEN TRANSITION AROUND CURVED SECTIONS. LONGEST AVAILABLE BOARD SECTIONS TO BE USED THROUGHOUT.

ALL JOINTS BETWEEN BOARDS TO BE NEATLY CENTRED OVER BEAMS.

ALL FIXINGS TO BE SPACED EQUALLY AND LINE UP NEATLY AND IN A STRAIGHT LINE

ALL FIXINGS TO BE A MINIMUM OF 20mm FROM THE EDGE OF THE BOARD TO AVOID CRACKING.

REQUIRED SAMPLE SECTIONS TO BE PROVIDED FOR APPROVAL BY THE ARCHITECT PRIOR TO INSTALLATION.

THIS DRAWING TO BE READ IN CONJUNCTION WITH THE SPECIFICATION AND FINISHING SCHEDULE.

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		Consultant:													
		Urba													
FOR TENDER ONLY										DRAWN		CHECKED	DATE	SCALE	PAGE SIZE
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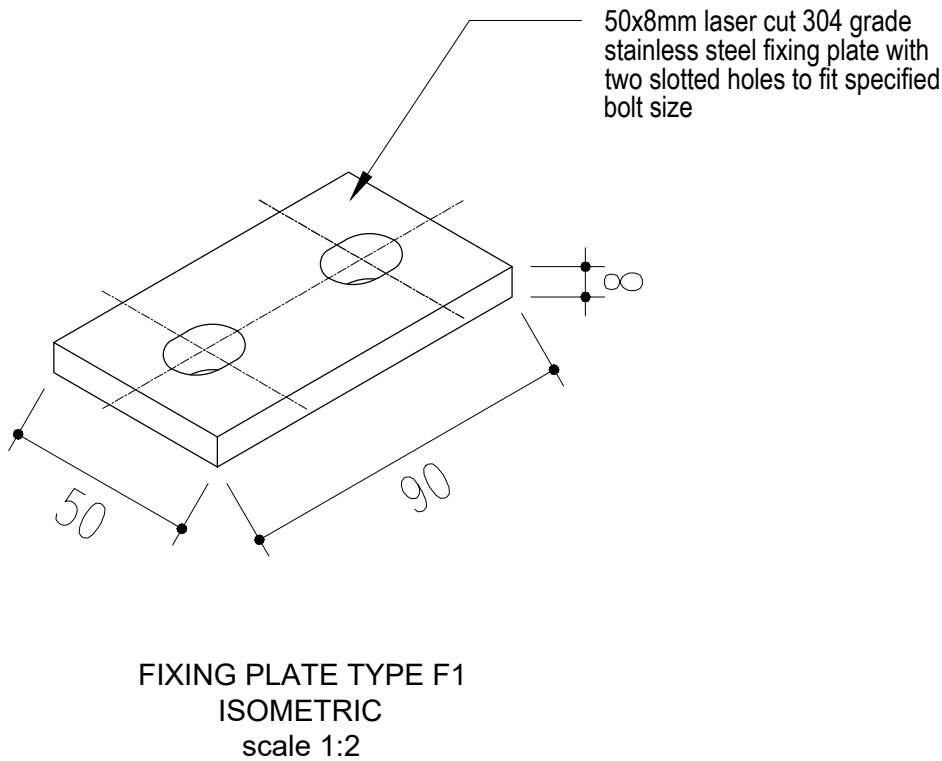
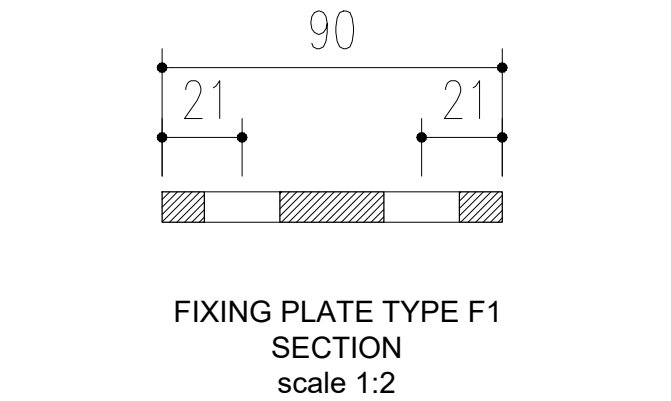
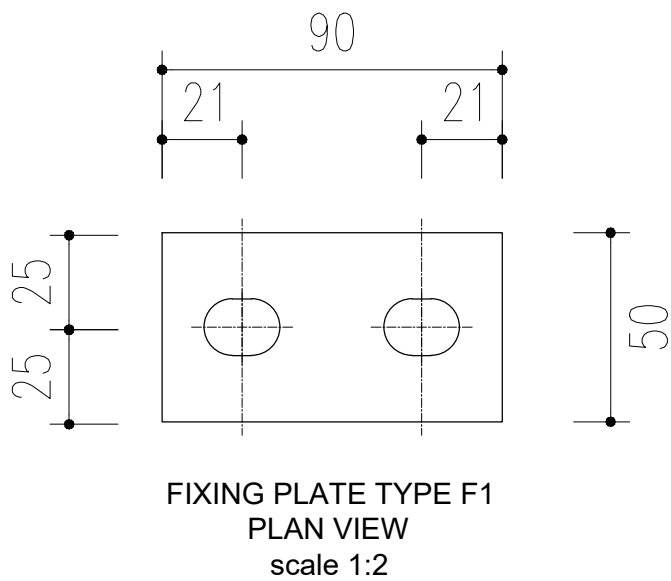
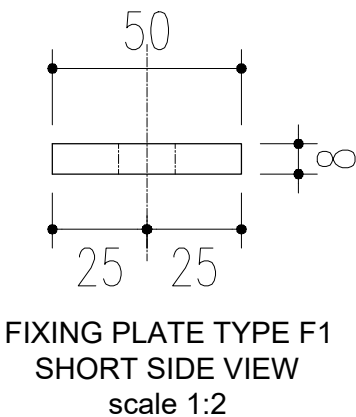
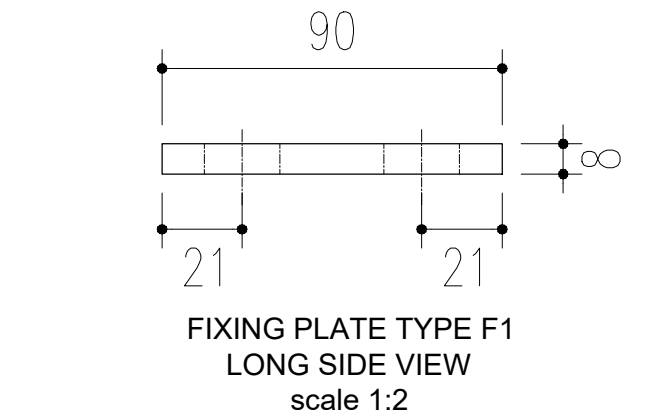
FIXING PLATE TYPE F1 STRAIGHT CONNECTIONS

NOTES:

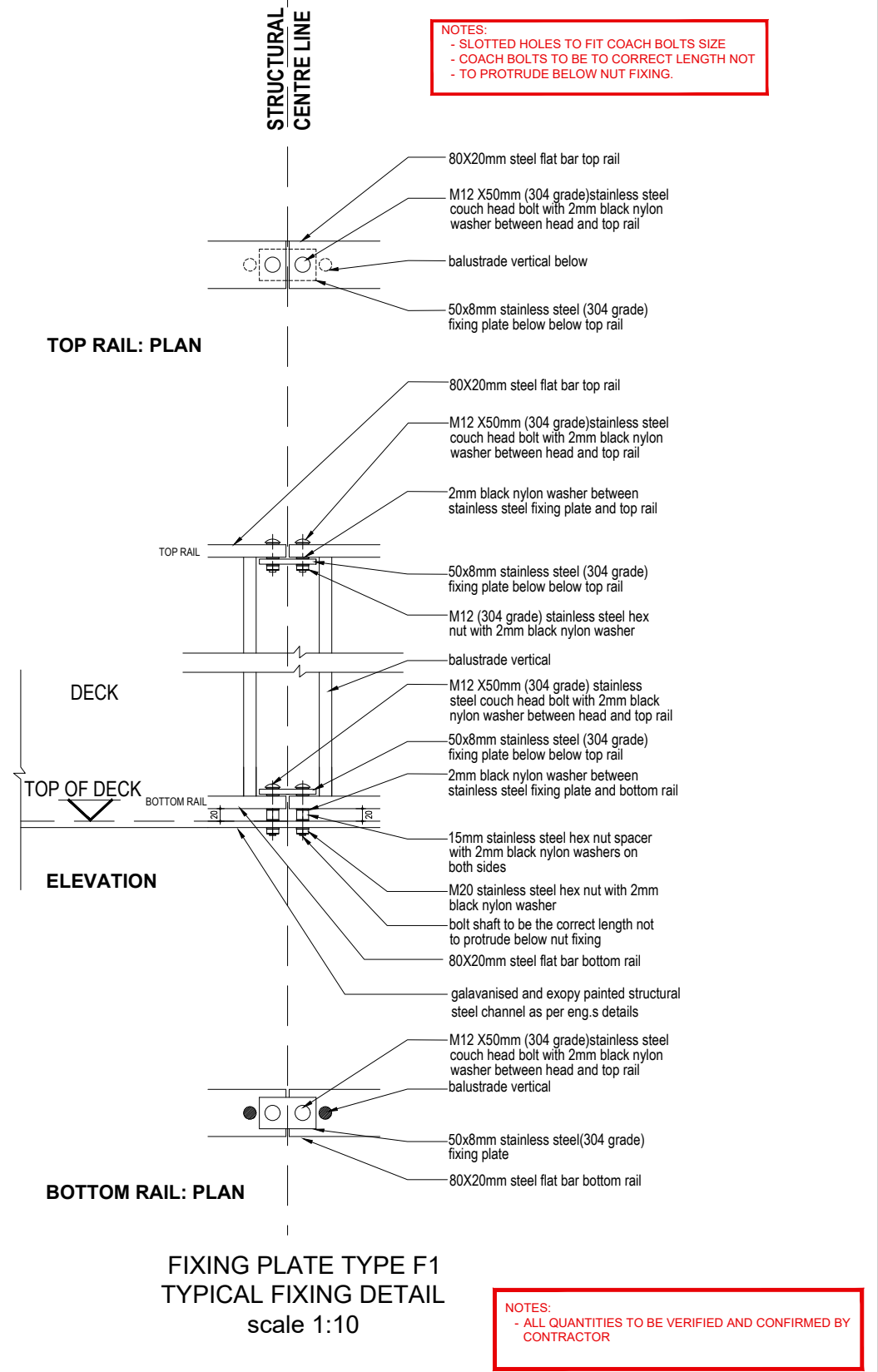
- NO DRILLING TO BE DONE AFTER GALVANISING IS COMPLETE
- ALL SLOTTED HOLES IN STRUCTURAL CHANNEL SECTIONS TO BE DRILLED PRIOR TO GALVANISING
- HOLE POSITIONS FOR BALUSTRADE FIXING TO THE STRUCTURAL CHANNEL SECTION TO BE DETERMINED WITH BALUSTRADE PANELS AS TEMPLATE PRIOR TO GALVANISING
- THE FINAL FIT OF ALL BALUSTRADE PANELS AND STRUCTURAL SECTIONS TO BE CHECKED PRIOR TO GALVANISING

NOTES:

- SLOTTED HOLES TO FIT COACH BOLTS SIZE
- COACH BOLTS TO BE TO CORRECT LENGTH NOT
- TO PROTRUDE BELOW NUT FIXING.



50x8mm laser cut 304 grade stainless steel fixing plate with two slotted holes to fit specified bolt size



QUANTITY -FIXING PLATE TYPE F1
connections between 0° straight panels

1298



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no.	date	description	checked	signed

NOTES:

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- ALL STEEL ELEMENTS TO BE PROTECTED AT ALL TIMES AFTER GALVANISING AND PAINTING HAS BEEN COMPLETED UNTIL AFTER ASSEMBLY ON SITE IS COMPLETE.

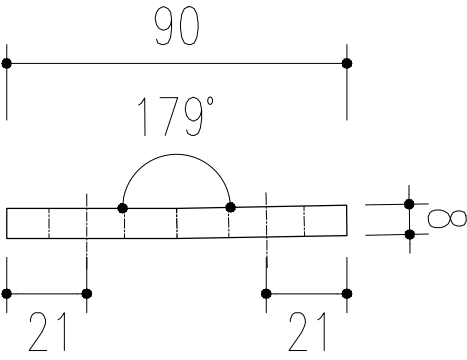
Client:
CapeNature
Consultant:
Urba

Project:
STONY POINT NATURE RESERVE :
PHASE 1 - BOARDWALK UPGRADE

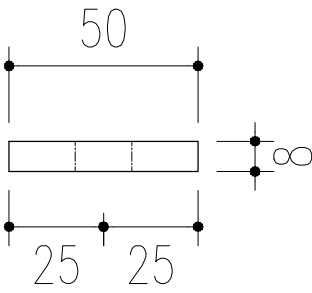
FOR TENDER ONLY

Drawing Title:				
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Drawing Number				
DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE
AR	180530	1010	0	T

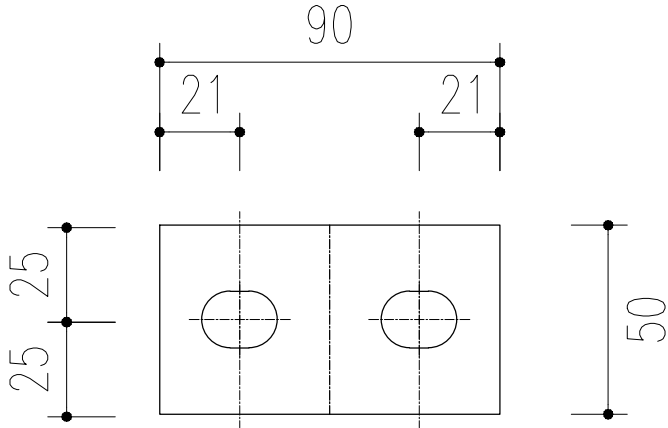
FIXING PLATE TYPE F2 WITH 1° BEND CONNECTION TO STRAIGHT PANELS



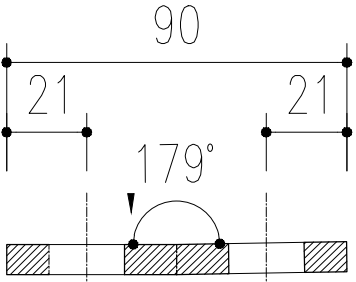
FIXING PLATE TYPE F2
LONG SIDE VIEW
scale 1:2



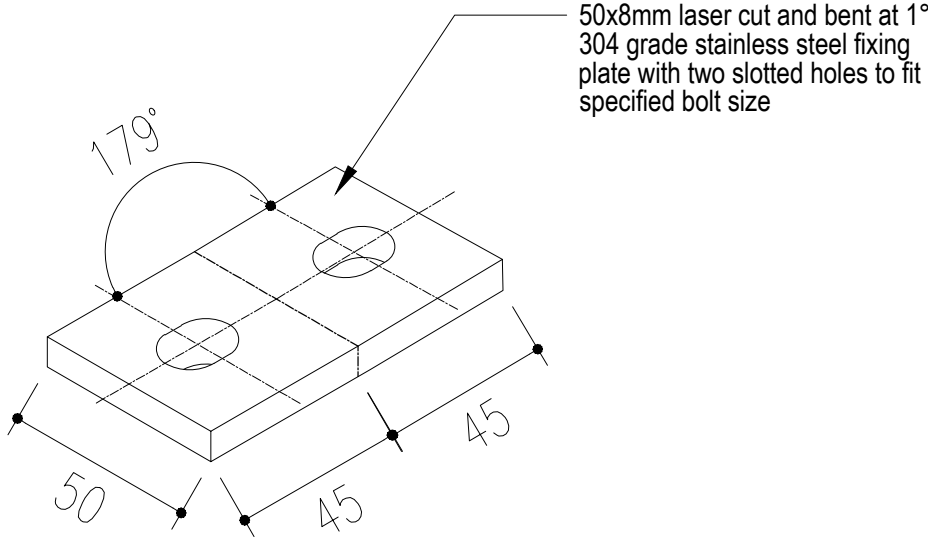
FIXING PLATE TYPE F2
SHORT SIDE VIEW
scale 1:2



FIXING PLATE TYPE F2
PLAN VIEW
scale 1:2

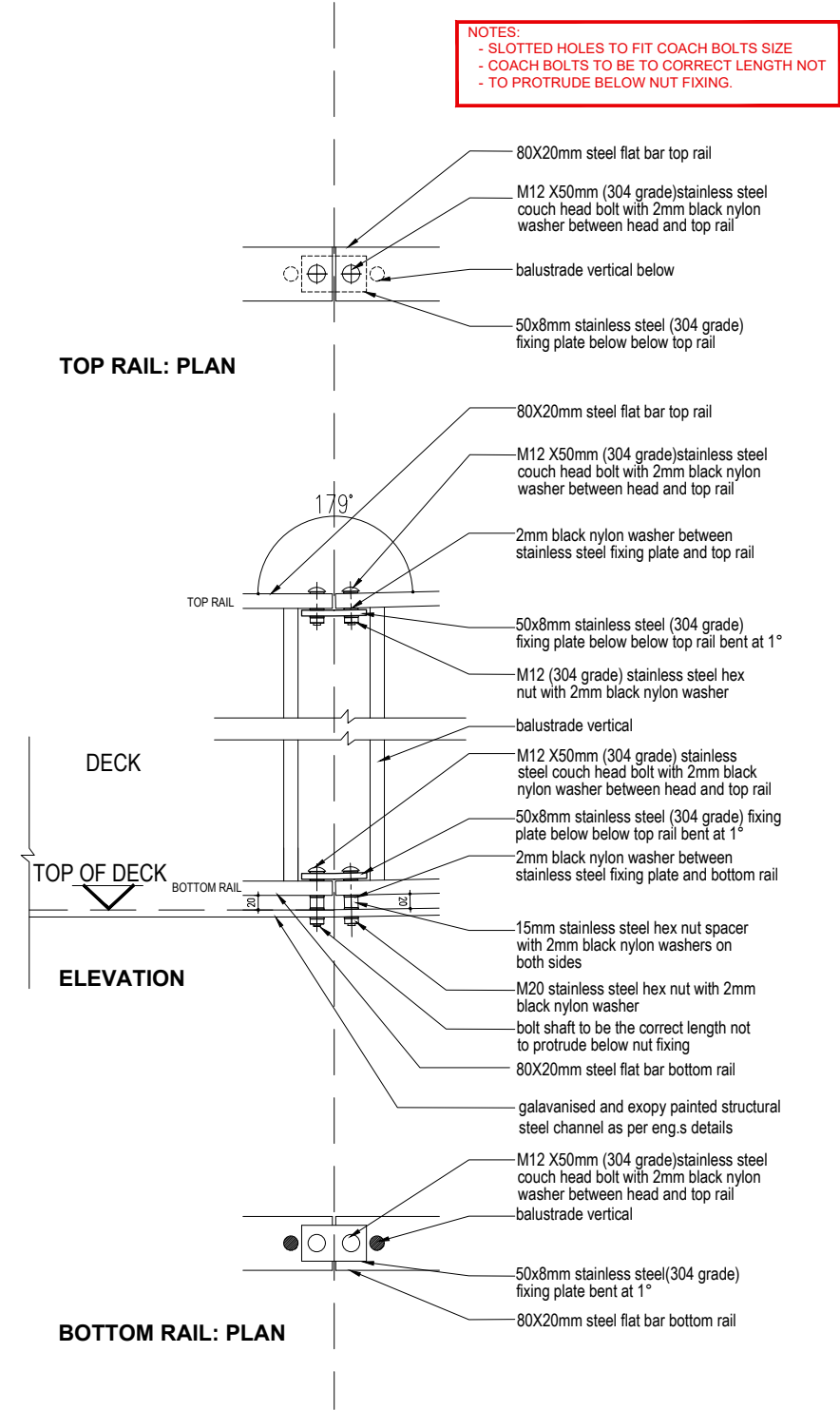


FIXING PLATE TYPE F2
SECTION
scale 1:2



FIXING PLATE TYPE F2
ISOMETRIC
scale 1:2

- NOTES:
- NO DRILLING TO BE DONE AFTER GALVANISING IS COMPLETE ALL SLOTTED HOLES IN STRUCTURAL CHANNEL SECTIONS TO BE DRILLED PRIOR TO GALVANISING
 - HOLE POSITIONS FOR BALUSTRADE FIXING TO THE STRUCTURAL CHANNEL SECTION TO BE DETERMINED WITH BALUSTRADE PANELS AS TEMPLATE PRIOR TO GALVANISING
 - THE FINAL FIT OF ALL BALUSTRADE PANELS AND STRUCTURAL SECTIONS TO BE CHECKED PRIOR TO GALVANISING



TOP RAIL: PLAN

ELEVATION

BOTTOM RAIL: PLAN

FIXING PLATE TYPE F2
TYPICAL FIXING DETAIL
scale 1:10

- NOTES:
- SLOTTED HOLES TO FIT COACH BOLTS SIZE
 - COACH BOLTS TO BE TO CORRECT LENGTH NOT TO PROTRUDE BELOW NUT FIXING.

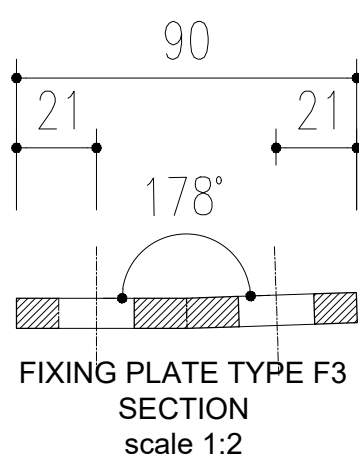
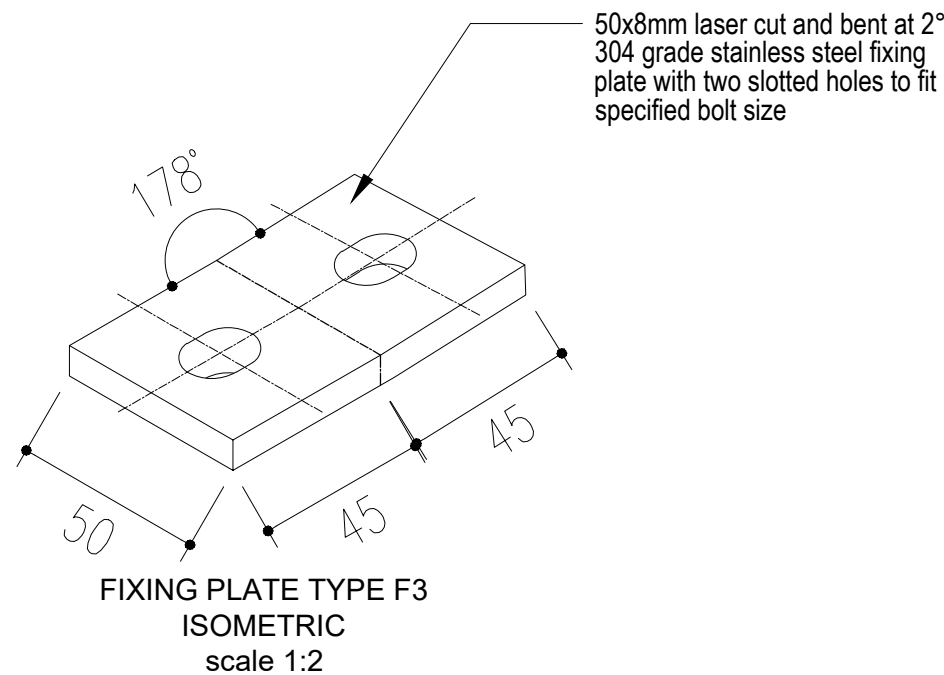
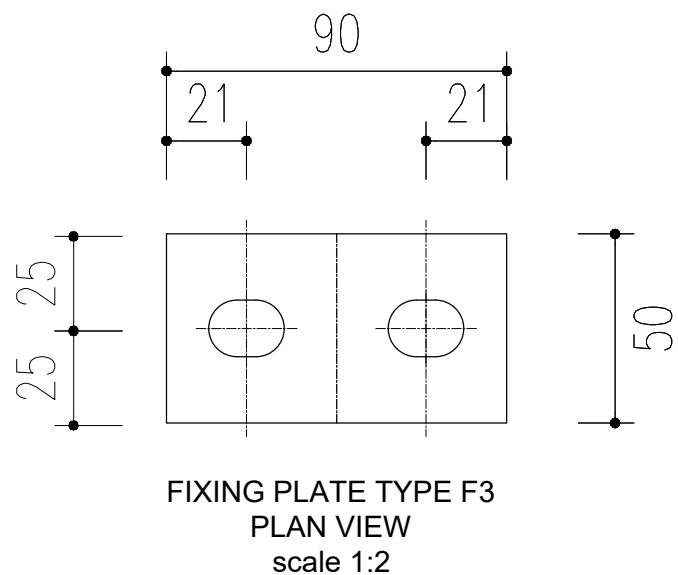
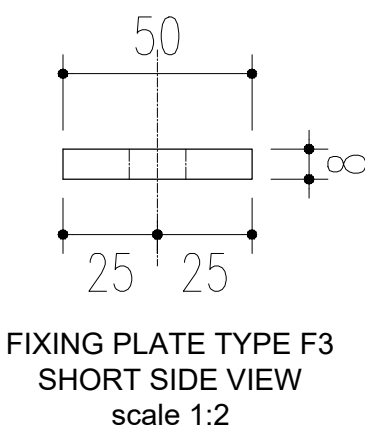
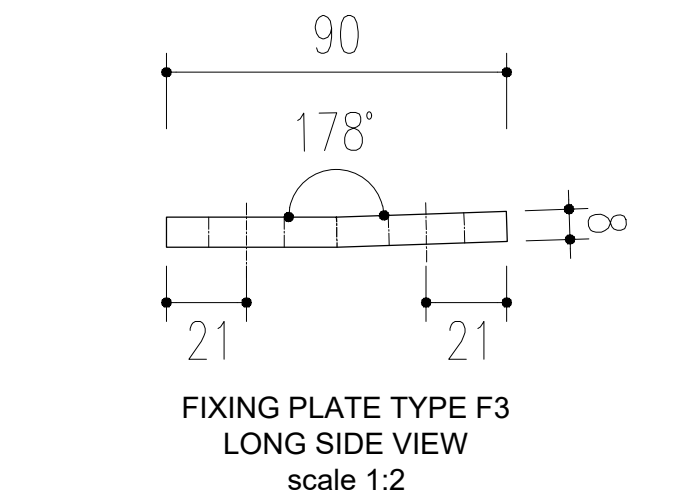
- NOTES:
- ALL QUANTITIES TO BE VERIFIED AND CONFIRMED BY CONTRACTOR

QUANTITY -FIXING PLATE TYPE F2
connections between 1° slope and straight panels

18

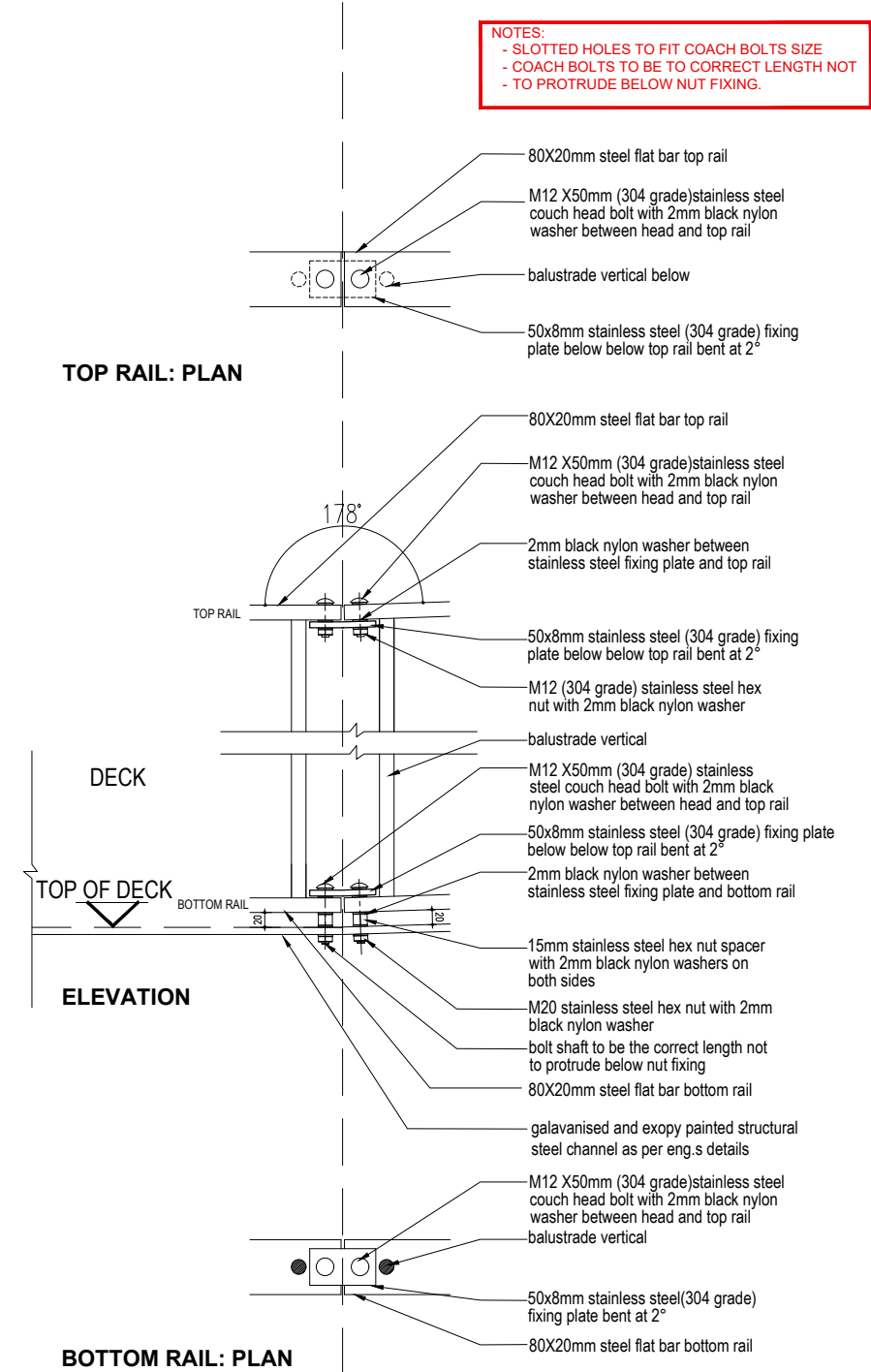
Project Number:		C1000689	COPYRIGHT NOTICE		General Notes		Revisions		NOTES:		Client:		Project:		Drawing Title:	
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		Consultant:		Urba		FOR TENDER ONLY										
		DRAWN		CHECKED		DATE				SCALE		PAGE SIZE				
		A.C.		2020-09-07		1:10		A3								

FIXING PLATE TYPE F3 WITH 2° BEND CONNECTION TO STRAIGHT PANELS



NOTES:

- NO DRILLING TO BE DONE AFTER GALVANISING IS COMPLETE ALL SLOTTED HOLES IN STRUCTURAL CHANNEL SECTIONS TO BE DRILLED PRIOR TO GALVANISING
- HOLE POSITIONS FOR BALUSTRADE FIXING TO THE STRUCTURAL CHANNEL SECTION TO BE DETERMINED WITH BALUSTRADE PANELS AS TEMPLATE PRIOR TO GALVANISING
- THE FINAL FIT OF ALL BALUSTRADE PANELS AND STRUCTURAL SECTIONS TO BE CHECKED PRIOR TO GALVANISING



NOTES:

- SLOTTED HOLES TO FIT COACH BOLTS SIZE
- COACH BOLTS TO BE TO CORRECT LENGTH NOT TO PROTRUDE BELOW NUT FIXING.

NOTES:

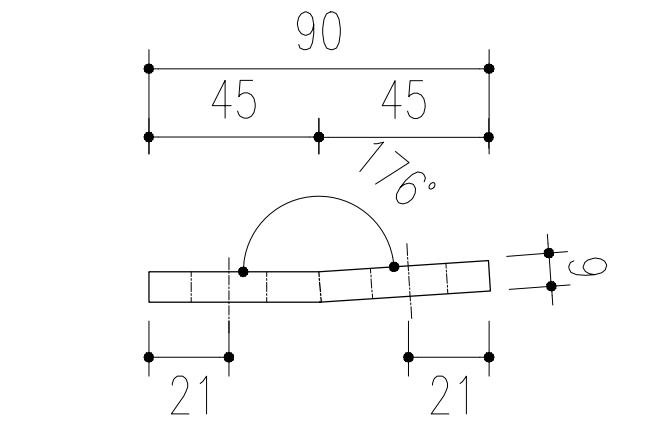
- ALL QUANTITIES TO BE VERIFIED AND CONFIRMED BY CONTRACTOR

QUANTITY -FIXING PLATE TYPE F3
connections between 2° slope and straight panels

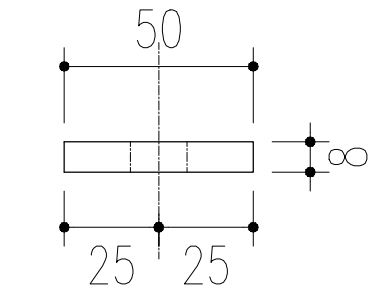
16

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		Any unauthorised reproduction, publication, transmission, adaptation and/or inclusion of this drawing in a cinematographic film or television broadcast is an act of copyright infringement which will render the doer of the act liable for civil copyright infringement and may in certain circumstances render the doer liable to criminal prosecution.		3. This drawing to be read in conjunction with all consultants drawings and details.				- ALL BOLTS AND NUTS TO BE STAINLESS STEEL		Urba		FOR TENDER ONLY		DRAWN	
		Requests and enquiries concerning this drawing and the rights subsisting therein should be addressed to the copyright owner.		4. This drawing must not be scaled.				- ALL WASHERS TO BE BLACK NYLON WASHERS						CHECKED	
								- ALL STEEL ELEMENTS TO BE PROTECTED AT ALL TIMES AFTER GALVANISING AND PAINTING HAS BEEN COMPLETED UNTIL AFTER ASSEMBLY ON SITE IS COMPLETE.						DATE	
														A.C.	
														2020-09-07	
														1:10	
														A3	
														Drawing Number	
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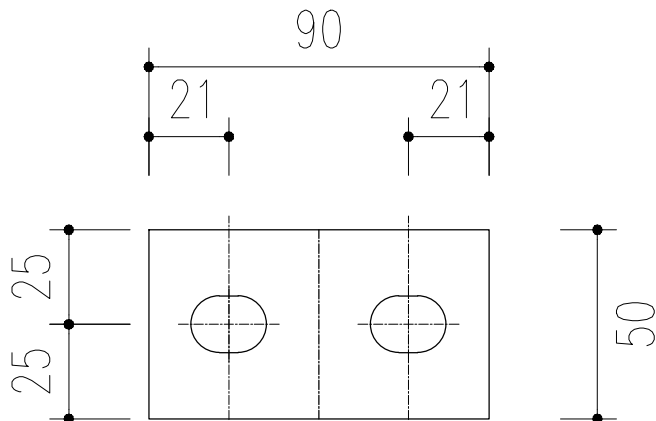
FIXING PLATE TYPE F4 WITH 4° BEND CONNECTION TO STRAIGHT PANELS



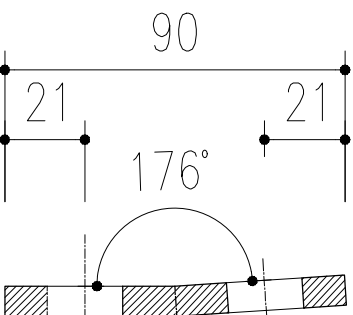
FIXING PLATE TYPE F4
LONG SIDE VIEW
scale 1:2



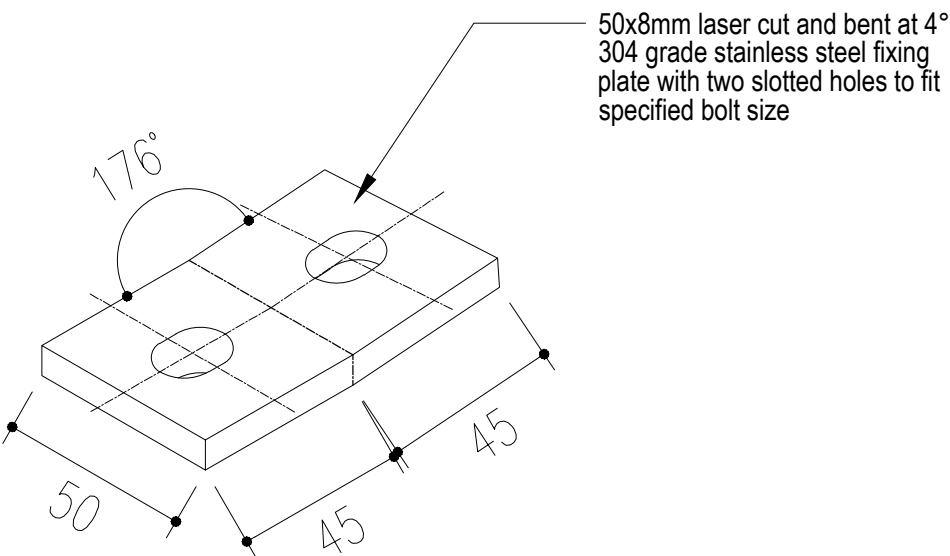
FIXING PLATE TYPE F4
SHORT SIDE VIEW
scale 1:2



FIXING PLATE TYPE F4
PLAN VIEW
scale 1:2

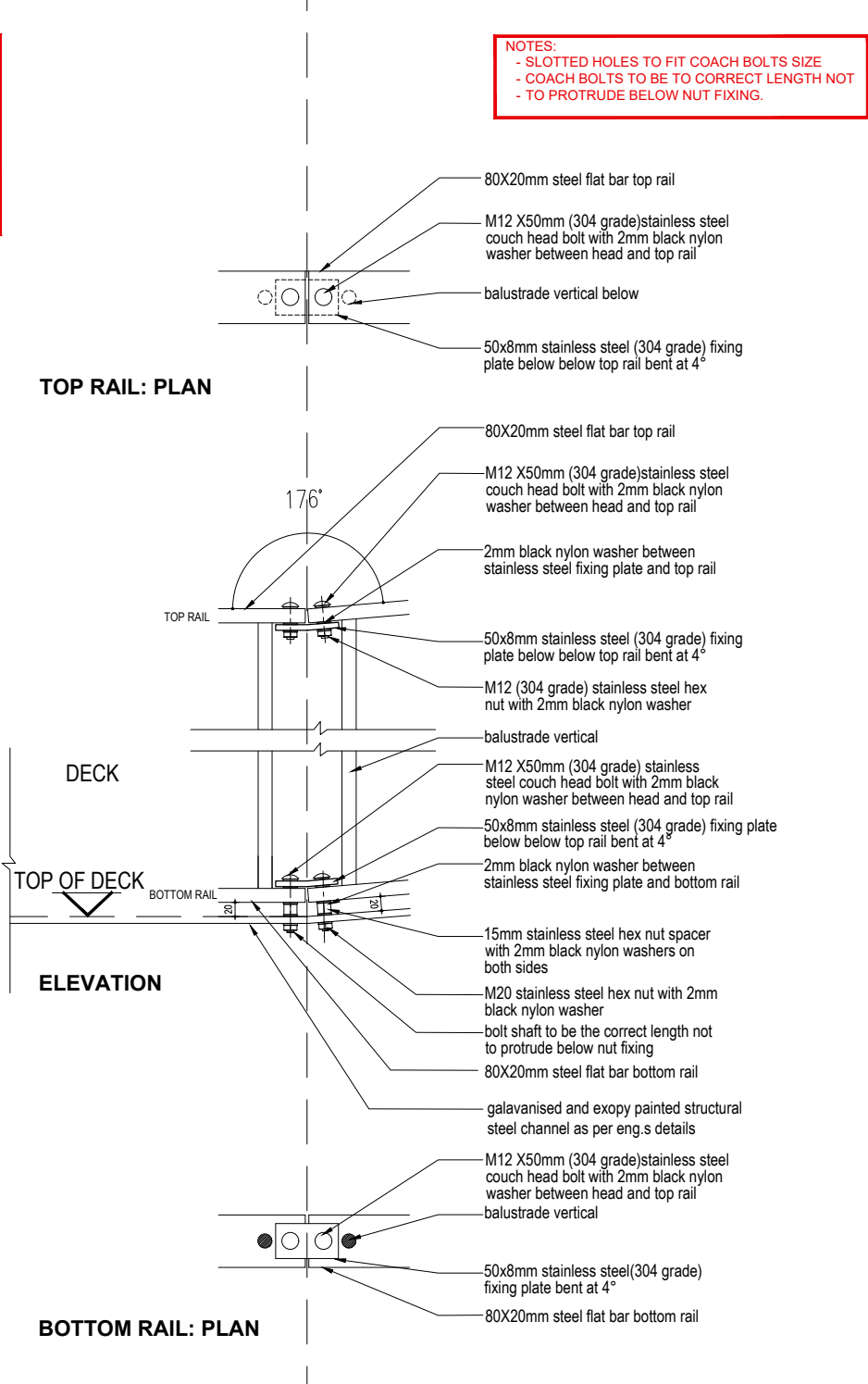


FIXING PLATE TYPE F4
SECTION
scale 1:2



FIXING PLATE TYPE F4
ISOMETRIC
scale 1:2

- NOTES:
- NO DRILLING TO BE DONE AFTER GALVANISING IS COMPLETE ALL SLOTTED HOLES IN STRUCTURAL CHANNEL SECTIONS TO BE DRILLED PRIOR TO GALVANISING
 - HOLE POSITIONS FOR BALUSTRADE FIXING TO THE STRUCTURAL CHANNEL SECTION TO BE DETERMINED WITH BALUSTRADE PANELS AS TEMPLATE PRIOR TO GALVANISING
 - THE FINAL FIT OF ALL BALUSTRADE PANELS AND STRUCTURAL SECTIONS TO BE CHECKED PRIOR TO GALVANISING



FIXING PLATE TYPE F4
TYPICAL FIXING DETAIL
scale 1:10

- NOTES:
- SLOTTED HOLES TO FIT COACH BOLTS SIZE
 - COACH BOLTS TO BE TO CORRECT LENGTH NOT TO PROTRUDE BELOW NUT FIXING.

- NOTES:
- ALL QUANTITIES TO BE VERIFIED AND CONFIRMED BY CONTRACTOR

QUANTITY -FIXING PLATE TYPE F4
connections between 4° slope and straight panels

8

Project Number: CI000689

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Revisions		description		checked	signed
no.	date				

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Client: CapeNature

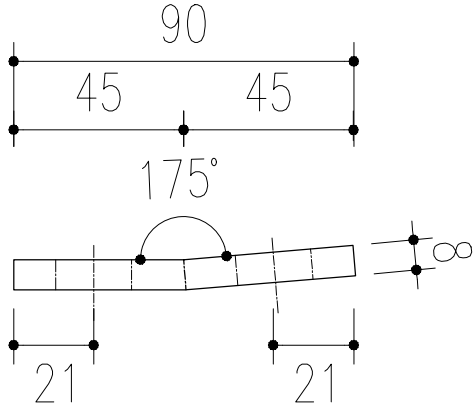
Consultant: Urba

Project: STONY POINT NATURE RESERVE : PHASE 1 - BOARDWALK UPGRADE

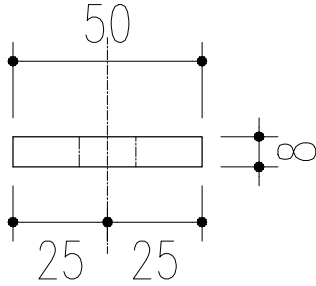
FOR TENDER ONLY

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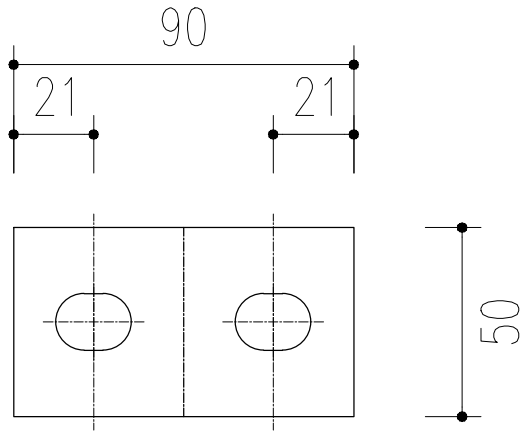
FIXING PLATE TYPE F5 WITH 5° BEND AND STRAIGHT PANELS



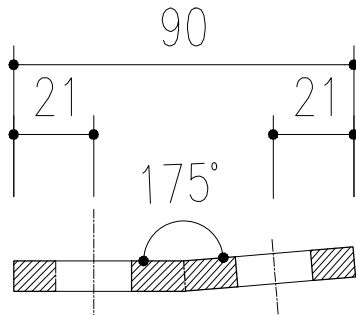
FIXING PLATE TYPE F5
LONG SIDE VIEW
scale 1:2



FIXING PLATE TYPE F5
SHORT SIDE VIEW
scale 1:2

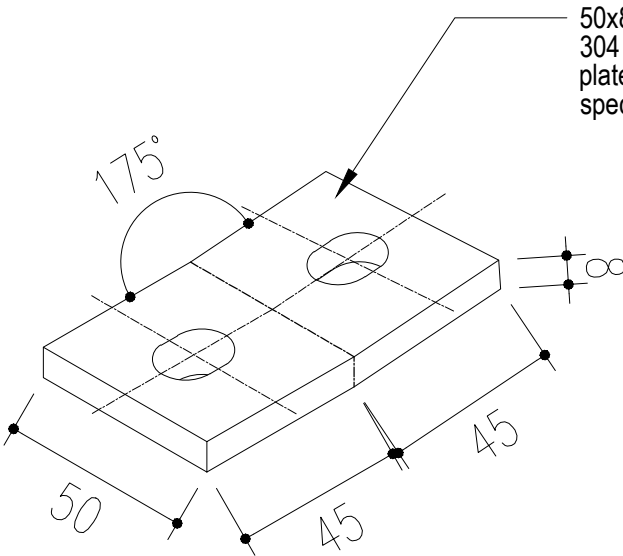


FIXING PLATE TYPE F5
PLAN VIEW
scale 1:2

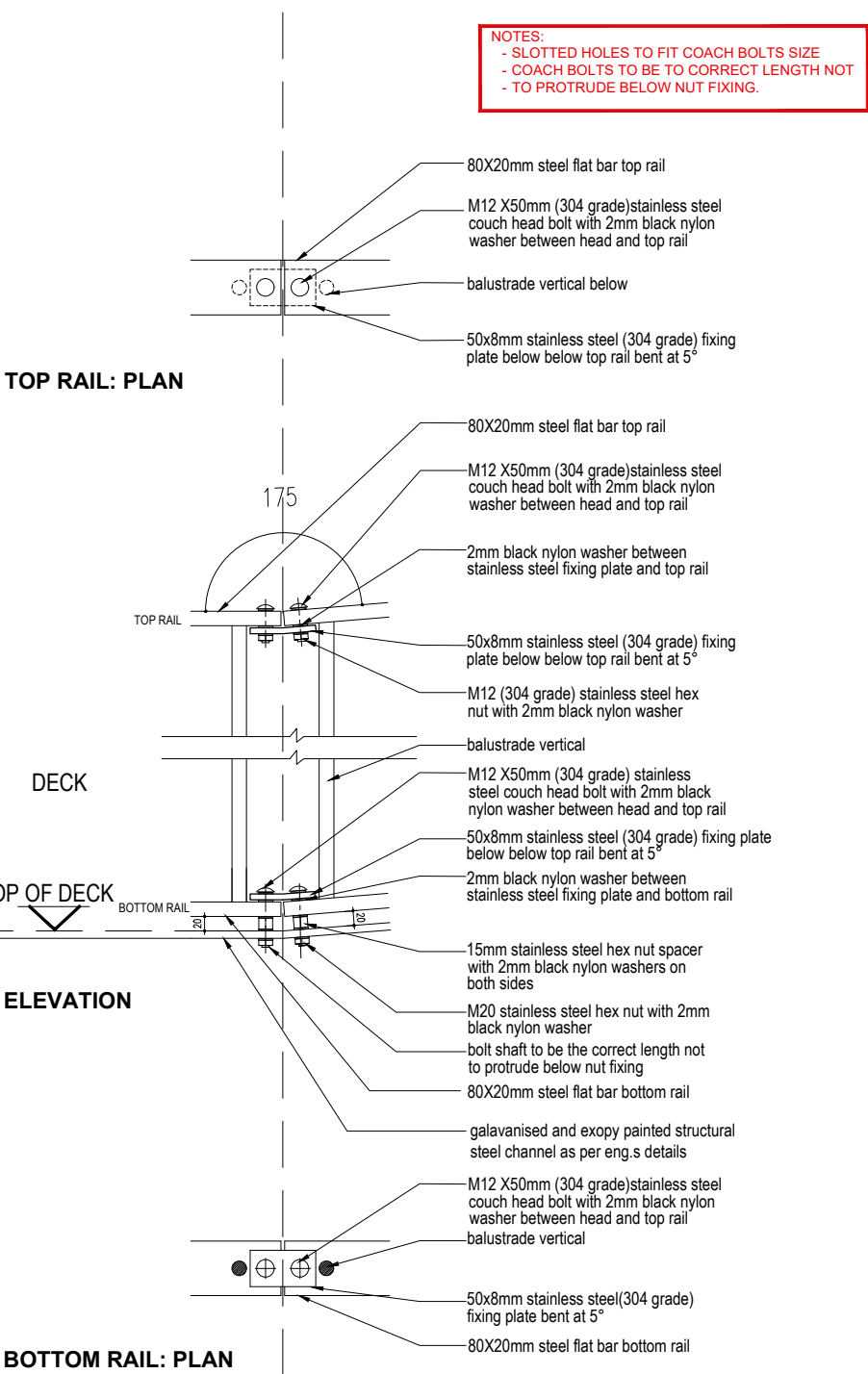


FIXING PLATE TYPE F5
SECTION
scale 1:2

- NOTES:
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FIXING PLATE TYPE F5
ISOMETRIC
scale 1:2



FIXING PLATE TYPE F5
TYPICAL FIXING DETAIL
scale 1:10

- NOTES:
- ALL QUANTITIES TO BE VERIFIED AND CONFIRMED BY CONTRACTOR

QUANTITY -FIXING PLATE TYPE F5
connections between 5° slope and straight panels

54

Project Number: CI000689

Western Cape Government

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Revisions					
no.	date	description	checked	signed	

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 - ALL STEEL ELEMENTS TO BE PROTECTED AT ALL TIMES AFTER GALVANISING AND PAINTING HAS BEEN COMPLETED UNTIL AFTER ASSEMBLY ON SITE IS COMPLETE.

Client: CapeNature

Consultant: Urba

Project: STONY POINT NATURE RESERVE : PHASE 1 - BOARDWALK UPGRADE

FOR TENDER ONLY

Drawing Title:

FIXING PLATE SCHEDULE: FIXING PLATE TYPE F5

DRAWN	CHECKED	DATE	SCALE	PAGE SIZE
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This drawing is to be read in conjunction with drawing no:

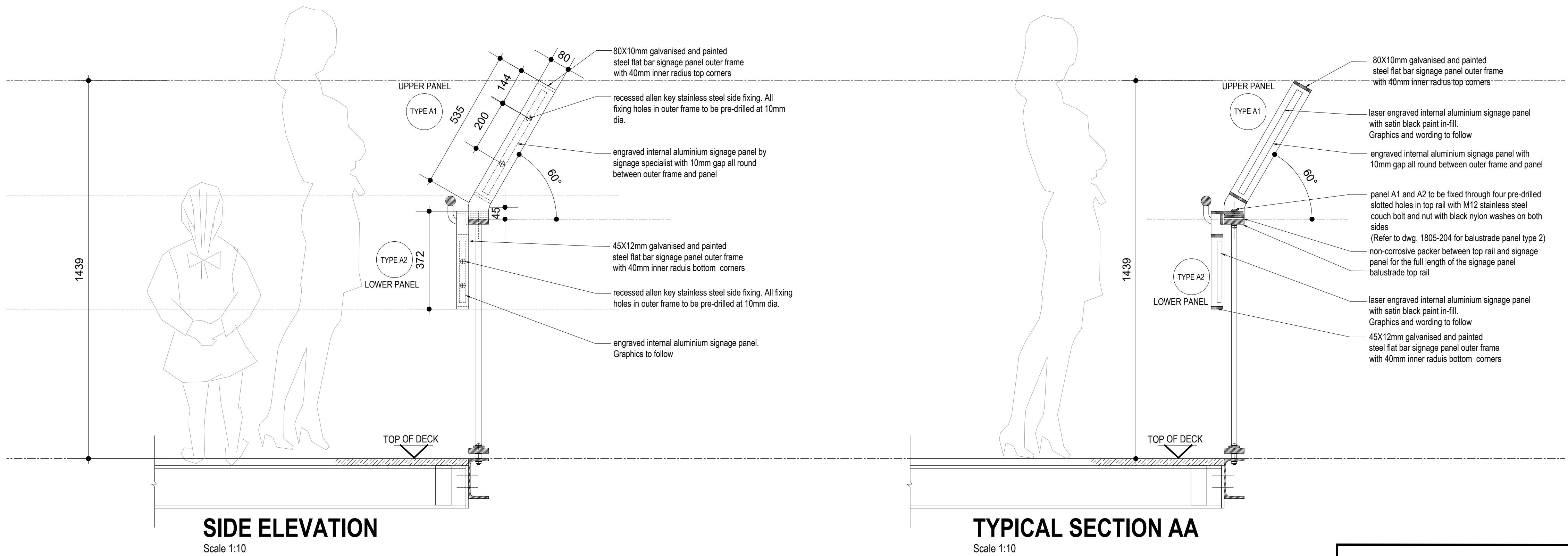
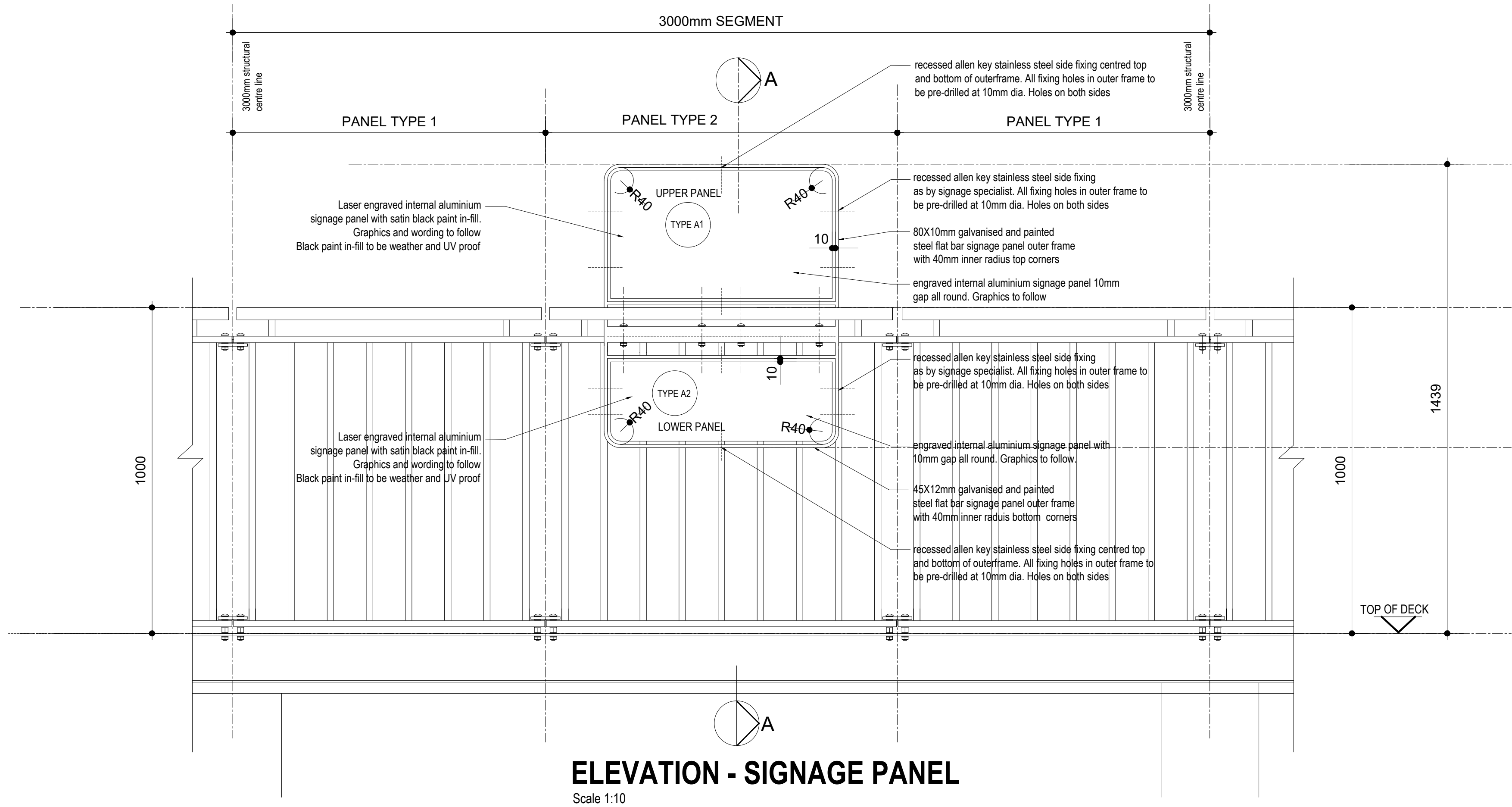
Drawing Number

DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE
AR	18053	0500	0	T

- NOTES:**
- SIGNAGE PANELS TO BE INSTALLED ONLY ON BALUSTRADE PANEL TYPE 2
 - ALL HOLES FOR FIXING OF SIGNAGE PANELS TO BE PRE-DRILLED PRIOR TO GALVANISING
 - FIT OF PANES TO BE CHECKED PRIOR TO GALVANISING
 - NO DRILLING AFTER GAVANISING IS COMPLETE
 - NO DRILLING ON SITE.

REFER TO DWG 1805-204 FOR BALUSTRADE PANEL 2 DETAILS

SAMPLES AND SHOPDRAWINGS TO BE APPROVED BY ARCHITECT PRIOR TO MANUFACTURE



QUANTITY - SIGNAGE PANELS A1 & A2 UNIT

15

Project Number: CI000689



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Revisions

no.	date	description	checked	signed

- NOTES:**
- NO DRILLING, CUTTING, FILLING OR ANY FORM OF STRUCTURAL ADJUSTMENT ALLOWED AFTER THE COMPLETION OF THE GALVANISING PROCESS OR WHEN ASSEMBLING ON SITE. FIT OF ALL ELEMENTS TO BE CHECKED PRIOR TO GALVANISING.

- ALL STEEL ELEMENTS TO BE GALVANISED AND PAINTED AS PER SPECIFICATION
- ALL BOLTS AND NUTS TO BE STAINLESS STEEL
- ALL WASHERS TO BE BLACK NYLON WASHERS
- ALL STEEL ELEMENTS TO BE PROTECTED AT ALL TIMES AFTER GALVANISING AND PAINTING HAS BEEN COMPLETED UNTIL AFTER ASSEMBLY ON SITE IS COMPLETE.

Client:

CapeNature

Consultant:

Urba

Project:

STONY POINT NATURE RESERVE :
PHASE 1 - BOARDWALK UPGRADE

**FOR TENDER
ONLY**

Drawing Title

SIGNAGE PANEL DETAILS

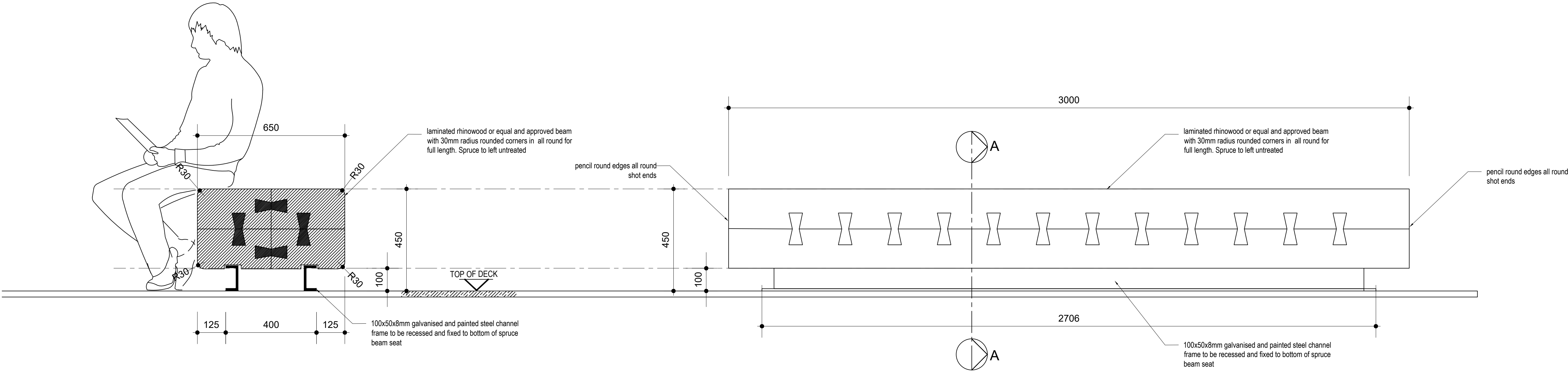
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This drawing to be read in conjunction with drawing no:

Drawing Number

DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE
AR	18054	0000	0	T

NOTES:
SAMPLES AND SHOPDRAWINGS TO BE APPROVED BY ARCHITECT PRIOR TO MANUFACTURE



SECTION AA
Scale 1:10

SIDE ELEVATION OF SEAT
Scale 1:10

QUANTITY - SEATING UNITS

4

Project Number:

CI000689

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General Notes

1. This drawing is to be read in conjunction with engineers drawings.
2. Any discrepancies to be reported to the architects prior to work commencing.
3. This drawing to be read in conjunction with all consultants drawings and details.
4. This drawing must not be scaled.

Revisions

no.	date	description	checked	signed

NOTES:

- NO DRILLING, CUTTING, FILLING OR ANY FORM OF STRUCTURAL ADJUSTMENT ALLOWED AFTER THE COMPLETION OF THE GALVANISING PROCESS OR WHEN ASSEMBLING ON SITE. FIT OF ALL ELEMENTS TO BE CHECKED PRIOR TO GALVANISING.

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Client:

CapeNature

Consultant:

Urba

Project:

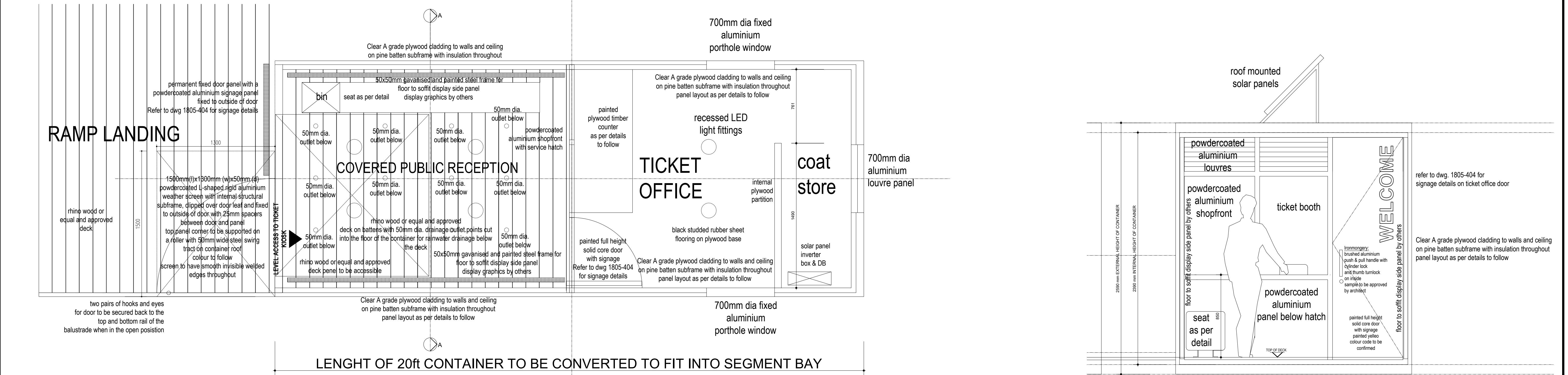
STONY POINT NATURE RESERVE :
PHASE 1 - BOARDWALK UPGRADE

Drawing Title:

SEATING DETAILS

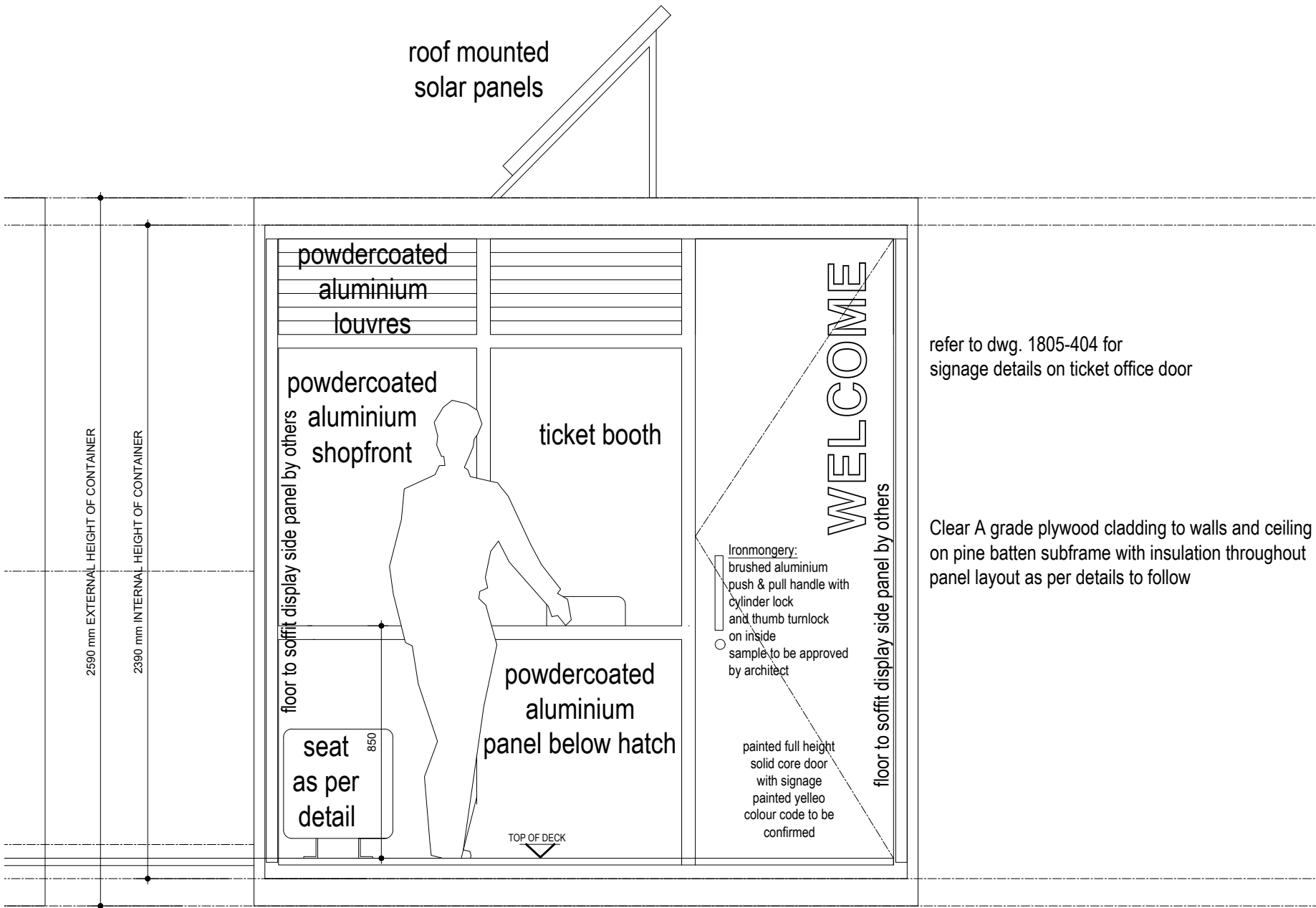
FOR TENDER
ONLY

DRAWN	CHECKED	DATE	SCALE	PAGE SIZE
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This drawing to be read in conjunction with drawing no:				
Drawing Number				
DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE
AR	180540	100	T	



LENTH OF 20ft CONTAINER TO BE CONVERTED TO FIT INTO SEGMENT BAY

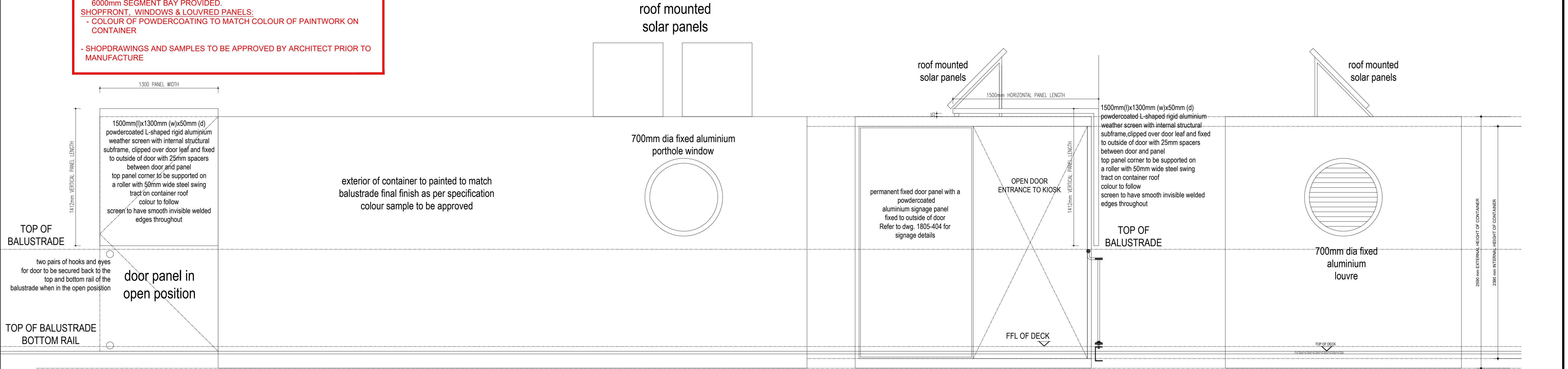
(Ramp segment bay lenth at 6000mm
refer to eng.'s drawings)



- NOTES:
- TICKET KIOSK:
 - A 20FT SHIPPING CONTAINER IS TO BE CONVERTED TO FIT WITHIN THE 6000mm SEGMENT BAY PROVIDED.
 - SHOPFRONT, WINDOWS & LOUVRED PANELS:
 - COLOUR OF POWDERCOATING TO MATCH COLOUR OF PAINTWORK ON CONTAINER
 - SHOPDRAWINGS AND SAMPLES TO BE APPROVED BY ARCHITECT PRIOR TO MANUFACTURE

PLAN
Scale 1:20

SECTION AA
Scale 1:20



SIDE ELEVATION
Scale 1:20

FRONT ELEVATION
Scale 1:20

BACK ELEVATION
Scale 1:20

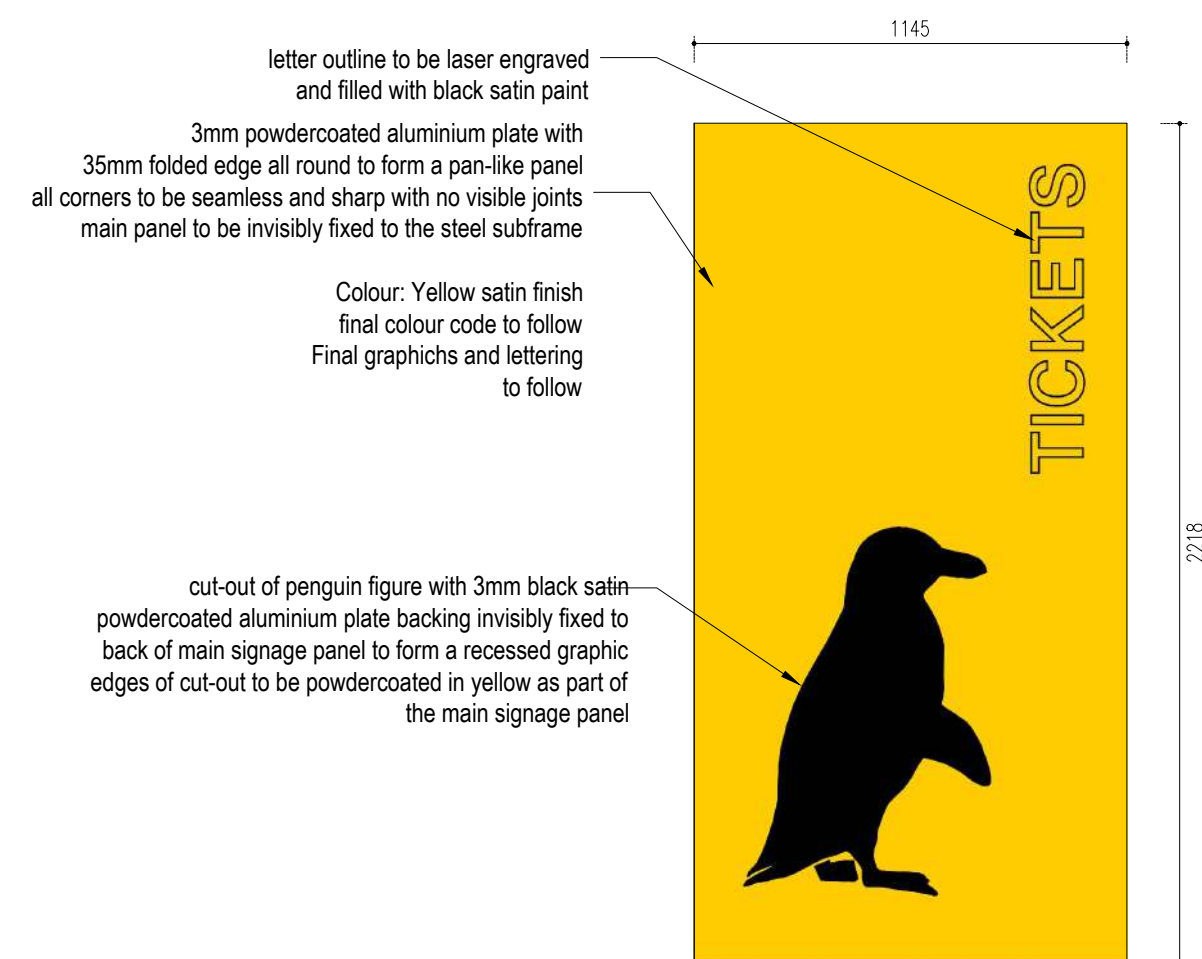
REFER TO DWG 1805-404 FOR SIGNAGE DETAILS

QUANTITY - TICKET KIOSK

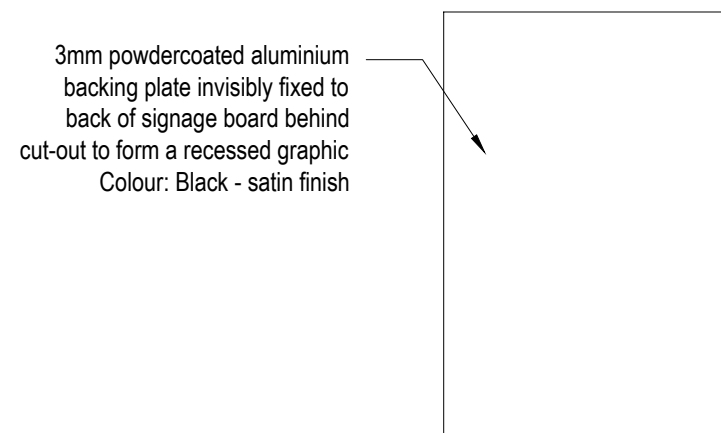
1

Project Number:		C1000689	COPYRIGHT NOTICE		General Notes		Revisions		NOTES: - NO DRILLING, CUTTING, FILLING OR ANY FORM OF STRUCTURAL ADJUSTMENT ALLOWED AFTER THE COMPLETION OF THE GALVANISING PROCESS OR WHEN ASSEMBLING ON SITE. FIT OF ALL ELEMENTS TO BE CHECKED PRIOR TO GALVANISING. - ALL STEEL ELEMENTS TO BE GALVANISED AND PAINTED AS PER SPECIFICATION - ALL BOLTS AND NUTS TO BE STAINLESS STEEL - ALL WASHERS TO BE BLACK NYLON WASHERS - ALL STEEL ELEMENTS TO BE PROTECTED AT ALL TIMES AFTER GALVANISING AND PAINTING HAS BEEN COMPLETED UNTIL AFTER ASSEMBLY ON SITE IS COMPLETE.		Client:		Project:		Drawing Title:																				
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		no.	date	description	checked	signed																													
Urba																																			
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KIOSK SIGNAGE: EXTERIOR SIGNAGE PANEL

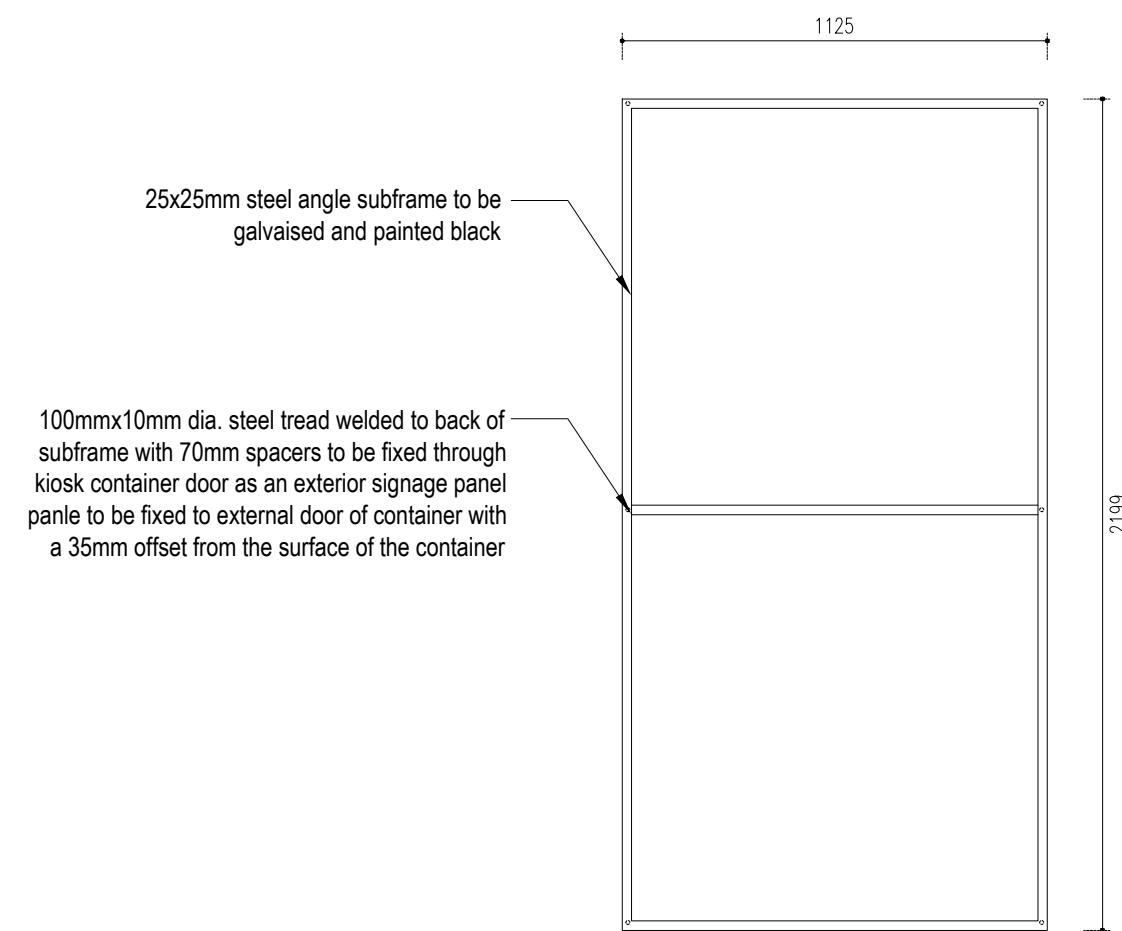


MAIN SIGNAGE PANEL
Scale 1:20



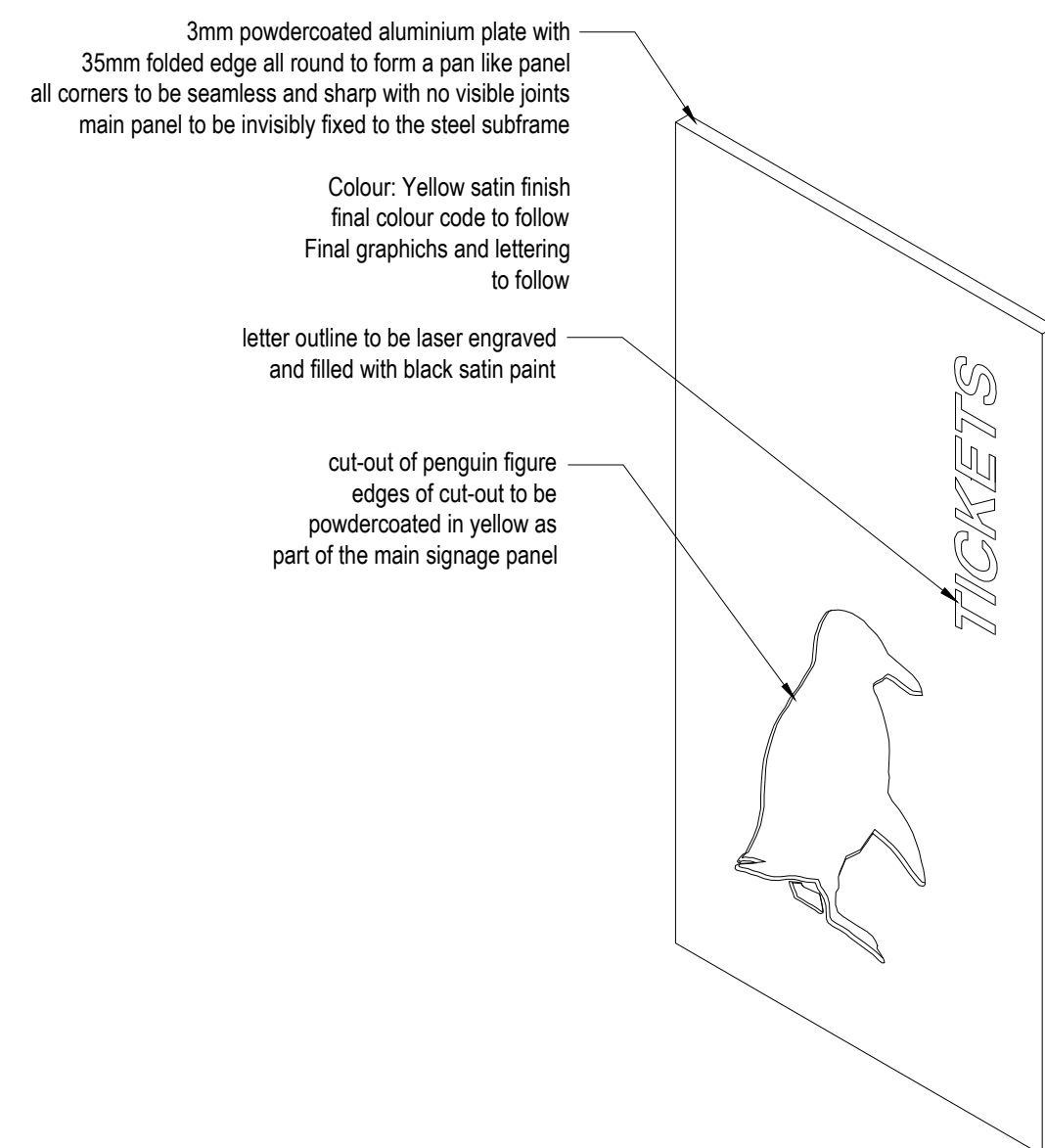
BACKING PANEL

Scale 1:20

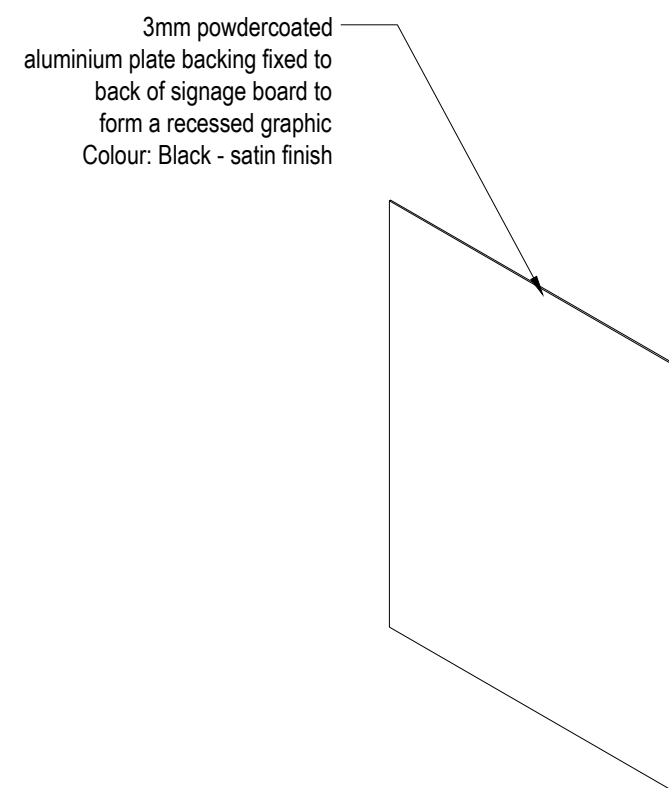


STEEL SUBFRAME
Scale 1:20

EXTERNAL SIGNAGE PANEL - ELEVATIONAL VIEWS

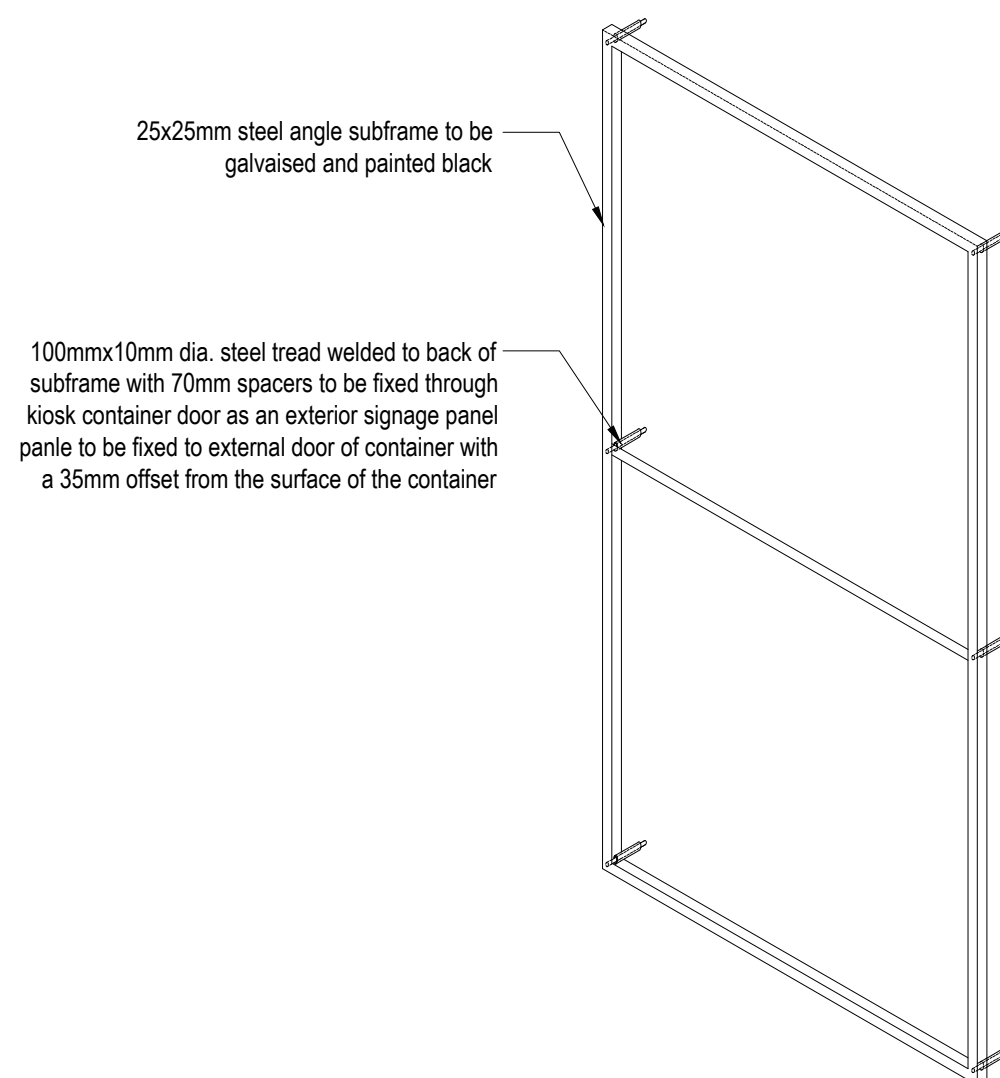


MAIN SIGNAGE PANEL



BACKING PANEL

Scale 1:20

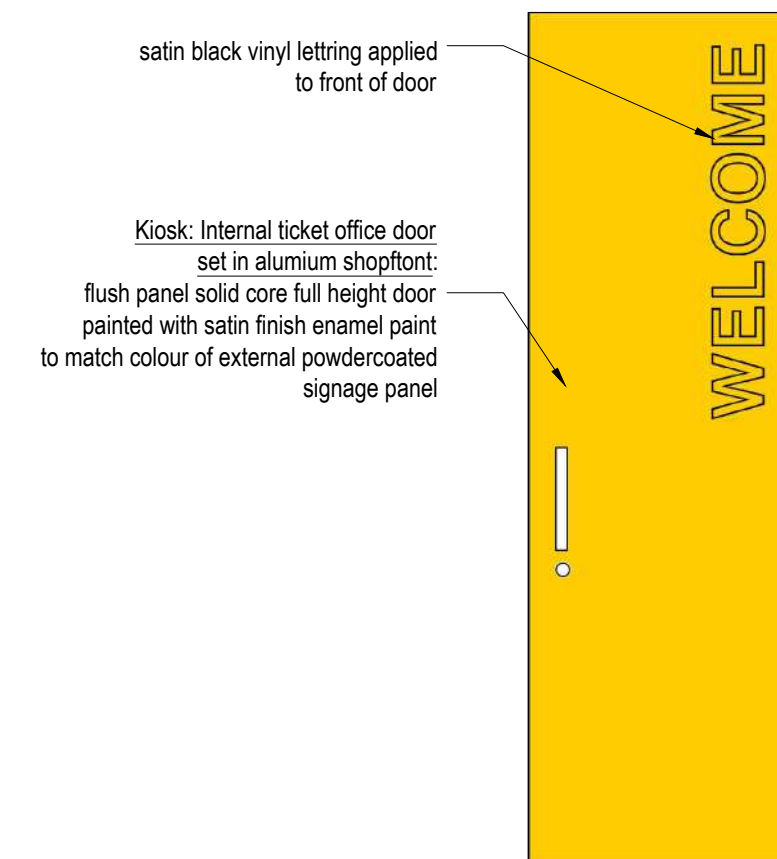


STEEL SUBFRAME
Scale 1:20

EXTERNAL SIGNAGE PANEL - ISOMERTIC VIEWS

KIOSK SIGNAGE: INTERNAL SIGNAGE ON DOOR

REFER TO DWG 1805-402 FOR KIOSK DETAILS



INTERNAL DOOR WITH SIGNAGE

INTERNAL SIGNAGE - DOOR ELEVATION

NOTES:

REFER TO DWG 1805-402 FOR KIOSK DETAILS

ALL POWDERCOATING AND PAINT IN-FILL TO BE EXTERIOR QUALITY AND WEATHER AND UV RESISTANT.

COLOUR SAMPLES TO BE APPROVED BY THE ARCHITECT PRIOR TO MANUFACTURE

ALL DIMENSIONS TO BE CONFIRMED ON SITE PRIOR TO MANUFACTURE

SAMPLES AND SHOPDRAWINGS TO BE APPROVED BY ARCHITECT PRIOR TO MANUFACTURE

SAMPLES AND SHOPDRAWINGS TO BE APPROVED BY ARCHITECT PRIOR TO MANUFACTURE

Project Number:		C1000689																				
																						
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no.	date	description	checked	signed																		
Project:		Drawing Title																				
STONY POINT NATURE RESERVE : PHASE 1 - BOARDWALK UPGRADE		KIOSK SIGNAGE DETAILS																				
FOR TENDER ONLY																						
		<table><thead><tr><th>DRAWN</th><th>CHECKED</th><th>DATE</th><th>SCALE</th><th>PAGE SIZE</th></tr></thead><tbody><tr><td></td><td>A.C.</td><td>2020-09-07</td><td>1:20</td><td> A1</td></tr></tbody></table> This drawing to be read in conjunction with drawing no: Drawing Number <table><thead><tr><th>DISCIPLINE</th><th>PROJECT NUMBER</th><th>DRAWING NUMBER</th><th>REVISION</th><th>STAGE</th></tr></thead><tbody><tr><td>AR</td><td></td><td>180540400T</td><td></td><td></td></tr></tbody></table>	DRAWN	CHECKED	DATE	SCALE	PAGE SIZE		A.C.	2020-09-07	1:20	 A1	DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE	AR		180540400T		
DRAWN	CHECKED	DATE	SCALE	PAGE SIZE																		
	A.C.	2020-09-07	1:20	 A1																		
DISCIPLINE	PROJECT NUMBER	DRAWING NUMBER	REVISION	STAGE																		
AR		180540400T																				



P.O.Box 4901
TYGERVALLEY
7530
Tel: 021 914 0300
Fax: 021 914 0437
Email:
bellville@lyners.co.za

PROJECT:

Stony Point Nature Reserve - Tourist Accommodation

PROJECT No. _____

18131 C

ISSUE SHEET TITLE

General

No.

1

DATE OF ISSUE

[illegible][illegible][illegible]

ABBREVIATIONS: *(For Distribution List Only)*

A = Approval
P = Preliminary
I = Information Only
B = Building Regulations Issue
C = Construction Issue

T = Tender Issue
E = E-mail Issue
F = Fax Issue
CD = CD Issue

NOTES:

ISSUED FOR TENDER

DATE:

2020/09/03

RECEIVED BY:

DATE:



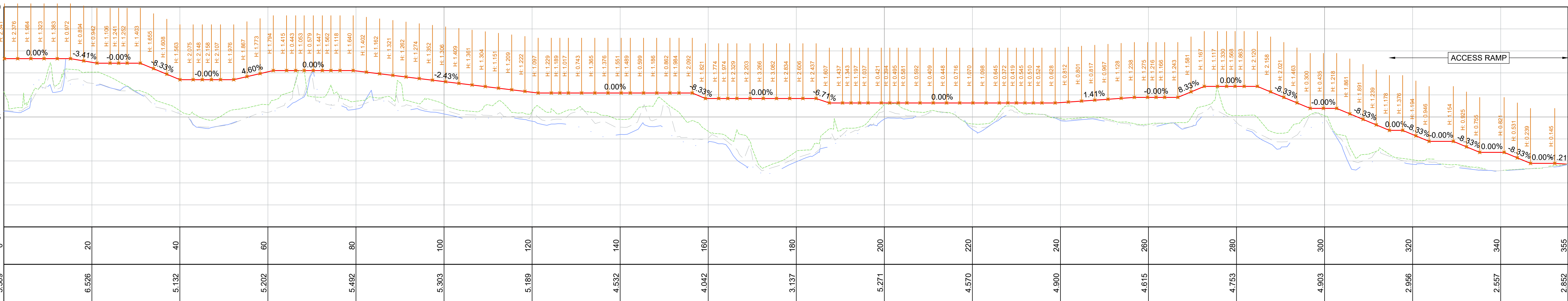
LONGITUDINAL SECTION :

SCALES:
Horizontal 1:500
Vertical 1:100

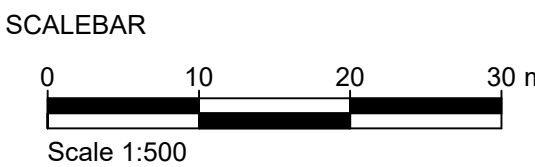
DATUM 0.000

DISTANCE (m)

GROUND LEVELS ON CL



The reference made to Engineer will also refer to Employer's Agent for GCC 2015 Contracts



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T	FOR TENDER ONLY	'19-09-07	AP	RS
REV	DESCRIPTION	DATE	REV BY	CHKD
REVISIONS				

DESIGNED	AP	'19-05
DRAWN	AP	'19-05
CHECKED	RS	'19-05

CONSULTING ENGINEERS

LYNERS

PO Box 4901
TYGERVALLEY
7530

Tel: 021 914 0300/Fax: 021 914 0437
email: belville@lyniers.co.za

APPROVED

ENGINEERS: *Bheoaninkhel*

DATE: 2020-09-02

APPROVED

CLIENT:

DATE:

CLIENT

Western Cape Government
Transport and Public Works

PROJECT

STONE POINT NATURE RESERVE
TOURIST ACCOMMODATION

TITLE

PROPOSED BOARDWALK
LAYOUT AND LONGITUDINAL SECTION

SCALE on A1
1:500

SHEET
1 OF 1

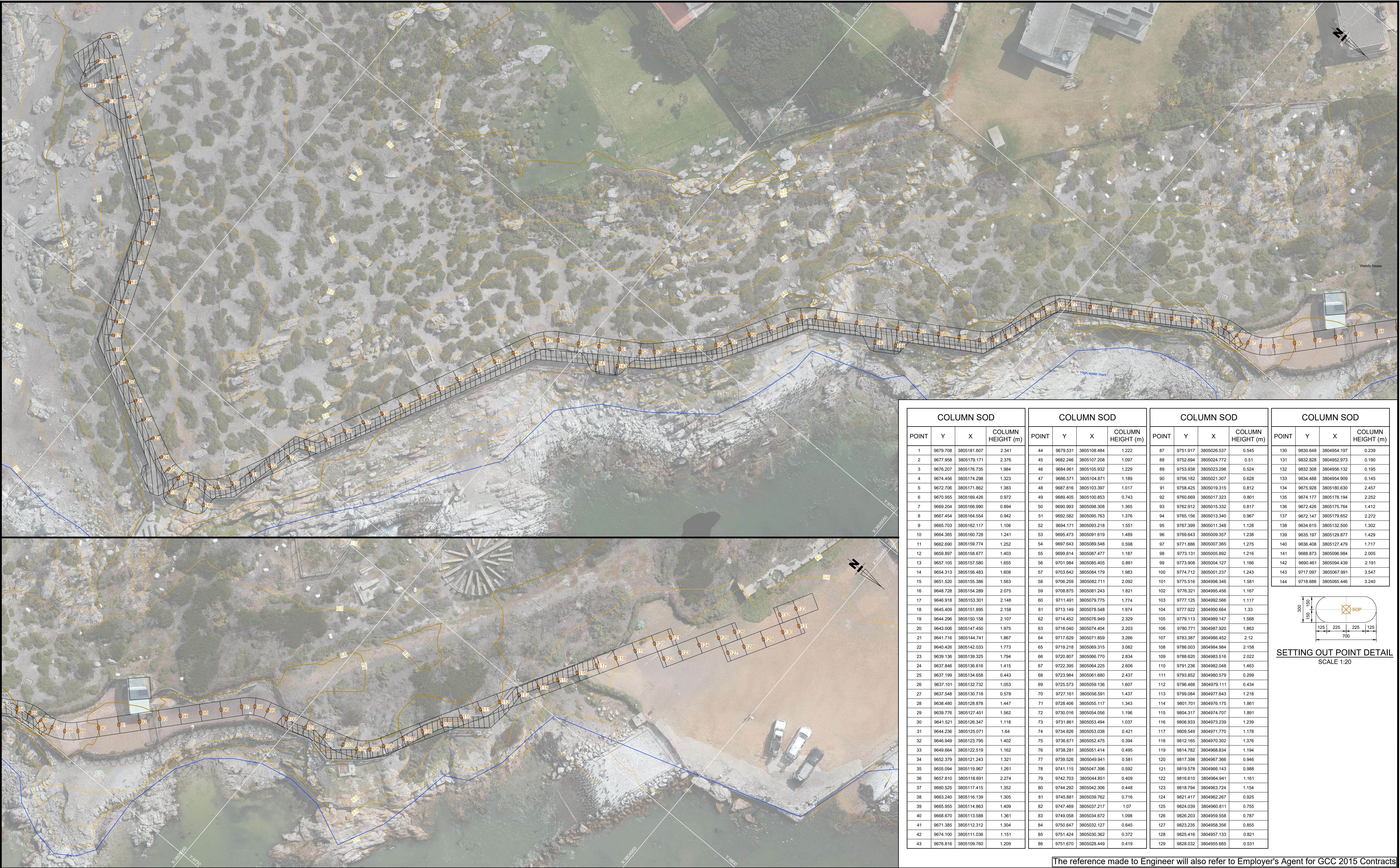
CONTRACT No.

PROJECT No.
C18131

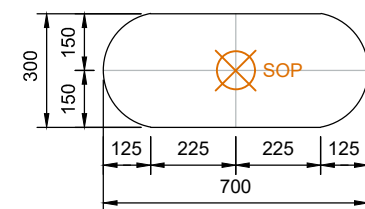
DRAWING No.
18131-C-010

REV
T

COORDINATE SYSTEM: WGS84 / Lo19



COLUMN SOD				COLUMN SOD				COLUMN SOD				COLUMN SOD			
POINT	Y	X	COLUMN HEIGHT (m)	POINT	Y	X	COLUMN HEIGHT (m)	POINT	Y	X	COLUMN HEIGHT (m)	POINT	Y	X	COLUMN HEIGHT (m)
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2	9677.958	3805179.171	2.376	45	9682.246	3805107.208	1.097	88	9752.694	3805024.772	0.51	131	9832.828	3804952.973	0.190
3	9676.207	3805176.735	1.984	46	9684.961	3805105.932	1.229	89	9753.938	3805023.298	0.524	132	9832.308	3804956.132	0.195
4	9674.456	3805174.298	1.323	47	9686.571	3805104.871	1.189	90	9756.182	3805021.307	0.628	133	9834.488	3804954.909	0.145
5	9672.706	3805171.862	1.383	48	9687.816	3805103.397	1.017	91	9758.425	3805019.315	0.812	134	9875.928	3805180.630	2.457
6	9670.955	3805169.426	0.972	49	9689.405	3805100.853	0.743	92	9760.669	3805017.323	0.801	135	9674.177	3805178.194	2.252
7	9669.204	3805166.990	0.894	50	9690.993	3805098.308	1.365	93	9762.912	3805015.332	0.817	136	9672.426	3805175.764	1.412
8	9667.454	3805164.554	0.942	51	9692.582	3805095.763	1.376	94	9765.156	3805013.340	0.967	137	9672.147	3805179.652	2.272
9	9665.703	3805162.117	1.106	52	9694.171	3805093.218	1.551	95	9767.399	3805011.348	1.128	138	9634.615	3805132.500	1.302
10	9664.365	3805160.728	1.241	53	9695.473	3805091.619	1.489	96	9769.643	3805009.357	1.238	139	9635.197	3805129.877	1.429
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12	9659.897	3805156.677	1.403	55	9699.814	3805087.477	1.187	98	9773.131	3805005.892	1.216	141	9688.873	3805096.984	2.005
13	9657.105	3805157.580	1.655	56	9701.984	3805085.405	0.861	99	9774.308	3805004.127	1.166	142	9690.461	3805094.439	2.191
14	9654.313	3805156.483	1.608	57	9703.842	3805084.179	1.983	100	9774.712	3805001.237	1.243	143	9717.097	3805067.991	3.547
15	9651.520	3805155.386	1.563	58	9706.259	3805082.711	2.092	101	9775.516	3804998.346	1.581	144	9718.686	3805065.446	3.240
16	9648.728	3805154.289	2.075	59	9708.875	3805081.243	1.821	102	9776.321	3804995.456	1.167				
17	9646.918	3805153.301	2.148	60	9711.491	3805079.775	1.774	103	9777.125	3804992.566	1.117				
18	9645.409	3805151.895	2.158	61	9713.149	3805078.548	1.974	104	9777.922	3804990.664	1.33				
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20	9643.006	3805147.450	1.975	63	9716.040	3805074.404	2.203	106	9780.771	3804987.920	1.863				
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22	9640.426	3805142.033	1.773	65	9719.218	3805069.315	3.082	108	9786.003	3804984.984	2.158				
23	9639.136	3805139.325	1.794	66	9720.807	3805066.770	2.834	109	9788.620	3804983.516	2.022				
24	9637.846	3805136.616	1.415	67	9722.395	3805064.225	2.806	110	9791.236	3804982.048	1.463				
25	9637.199	3805134.658	0.443	68	9723.984	3805061.680	2.437	111	9793.852	3804980.579	0.299				
26	9637.101	3805132.732	1.053	69	9725.573	3805059.136	1.607	112	9796.468	3804979.111	0.434				
27	9637.548	3805130.718	0.578	70	9727.161	3805056.591	1.437	113	9799.084	3804977.643	1.218				
28	9638.480	3805128.878	1.447	71	9728.408	3805055.117	1.343	114	9801.701	3804976.175	1.861				
29	9639.776	3805127.451	1.562	72	9730.016	3805054.056	1.196	115	9804.317	3804974.707	1.891				
30	9641.521	3805126.347	1.118	73	9731.861	3805053.494	1.037	116	9806.933	3804973.239	1.239				
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32	9646.949	3805123.795	1.402	75	9736.671	3805052.475	0.394	118	9812.165	3804970.302	1.376				
33	9649.664	3805122.519	1.162	76	9738.281	3805051.414	0.495	119	9814.782	3804968.834	1.194				
34	9652.379	3805121.243	1.321	77	9739.526	3805049.941	0.581	120	9817.398	3804967.366	0.946				
35	9655.094	3805119.967	1.261	78	9741.115	3805047.396	0.592	121	9819.578	3804966.143	0.988				
36	9657.810	3805118.691	2.274	79	9742.703	3805044.851	0.409	122	9816.610	3804964.941	1.161				
37	9660.525	3805117.415	1.352	80	9744.292	3805042.306	0.448	123	9818.794	3804963.724	1.154				
38	9663.240	3805116.139	1.305	81	9745.881	3805039.782	0.716	124	9821.417	3804962.287	0.925				
39	9665.955	3805114.863	1.409	82	9747.469	3805037.217	1.07	125	9824.039	3804960.811	0.755				
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41	9671.385	3805112.312	1.304	84	9750.647	3805032.127	0.645	127	9823.235	3804958.356	0.855				
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SETTING OUT POINT DETAIL
SCALE 1:20

The reference made to Engineer will also refer to Employer's Agent for GCC 2015 Contracts

SCALEBAR

0 5 10 15 m

Scale 1:250

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T	FOR TENDER ONLY	'20-09-07	AP	RS
REV	DESCRIPTION	DATE	REV BY	CHKD
REVISIONS				

DESIGNED AP '20-01

DRAWN AP '20-01

CHECKED RS '20-01

CONSULTING ENGINEERS

LYNERS

PO Box 4901
TYGERVALLEY
7530

Tel: 021 914 0300/Fax: 021 914 0437
email: bellville@lyniers.co.za

APPROVED

ENGINEERS: *Behoaninkhel*

DATE: 2020-09-02

APPROVED

CLIENT:

DATE:

CLIENT

Western Cape Government

Transport and Public Works

PROJECT

STONEY POINT NATURE RESERVE
TOURIST ACCOMMODATION

TITLE

PROPOSED BOARDWALK COLUMNS
SETTING OUT DATA

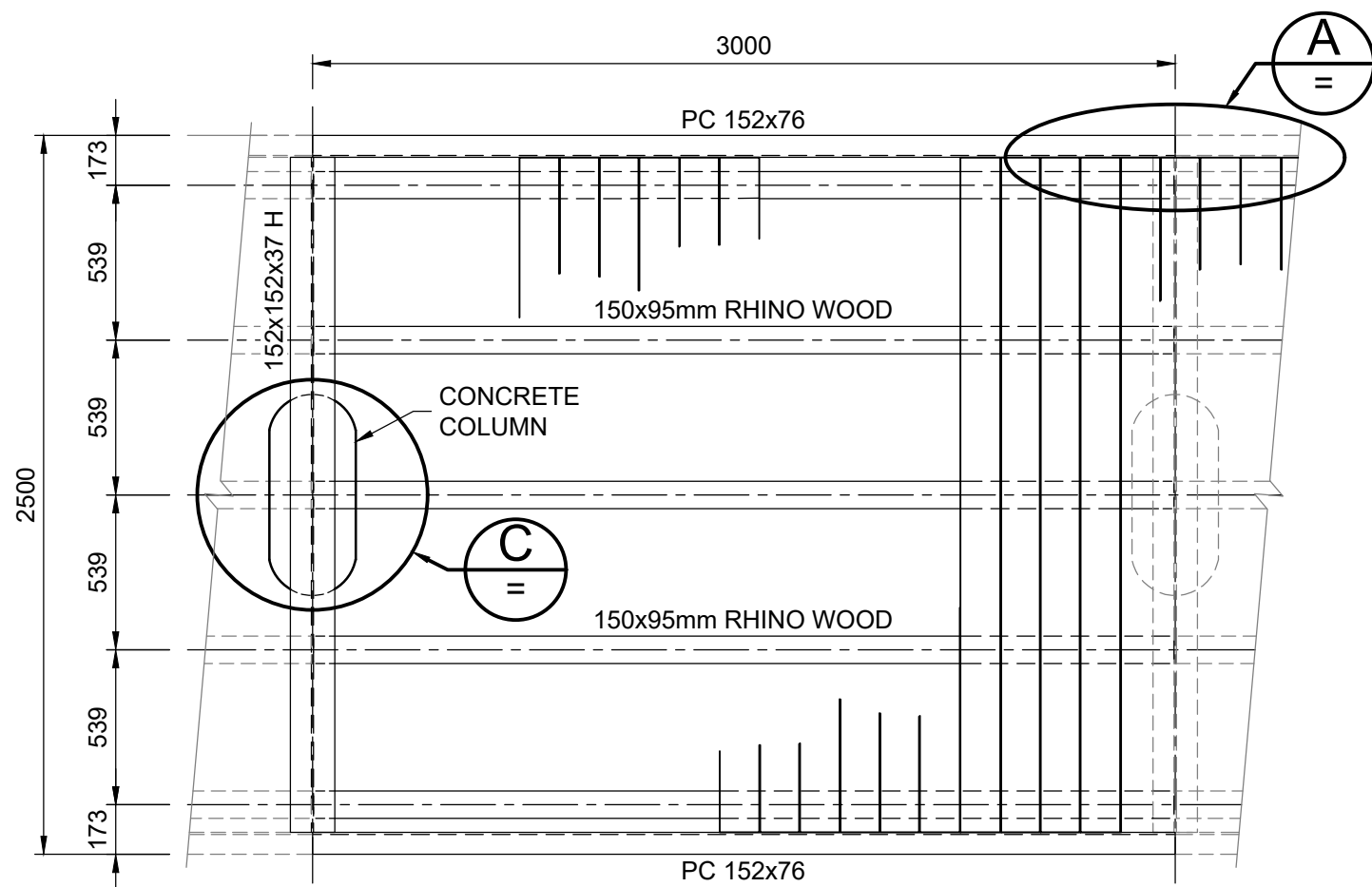
SCALE on A1 SHEET
1:250 1 OF 1

CONTRACT No. PROJECT No.
C18131

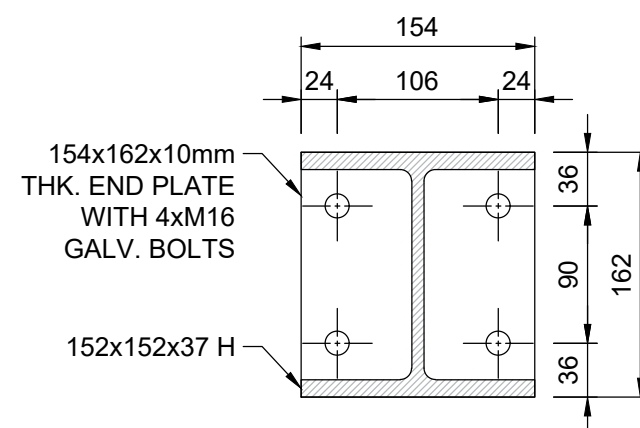
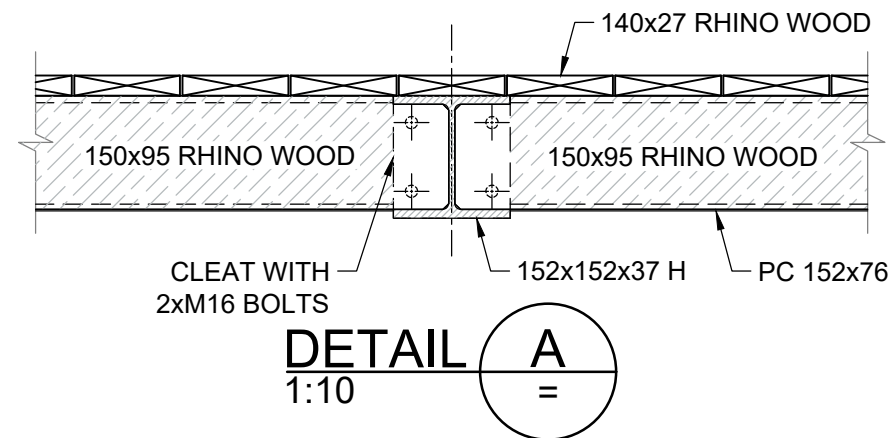
DRAWING No. REV
18131-C-011 T

COORDINATE SYSTEM: WGS84 / L_o19

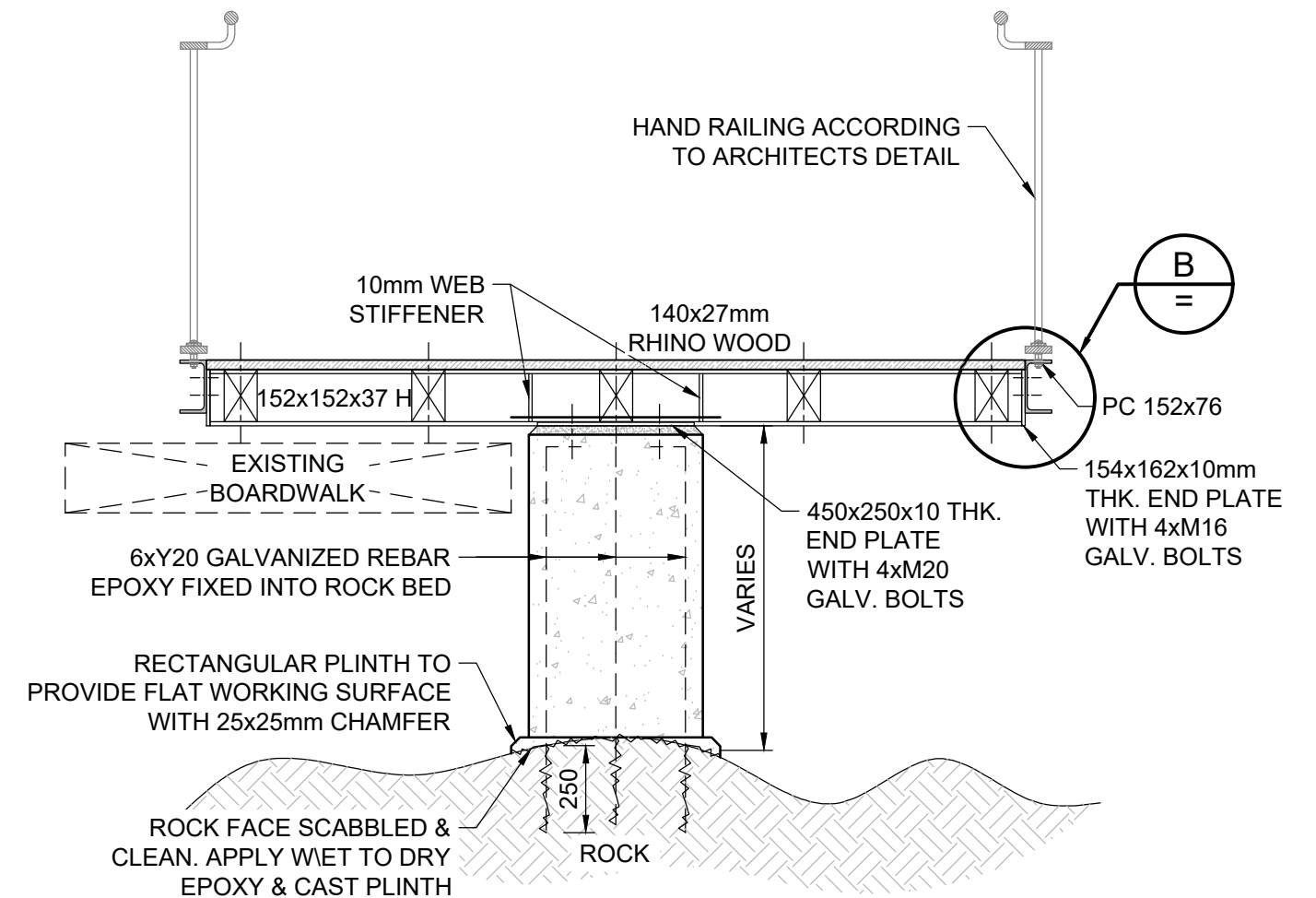
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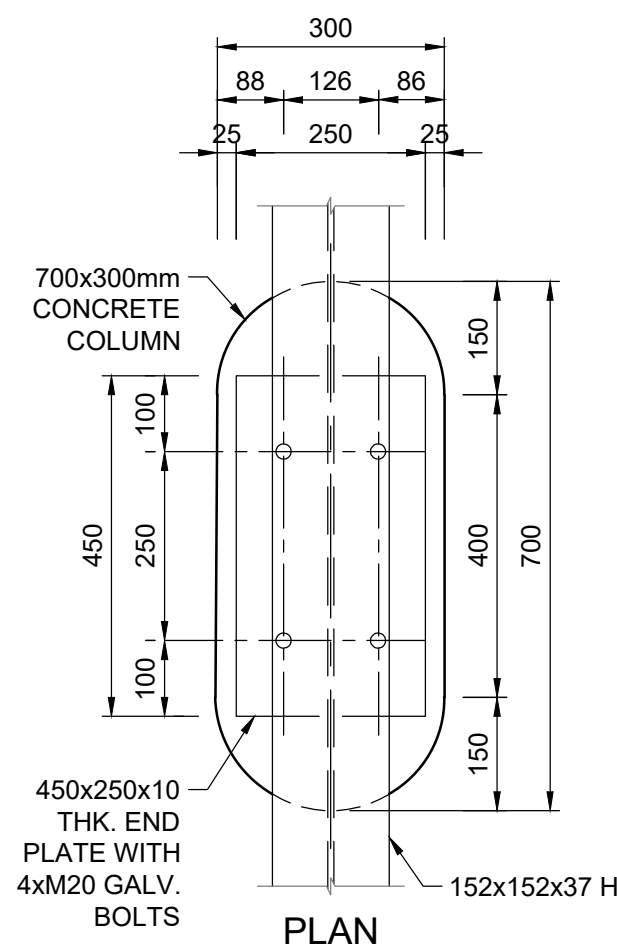
PLAN : 3m STRAIGHT SEGMENT
(No. OF SEGMENTS = 80)
SCALE 1:25



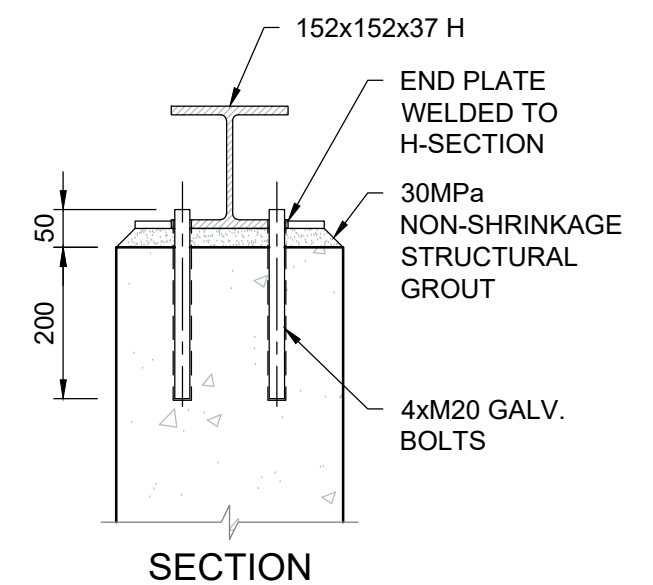
DETAIL END PLATE
SCALE 1:5



TYPICAL SECTION
THROUGH BOARDWALK
SCALE 1:20



DETAIL B
1:10



SECTION

DECKING: RHINO WOOD OR EQUAL AND APPROVED

NOTE: CORROSION PROTECTION SPEC.

- * SECTIONS TO BE HOT-DIP GALVANISED TO A MINIMUM 100 MICRON.
- * EPOXY PRIMER PAINTED ON TO A MINIMUM OF 40 MICRON.
- * HIGH BUILD EPOXY PRIMER PAINTED ON TO A MINIMUM 60 MICRON.
- * POLYURETHANE PAINT PAINTED ON TO A MINIMUM OF 60 MICRON.
- * ALL CORROSION PROTECTION TO BE COMPLETED BY CERTIFIED, COMPETENT PERSON.
- * CONFIRMATION OF ALL APPLICATIONS TO BE SENT TO ENGINEER FOR REVIEW PRIOR TO APPROVAL.
- * ALL PRODUCTS TO BE APPLIED IN STRICT ACCORDANCE WITH SUPPLIER'S SPECIFICATIONS.

SCALEBAR

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Engineer will relate to "Supervisor" and/or "Project Manager" in NEC terminology possibly also acting as Client's (NEC4) agent for the contract.

T	FOR TENDER ONLY	'20-09-07	SM	LB	
REV	DESCRIPTION	DATE	REV BY	CHKD	
REVISIONS					

DESIGNED	LB	
DRAWN	SM	
CHECKED	LB	

CONSULTING ENGINEERS

LYNERS

PO Box 4901
TYGERVALLEY
7530

Tel: 021 914 0300/Fax: 021 914 0437
email: belville@lyniers.co.za

APPROVED

ENGINEERS: _____

DATE: _____ 2020-09-07

CLIENT

Western Cape Government
Transport and Public Works

APPROVED

CLIENT: _____

DATE: _____

PROJECT

**STONY POINT NATURE RESERVE -
TOURIST ACCOMMODATION**

TITLE

3m STRAIGHT SEGMENT & DETAILS

SCALE on A2 SHEET

AS SHOWN 1 OF 1

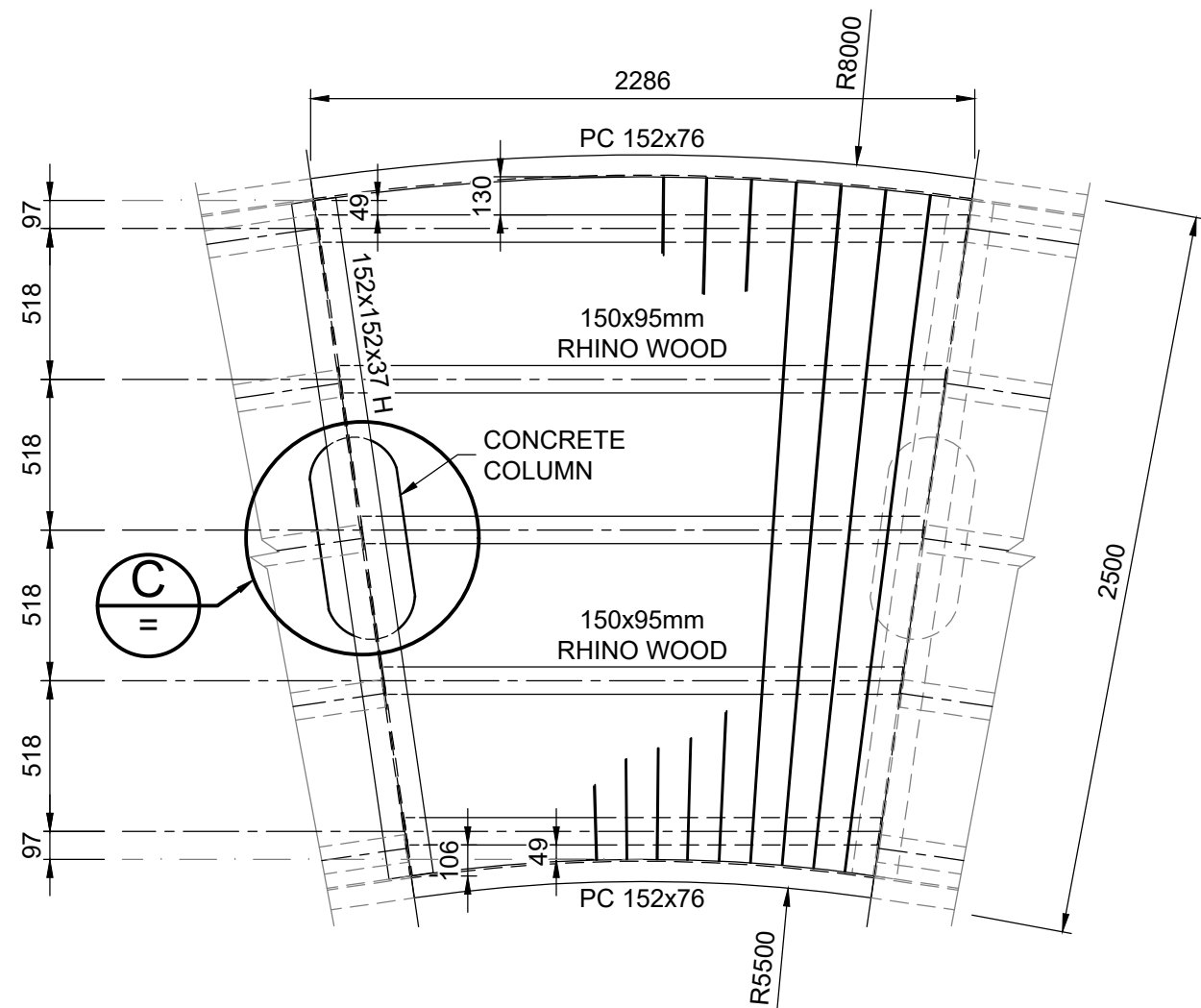
CONTRACT No. PROJECT No.

CE 18131

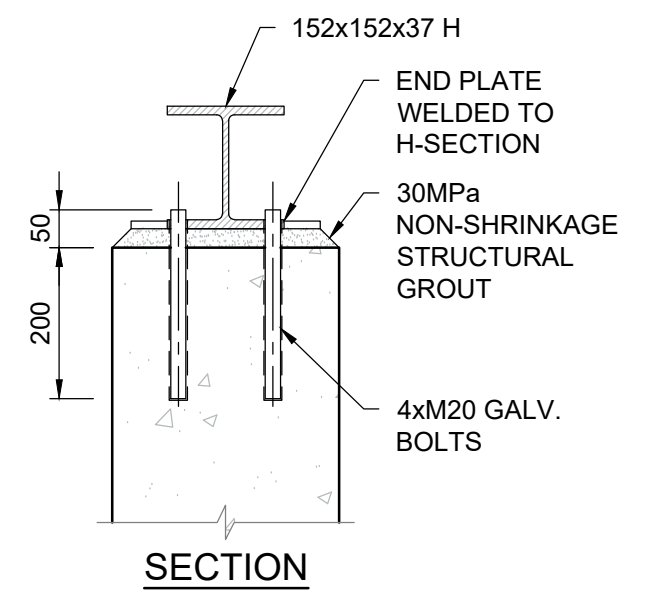
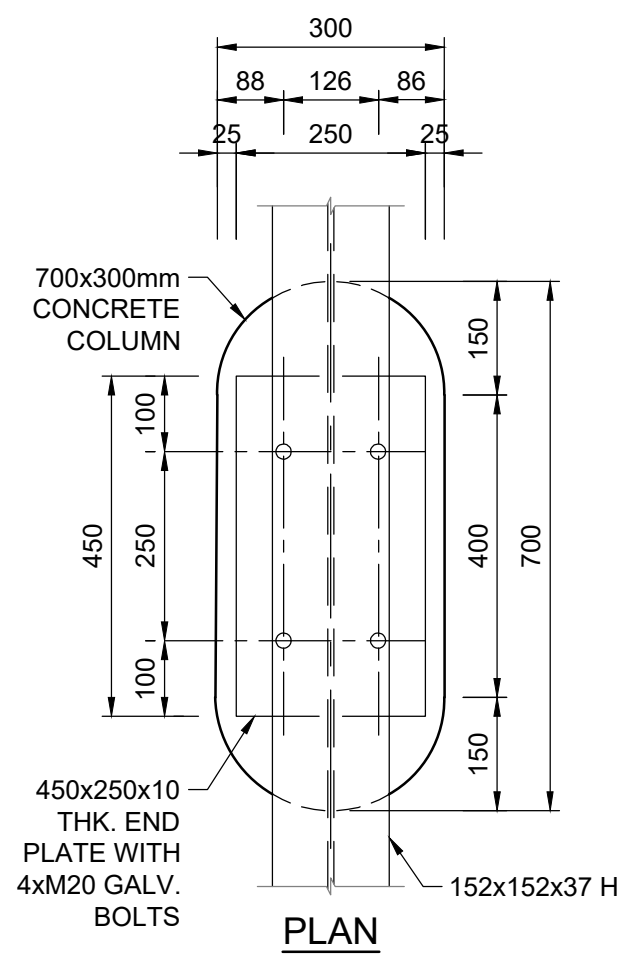
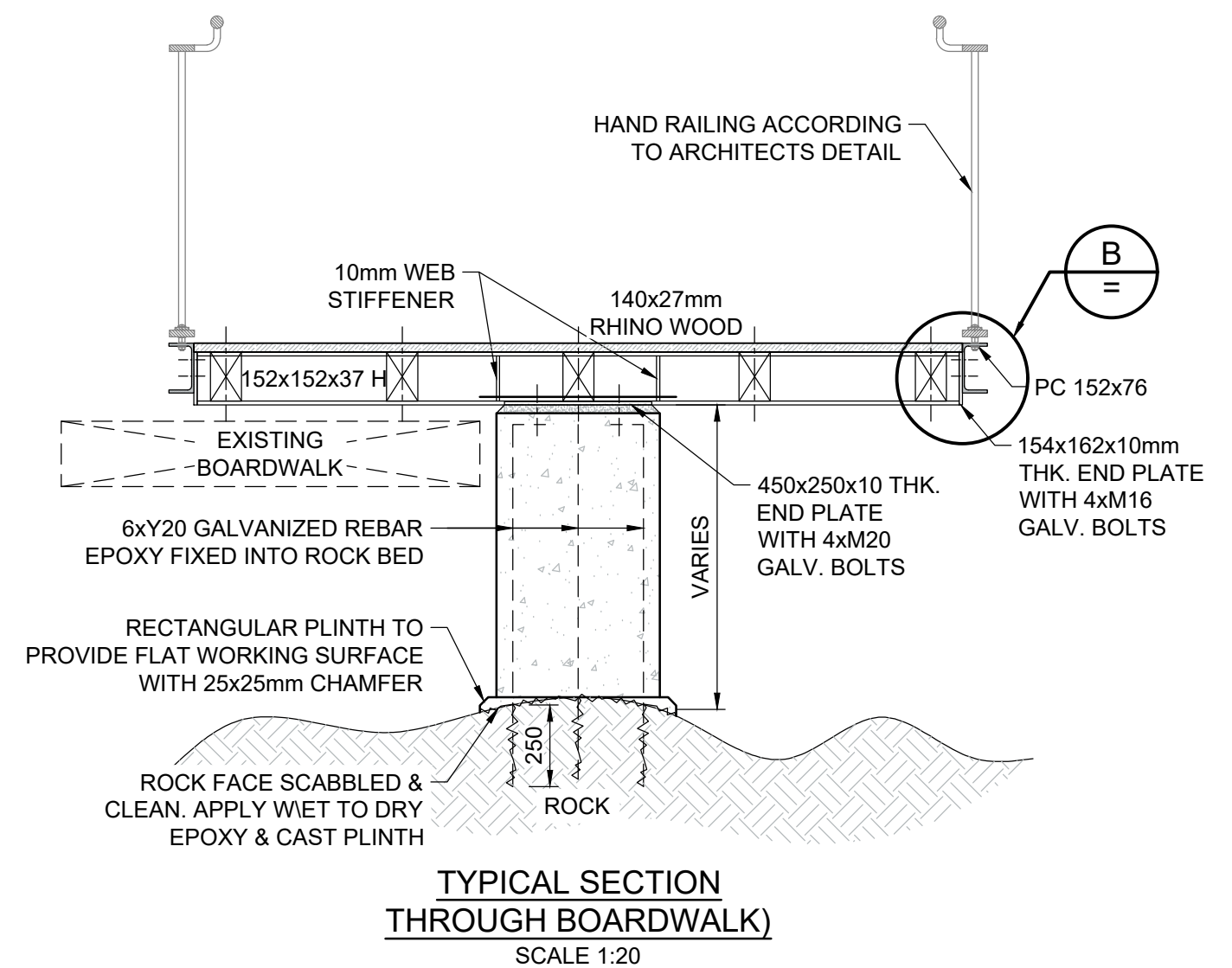
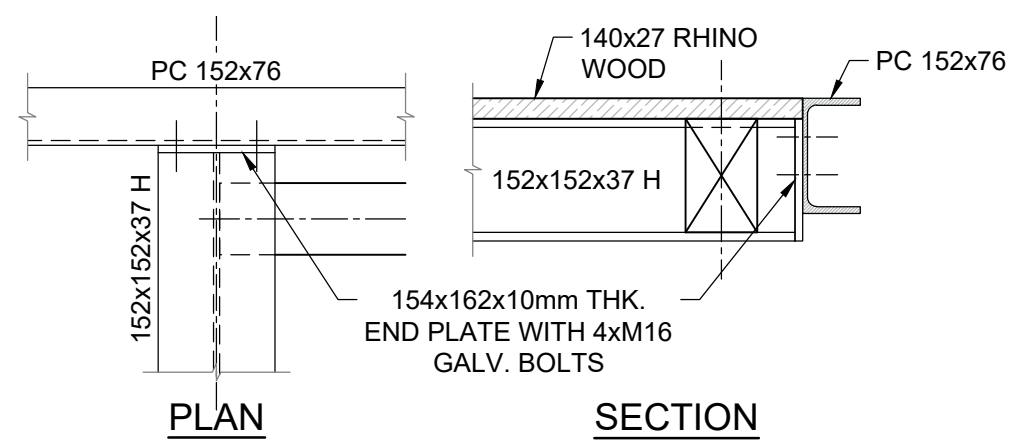
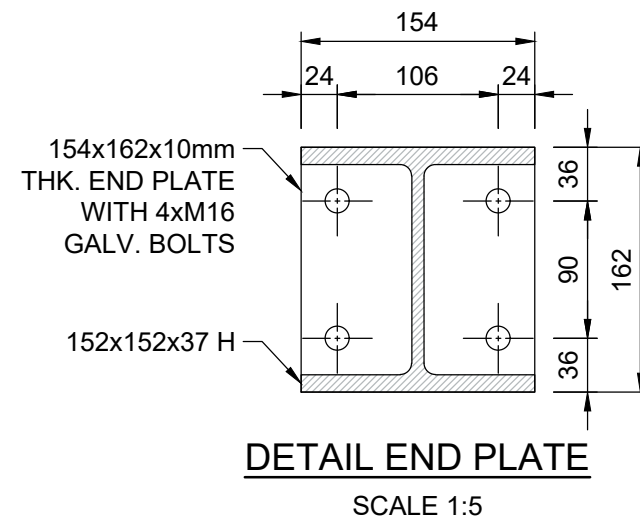
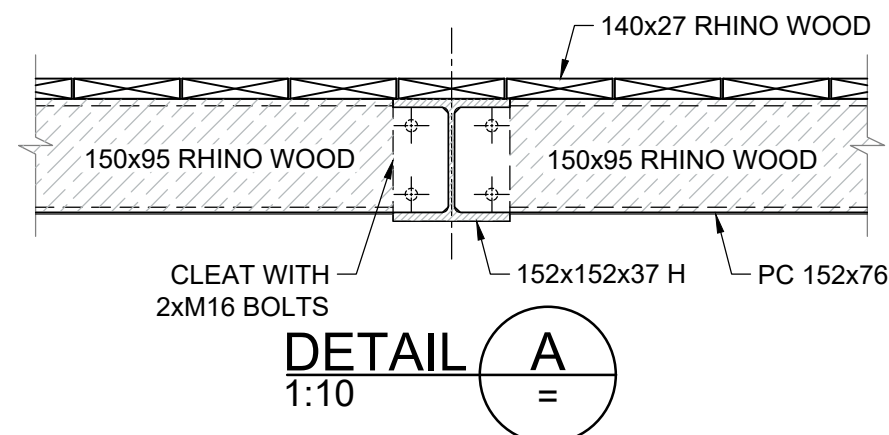
DRAWING No. REV

18131-S-002 T

COORDINATE SYSTEM:



PLAN : 5.5m INNER RADIUS SEGMENT
(No. OF SEGMENTS = 18)
SCALE 1:25



SCALEBAR

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DECKING: RHINO WOOD OR EQUAL AND APPROVED

NOTE: CORROSION PROTECTION SPEC.

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- * EPOXY PRIMER PAINTED ON TO A MINIMUM OF 40 MICRON.
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- * ALL PRODUCTS TO BE APPLIED IN STRICT ACCORDANCE WITH SUPPLIER'S SPECIFICATIONS.

Engineer will relate to "Supervisor" and/or "Project Manager" in NEC terminology possibly also acting as Client's (NEC4) agent for the contract.

T	FOR TENDER ONLY	'20-09-07	SM	LB
REV	DESCRIPTION	DATE	REV BY	CHKD
REVISIONS				

DESIGNED	LB
DRAWN	SM
CHECKED	LB

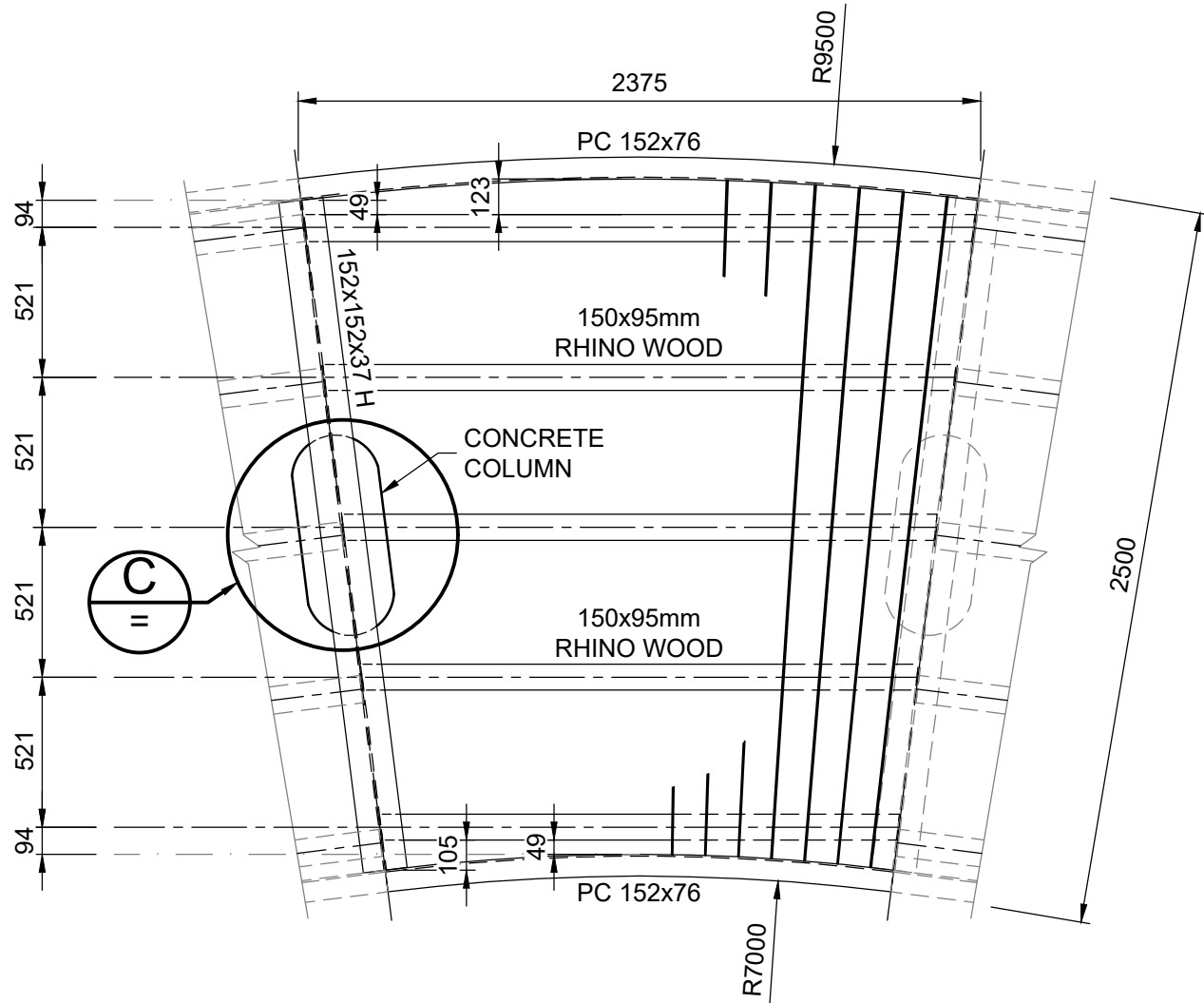
CONSULTING ENGINEERS	
LYNERS	
PO Box 4901 TYGERVALLEY 7530	
Tel: 021 914 0300/Fax: 021 914 0437 email: belville@lyniers.co.za	
APPROVED	
ENGINEERS:	
DATE:	2020-09-07

CLIENT	
 Western Cape Government Transport and Public Works	
APPROVED	
CLIENT:	
DATE:	

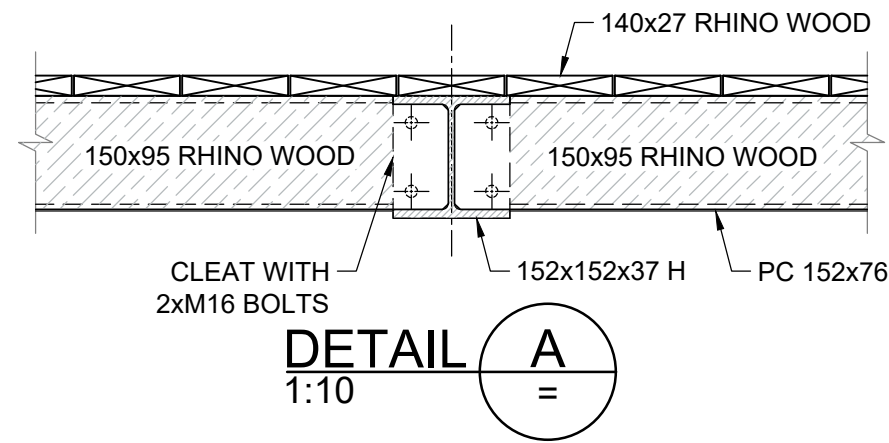
PROJECT	
STONY POINT NATURE RESERVE - TOURIST ACCOMMODATION	
TITLE	
5.5m INNER RADIUS SEGMENT & DETAILS	

SCALE	on A2	SHEET
AS SHOWN		1 OF 1
CONTRACT No.	PROJECT No.	
CE	18131	

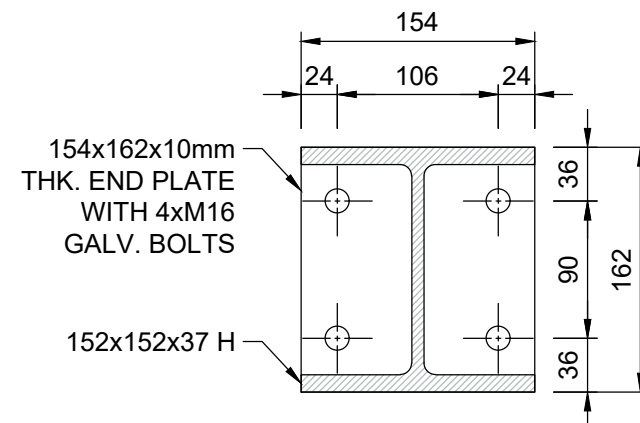
DRAWING No.	REV
18131-S-003	T
COORDINATE SYSTEM:	



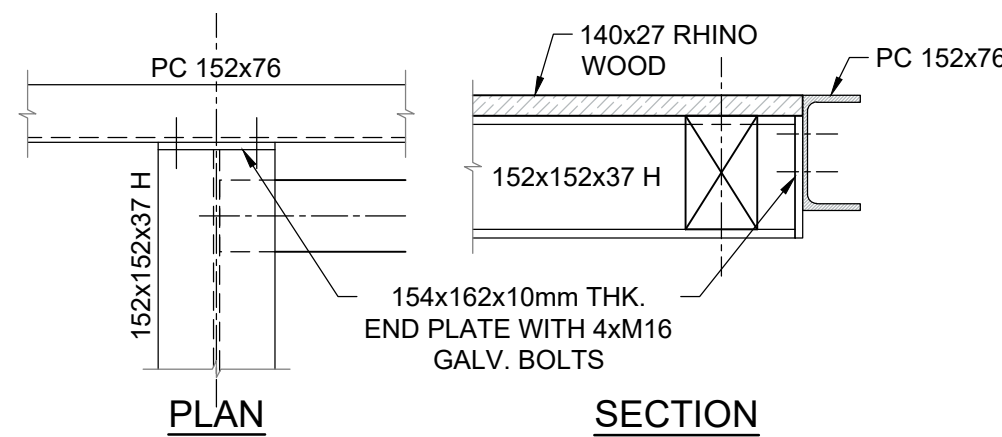
PLAN : 7m INNER RADIUS SEGMENT
(No. OF SEGMENTS = 11)
SCALE 1:25



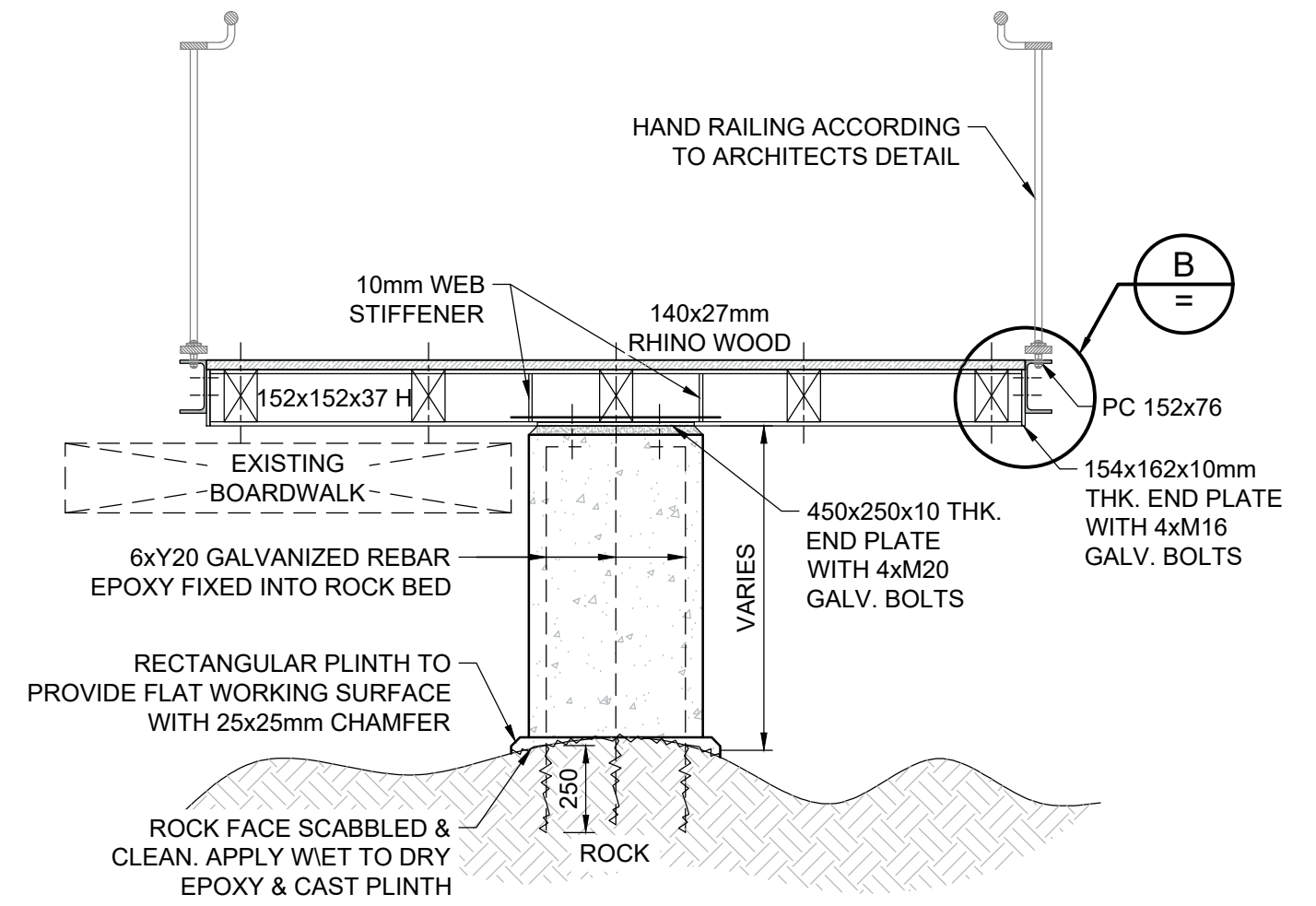
DETAIL A
1:10



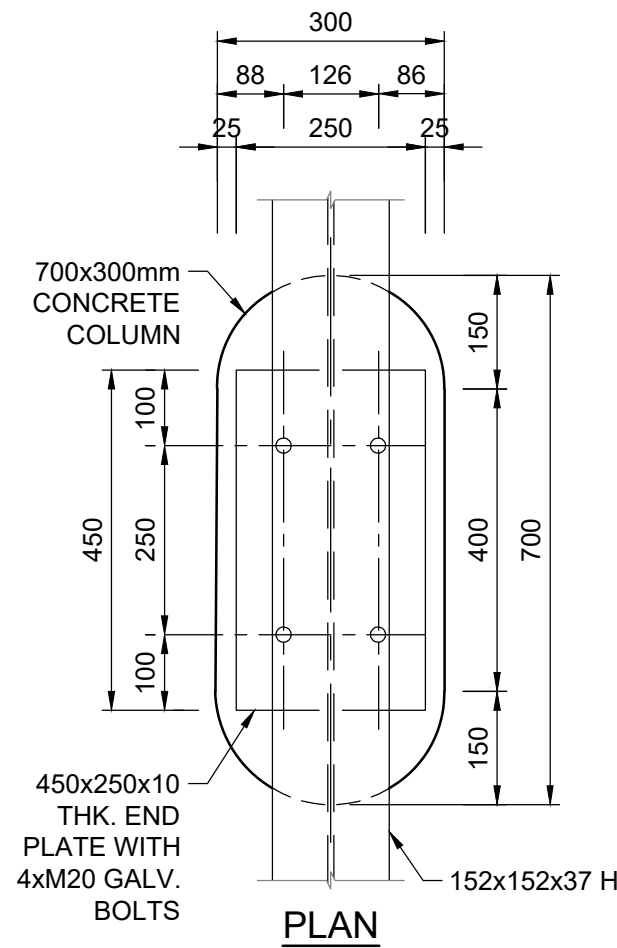
DETAIL END PLATE
SCALE 1:5



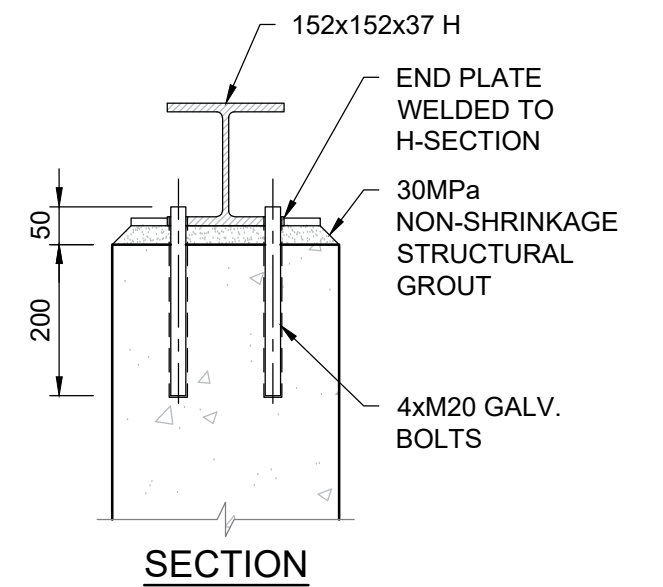
DETAIL B
1:10



TYPICAL SECTION
THROUGH BOARDWALK
SCALE 1:20



PLAN



SECTION

DETAIL C
1:10

SCALEBAR

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DECKING: RHINO WOOD OR EQUEAL AND APPROVED

NOTE: CORROSION PROTECTION SPEC.

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T	FOR TENDER ONLY	'20-09-07	SM	LB
REV	DESCRIPTION	DATE	REV BY	CHKD
REVISIONS				

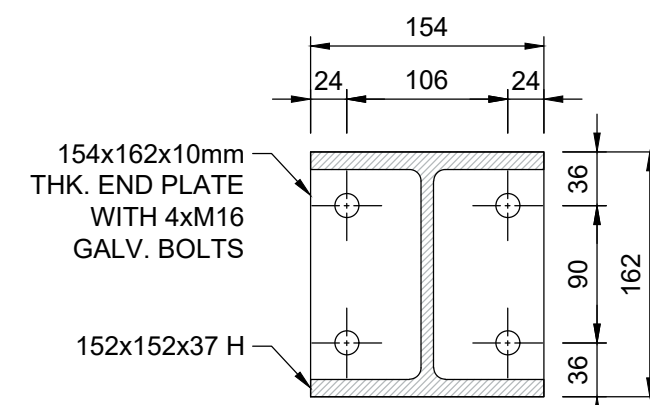
DESIGNED	LB
DRAWN	SM
CHECKED	LB

CONSULTING ENGINEERS	
LYNERS	
PO Box 4901 TYGERVALLEY 7530	
Tel: 021 914 0300/Fax: 021 914 0437 email: belville@lyners.co.za	
APPROVED	
ENGINEERS:	
DATE:	2020-09-07

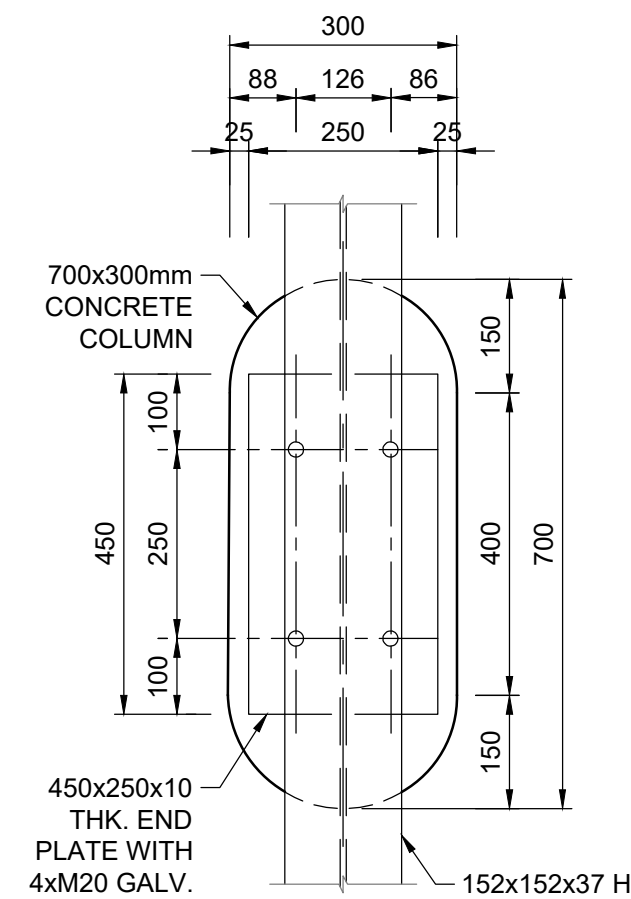
CLIENT	
 Western Cape Government Transport and Public Works	
APPROVED	
CLIENT:	
DATE:	

PROJECT	
STONY POINT NATURE RESERVE - TOURIST ACCOMMODATION	
TITLE	
7m INNER RADIUS SEGMENT & DETAILS	

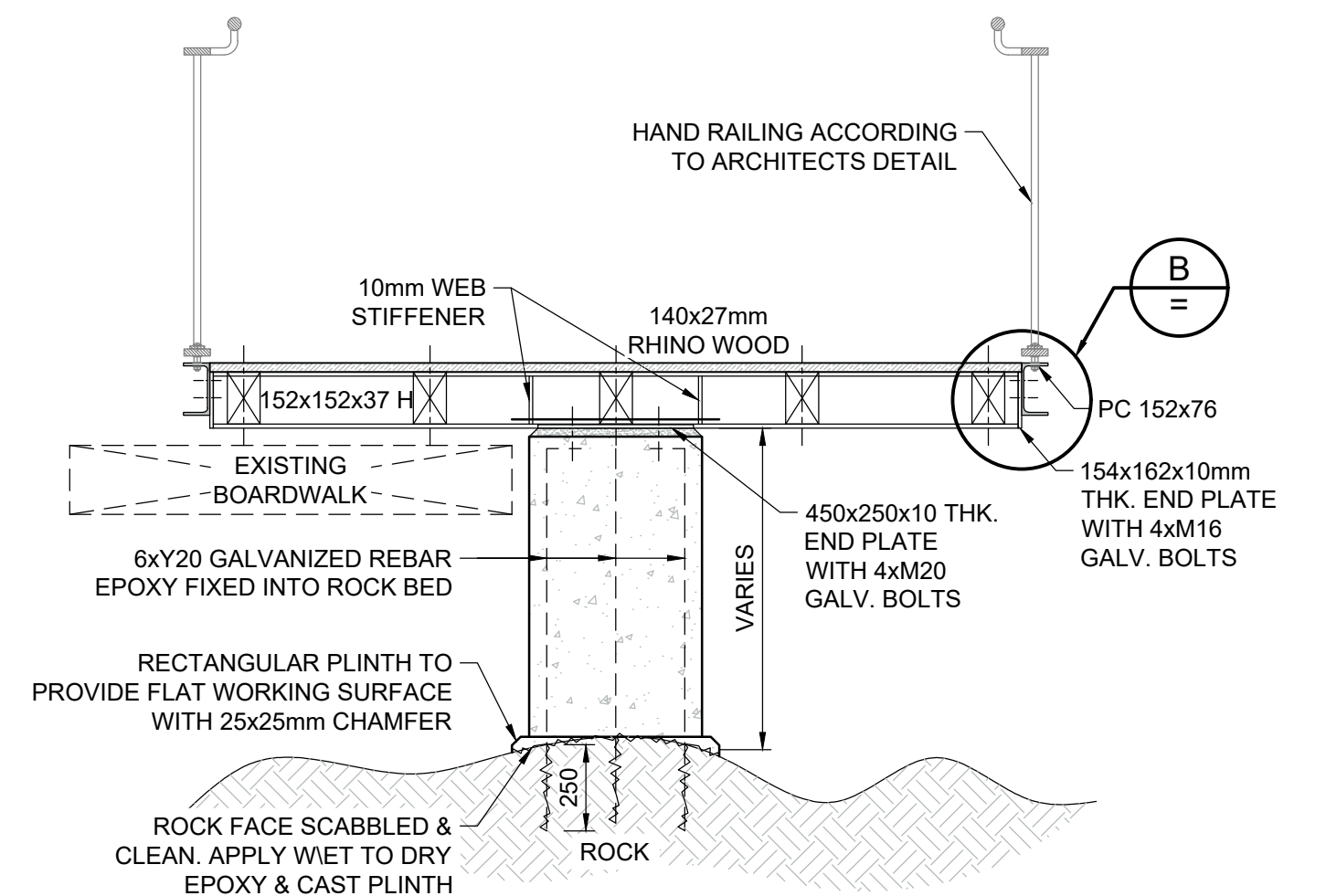
SCALE	on A2	SHEET
AS SHOWN		1 OF 1
CONTRACT No.	CE	PROJECT No.
		18131
DRAWING No.	18131-S-004	REV
		T
COORDINATE SYSTEM:		



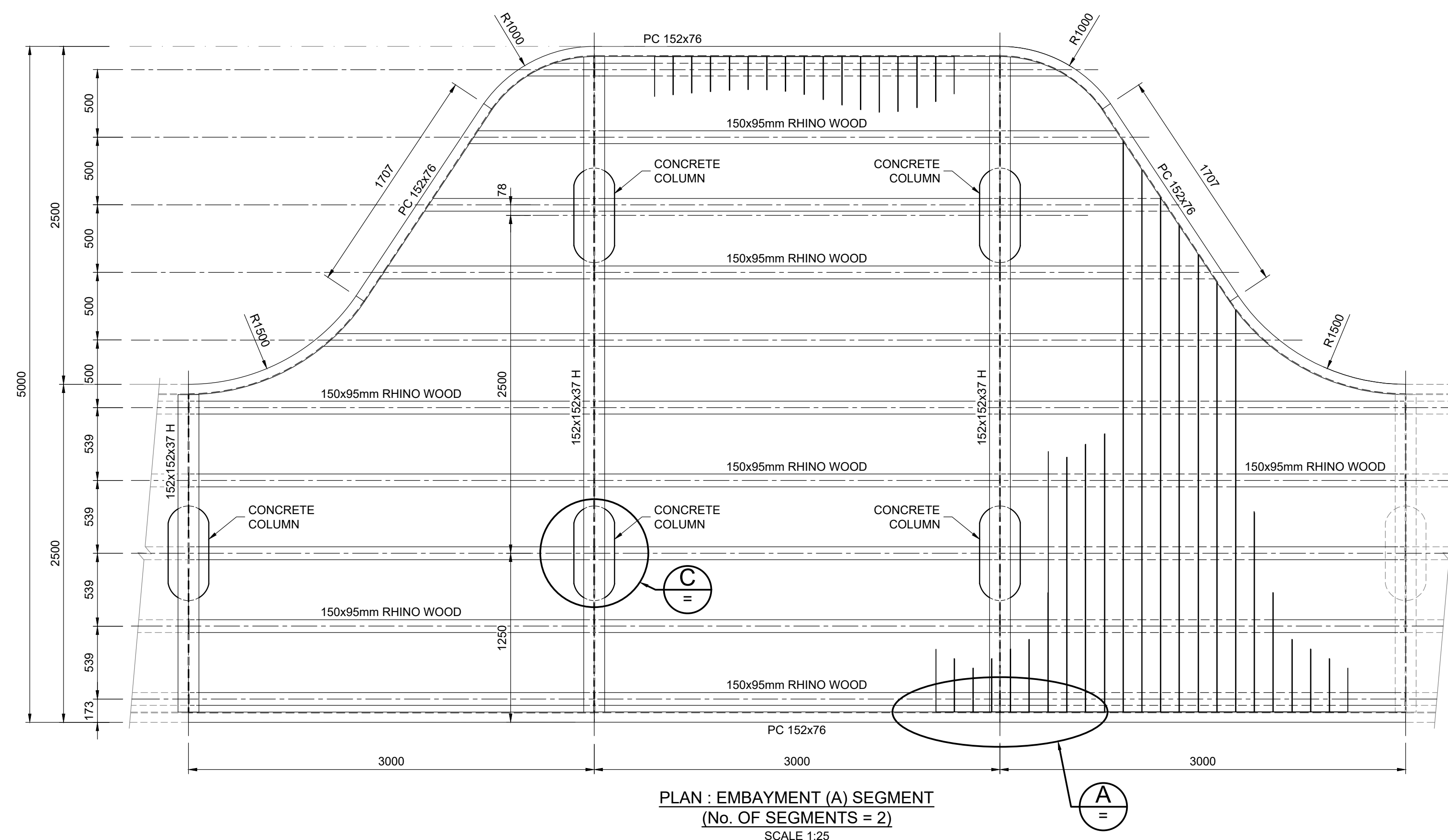
DETAIL END PLATE
SCALE 1:5



PLAN



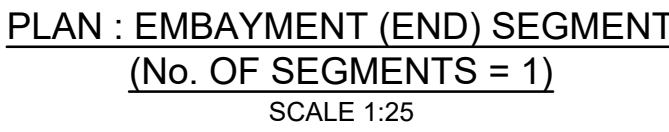
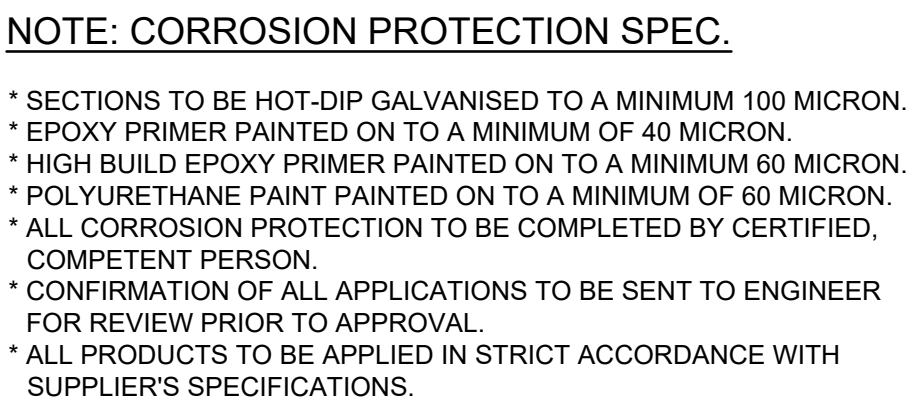
TYPICAL SECTION
THROUGH BOARDWALK)
SCALE 1:20



- * SECTIONS TO BE HOT-DIP GALVANISED TO A MINIMUM 100 MICRON.
- * EPOXY PRIMER PAINTED ON TO A MINIMUM OF 40 MICRON.
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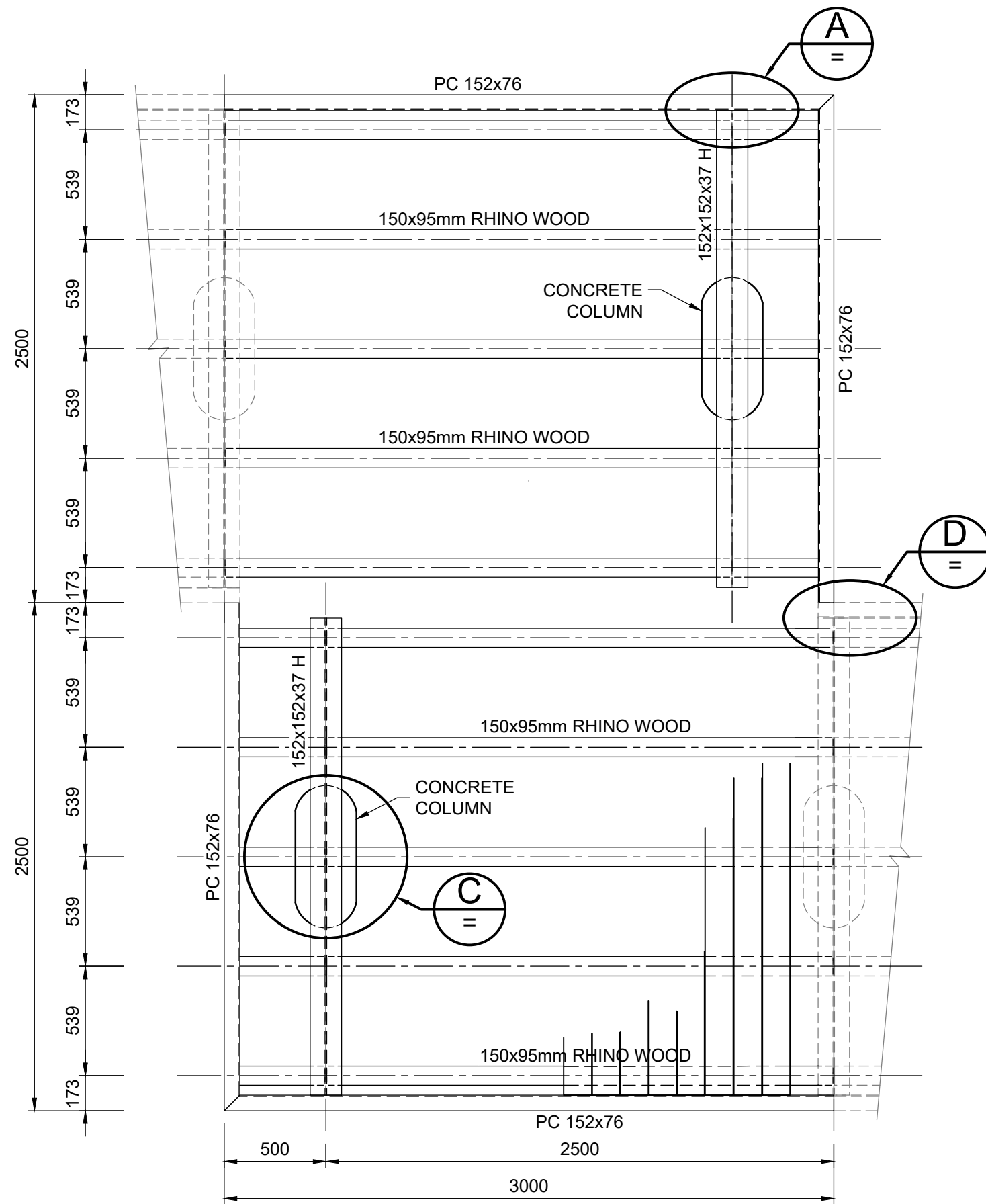
Engineer will relate to "Supervisor" and/or "Project Manager" in NEC terminology possibly also acting as Client's (NEC4) agent for the contract.

[illegible]



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[illegible]

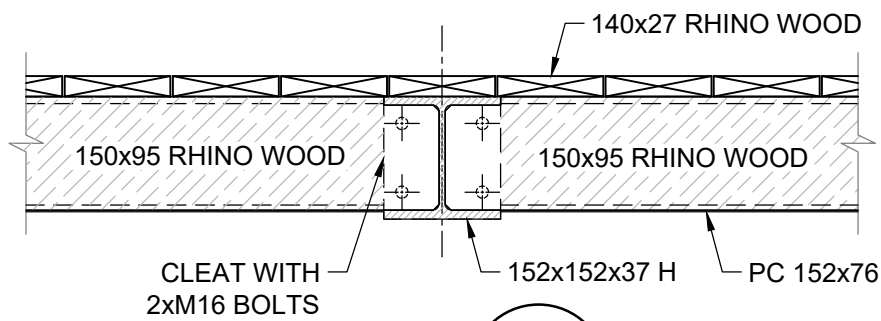


PLAN : LANDING SEGMENT
(No. OF SEGMENTS = 3)
SCALE 1:25

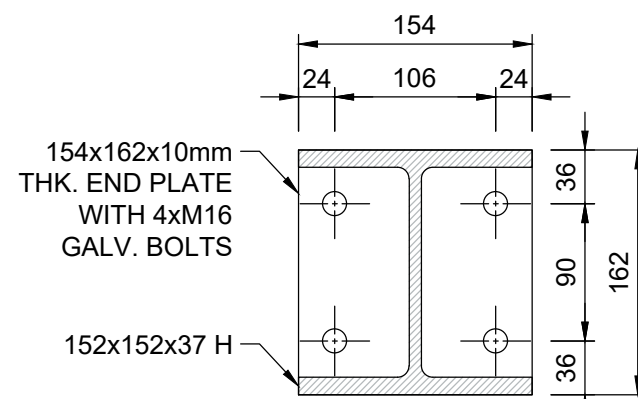
DECKING: RHINO WOOD OR EQUALAND APPROVED

NOTE: CORROSION PROTECTION SPEC.

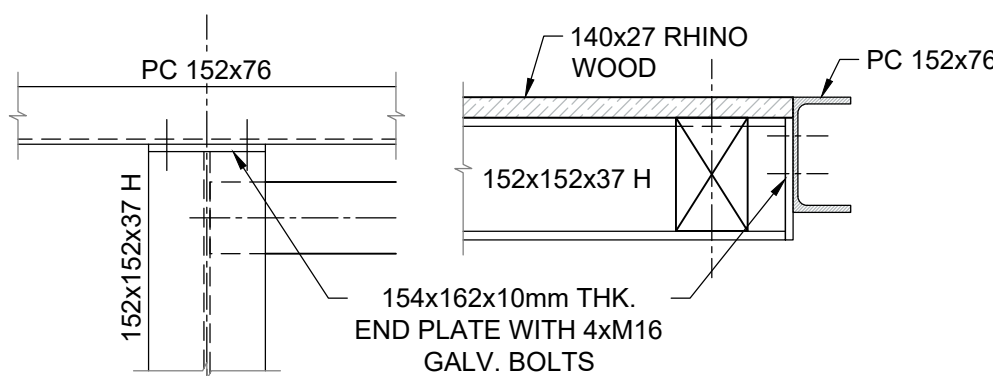
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DETAIL A
1:10



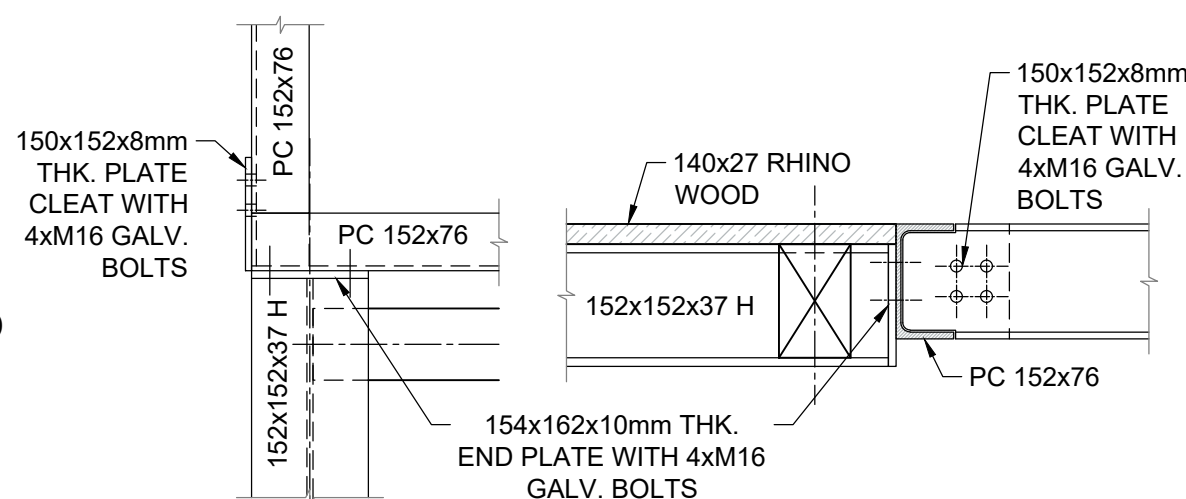
DETAIL END PLATE
SCALE 1:5



PLAN

SECTION

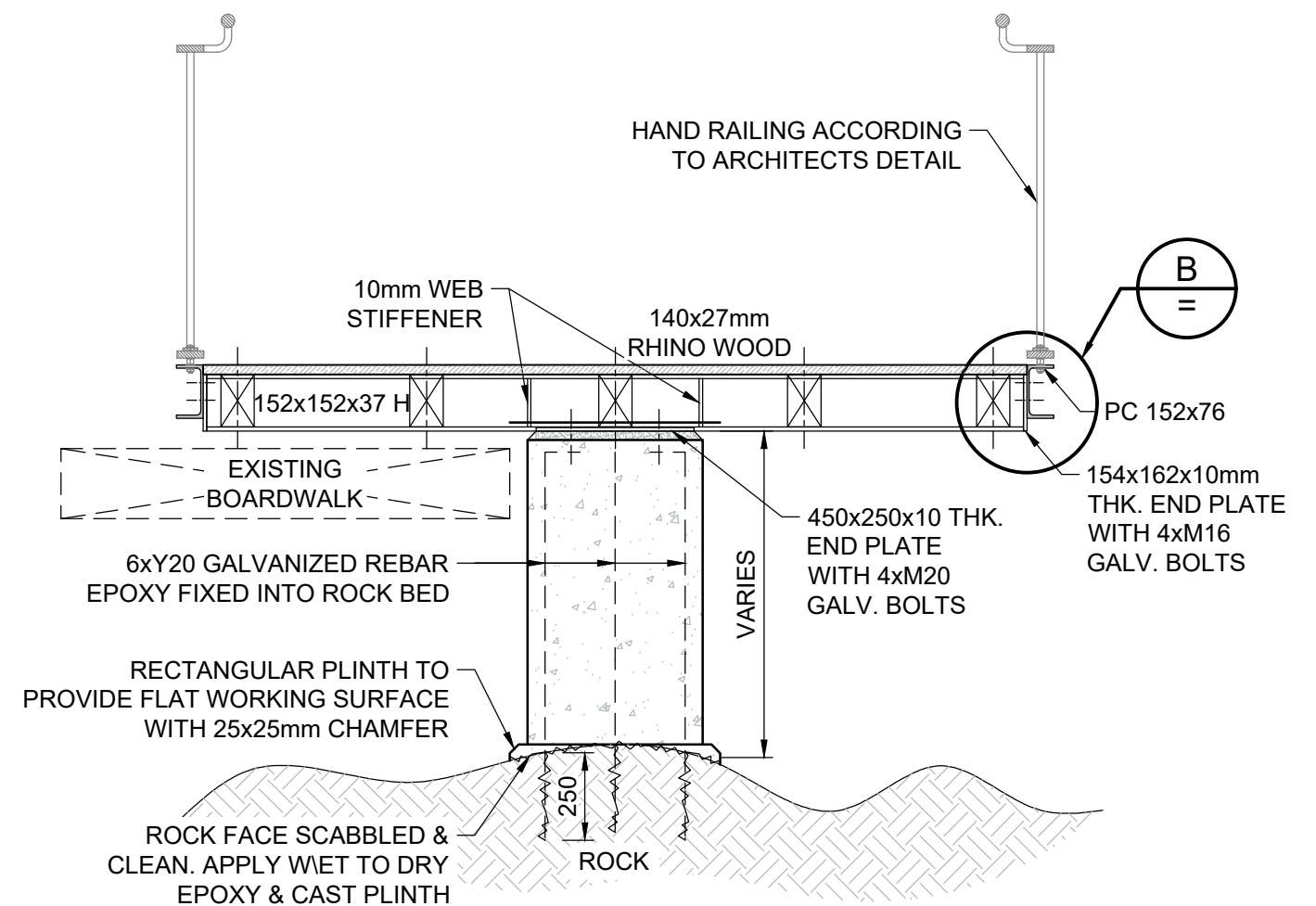
DETAIL B
1:10



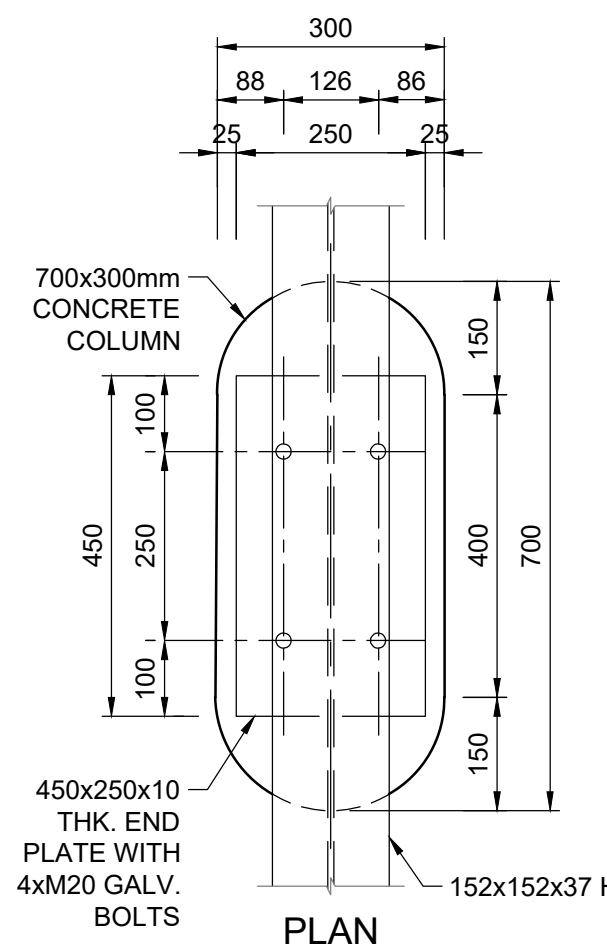
PLAN

SECTION

DETAIL D
1:10



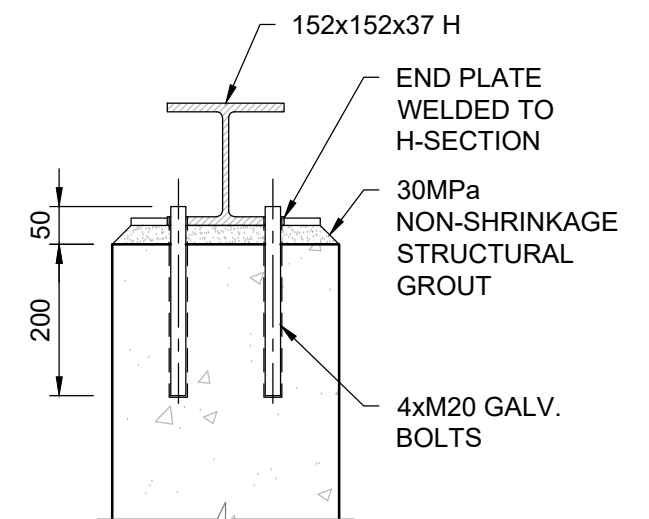
TYPICAL SECTION
THROUGH BOARDWALK)
SCALE 1:20



PLAN

SECTION

DETAIL C
1:10



SECTION

Engineer will relate to "Supervisor" and/or "Project Manager" in NEC terminology possibly also acting as Client's (NEC4) agent for the contract.

T	FOR TENDER ONLY	'20-09-07	SM	LB
REV	DESCRIPTION	DATE	REV BY	CHKD
REVISIONS				

DESIGNED	LB
DRAWN	SM
CHECKED	LB

CONSULTING ENGINEERS

LYNERS

PO Box 4901
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7530

Tel: 021 914 0300/Fax: 021 914 0437
email: belville@lyniers.co.za

APPROVED

ENGINEERS: _____

DATE: _____ 2020-09-07

CLIENT

Western Cape Government

Transport and Public Works

APPROVED

CLIENT: _____

DATE: _____

PROJECT

**STONY POINT NATURE RESERVE -
TOURIST ACCOMMODATION**

TITLE

LANDING SEGMENT & DETAILS

SCALE on A2 SHEET

AS SHOWN 1 OF 1

CONTRACT No. PROJECT No.

CE 18131

DRAWING No. REV

18131-S-008

COORDINATE SYSTEM:

1. GENERAL

- THE FOLLOWING **GENERAL CONSTRUCTION NOTES** SHALL NOT BE CONSIDERED AS ALL-INCLUSIVE CONSTRUCTION SPECIFICATIONS, BUT RATHER AS HIGHLIGHTS OF CERTAIN KEY REQUIREMENTS. THE CONTRACTOR SHALL ALSO FAMILIARIZE HIMSELF WITH SANS 2001 AND THE PROJECT SPECIFICATIONS.
- THESE NOTES SHALL BE READ IN CONJUNCTION WITH THE DRAWINGS OF THE ARCHITECTS; OTHER CONSULTANTS AND SPECIALISTS.
- ALL SPECIFICATIONS MENTIONED SHALL BE AVAILABLE ON SITE AT ALL TIMES, ALONG WITH THE APPROVED BUILDING PLANS.
- DRAWINGS AND DIMENSIONS
 - DRAWINGS SHALL NOT BE SCALED; ONLY GIVEN DIMENSIONS TO BE USED. ALL DIMENSIONS ARE IN MILLIMETRES, UNLESS NOTED OTHERWISE.
 - SPECIFIC NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER THESE GENERAL NOTES.
 - GRIDLINES AND SITE BOUNDARIES SHALL BE SET OUT ON SITE BY A QUALIFIED AND PROFESSIONALLY REGISTERED LAND SURVEYOR, WITH ADEQUATE PROFESSIONAL INDEMNITY COVER.
 - ALL LEVELS ON DRAWINGS REFER TO THE TOP OF THE CONCRETE, STEEL ETC. UNLESS INDICATED OTHERWISE.
 - ALL DETAILS AND DIMENSIONS SHOWN ON THE DRAWINGS, INCLUDING THOSE OF ANY EXISTING STRUCTURES, ARE SUBJECT TO CONFIRMATION, BY THE CONTRACTOR, ON SITE AND DURING CONSTRUCTION. THE ENGINEER IS TO BE NOTIFIED IMMEDIATELY OF ANY DISCREPANCIES.
- TEMPORARY WORKS:
 - THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY WORKS, INCLUDING FORMWORK, FALSEWORK AND TEMPORARY BRACING.
- SAFETY, HEALTH, ENVIRONMENT, QUALITY (SHEQ):
 - THE CONTRACTOR SHALL AT ALL TIMES COMPLY WITH THE PROJECT'S HEALTH- AND SAFETY SPECIFICATIONS, ENVIRONMENTAL MANAGEMENT PLAN, AND *THE OHSA: CONSTRUCTION REGULATIONS (2014)*.
 - THE CONTRACTOR IS FULLY RESPONSIBLE FOR QUALITY CONTROL ON SITE, AS WELL AS ENSURING COMPLIANCE WITH ALL DRAWINGS, DETAILS AND SPECIFICATIONS ISSUED FOR CONSTRUCTION BY THE PROFESSIONAL TEAM.
 - THE CONTRACTOR SHALL COMPILE AND MAINTAIN A COMPREHENSIVE QUALITY CONTROL PLAN (QCP) COVERING ALL ASPECTS OF MATERIALS, MANUFACTURING AND CONSTRUCTION, INCLUDING TEST RESULTS, PHOTOGRAPHIC RECORDS, CERTIFICATES AND PLANNED PROCEDURES; AND SHALL SUBMIT SUCH DETAILS TO THE ENGINEER AS REQUIRED.
- LOADING:
 - REFER TO THE PROJECT'S DESIGN DATA SCHEDULE FOR TYPICAL LOADINGS, UNLESS LOADINGS ARE SHOWN ON DESIGN DRAWINGS.

2. CONCRETE

- ALL STRUCTURAL CONCRETE WORKS SHALL BE IN ACCORDANCE WITH SANS 2001-CC1.
- ALL MIX DESIGNS SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW, PRIOR TO THE USE OF SUCH MIXES IN CONSTRUCTION. MIX DESIGNS SHALL TAKE COGNIZANCE OF THE SPECIFIC APPLICATIONS FOR WHICH SUCH CONCRETE IS TO BE USED. REVIEW/APPROVAL OF THE MIX DESIGN BY THE ENGINEER SHALL NOT ABSOLVE THE CONTRACTOR FROM COMPLYING WITH ANY SPECIFICATIONS.
- UNLESS NOTED OTHERWISE, TYPICAL GRADES OF CONCRETE SHALL BE AS FOLLOW:
 - BLINDING - 15MPA / 19MM
 - MASS CONCRETE - 20MPA / 19MM
 - ALL REINFORCED CONCRETE - 30MPA / 19MM
- CONCRETE CUBE TEST RESULTS SHALL BE SUBMITTED TO THE ENGINEER IN A WELL DOCUMENTED FORMAT, CLEARLY INDICATED ALL PARTICULARS OF THE ELEMENTS/LOCATION CAST, DATE, WEATHER ETC.
- ALL CONCRETE IS TO BE PROPERLY MECHANICALLY VIBRATED AND COMPACTED.
- CONCRETE SHALL BE PROPERLY CURED BY MEANS OF PONDING, WRAPPING THE CONCRETE IN PLASTIC SHEETING OR BY THE USE OF A SUITABLE CURING COMPOUND.
- ALL EXPOSED SMOOTH SURFACE CONCRETE EDGES (THAT WILL NOT BE PLASTERED) SHALL HAVE 25X25MM CHAMFERS, UNLESS NOTED OTHERWISE.

3. REINFORCEMENT

- ALL REINFORCEMENT SHALL BE IN ACCORDANCE WITH SANS 2001-CC1.
- BENDING SCHEDULES AND FIXING DETAILS FOR REINFORCEMENT SHALL BE ISSUED IN ACCORDANCE WITH THE CONTRACTOR'S CONSTRUCTION PROGRAM AND PROGRESS ON SITE.
- THE CONTRACTOR SHALL ENSURE THAT ALL REINFORCEMENT AND COVER BLOCKS ARE CORRECTLY AND ACCURATELY FIXED AND REMAIN IN PLACE DURING CASTING AND VIBRATION. MINIMUM COVER TO REINFORCEMENT SHALL BE MAINTAINED BY CONCRETE BLOCKS WITH WIRE TIES OR PVC SPACERS.
- ALL REINFORCEMENT TO BE CHECKED AND APPROVED BY THE ENGINEER BEFORE CASTING OF CONCRETE. THE ENGINEER SHALL BE GIVEN A MINIMUM OF 48 HOURS' NOTICE BEFORE REINFORCEMENT INSPECTIONS AND SHALL ONLY INSPECT REINFORCEMENT AFTER THE CONTRACTOR SIGNED THE REINFORCEMENT AND FORMWORK OFF AS READY FOR CASTING. DELAYS CAUSED BY THE REJECTION OF FORMWORK OR REINFORCEMENT SHALL BE FOR THE CONTRACTOR'S ACCOUNT.
- UNLESS NOTED OTHERWISE, THE MINIMUM CONCRETE COVER TO REINFORCEMENT SHALL BE AS FOLLOW:
 - RC BASES - 50MM
 - RC COLUMNS AND WALLS - 50MM
- NO HEAT TREATMENT OR FLAME CUTTING OF REINFORCEMENT SHALL BE ALLOWED. BENT-OUT BARS AT CONSTRUCTION JOINTS SHALL BE BENT OUT USING A SUITABLE PIPE SO THAT NO KINK IS FORMED IN THE BAR.
- WHERE NOT SPECIFIED, DOWEL BARS SHALL BE DOWELED IN A MINIMUM OF 15 X DOWEL (Ø) DIAMETER.
- WHERE NOT SPECIFIED, THE FOLLOWING PRODUCTS MAY BE USED FOR DOWEL BARS:

VERTICAL DOWELS:	HORIZONTAL DOWELS:	VERTICAL DOWELS UPSIDE DOWN:
HILTI HIT-HY 200	HILTI HIT-HY 200	SIKADUR 31
FISHER FIS EM	ABE EPIDERMIX 396	PRO-STRUCT 617
ABE EPIDERMIX 395	SIKADUR 31	
SIKADUR 31	PRO-STRUCT 617	
PRO-STRUCT 618/632		
- ALL REINFORCEMENT LAPS = MINIMUM 50 X BAR (Ø) DIAMETER (UNLESS LAP IS DIMENSIONED).

4. STRUCTURAL STEELWORK

- ALL STRUCTURAL STEELWORK SHALL BE IN ACCORDANCE WITH SANS 2001-CS1.
- THE FABRICATOR SHALL, AT THE COMMENCEMENT OF THE PROJECT, ACQUAINT HIMSELF WITH THE AVAILABILITY AND DELIVERY TIME OF STEEL PROFILES AND PRODUCTS SPECIFIED ON THE DRAWINGS SO THAT SUCH MATERIAL CAN BE ORDERED AHEAD OF TIME.
- FABRICATION DRAWINGS:
 - FABRICATION DRAWINGS SHALL COMPLY WITH INDUSTRY STANDARDS FOR DRAWINGS, SUCH AS SAISC'S PUBLICATION: *SOUTH AFRICAN STRUCTURAL STEELWORK DETAILING MANUAL*.
 - FABRICATION DRAWINGS SHALL SHOW ALL STEEL GRADES, GENERAL ARRANGEMENTS, DIMENSIONS, ITEM/ASSEMBLY NUMBERS, BRACING, CONNECTION DETAILS (INCLUDING BOLTS, AND WELDING DETAILS), CORROSION PROTECTION REQUIREMENTS ETC. NECESSARY FOR THE STEELWORK TO BE FABRICATED AND ERECTED.
 - FABRICATION DRAWINGS SHALL ALSO COMPLY WITH THE ARCHITECTURAL DRAWINGS, ESPECIALLY IN TERMS OF ITEMS SUCH AS DECKING PLANKS AND BALUSTRADES.
 - MINOR CONNECTIONS SHALL BE DESIGNED AND DETAILED BY THE FABRICATOR, UNLESS SUCH DESIGNS ARE PROVIDED BY THE ENGINEER, IN WHICH CASE THESE DETAILS SHALL TAKE PREFERENCE. CONNECTION FORCES REQUIRED FOR THE DESIGN OF SPECIFIC CONNECTIONS WILL BE SUPPLIED BY THE ENGINEER UPON REQUEST.
 - THE FABRICATOR SHALL ENSURE THAT CENTRES OF GRAVITY OF MEMBERS INTERSECT AT NODE POINTS, EXCEPT WHERE ECCENTRICITIES ARE EXPLICITLY SPECIFIED ON ENGINEER'S DRAWINGS.
 - THE FABRICATOR SHALL SUBMIT A COMPLETE SET OF SHOP DRAWINGS TO THE ENGINEER FOR APPROVAL AT LEAST ONE WEEK BEFORE PLANNED CONSTRUCTION.
 - THE ENGINEER SHALL CHECK SHOP DRAWINGS FOR COMPLIANCE WITH DESIGN INTENT ONLY. NO DIMENSIONAL CHECKS WILL BE DONE.
- STEEL GRADES:
 - ALL HOT-ROLLED SECTIONS, HOLLOW SECTIONS AND CONNECTION PLATES SHALL BE OF GRADE S355JR.
 - MATERIAL CERTIFICATES OF ALL STEELWORK SHALL BE SUBMITTED TO THE ENGINEER.
- FASTENERS:
 - ALL STRUCTURAL BOLTS SHALL BE GRADE 8.8 AND ACCOMPANIED WITH THE APPROPRIATE CLASS NUT AND WASHER (WHERE REQUIRED).
 - WHERE SLOTTED HOLES FOR BOLTS OCCUR, THE NUT SHALL BE HAND TIGHTENED AND A LOCK-NUT BE PROVIDED UNLESS NOTED OTHERWISE.
 - ALL HOLDING-DOWN BOLTS SHALL BE OF COMMERCIAL GRADE STEEL WITH MINIMUM YIELD STRESS OF 200MPA.
 - UNLESS OTHERWISE AGREED, THE STEELWORK FABRICATOR SHALL TIMEOUSLY SUPPLY ALL HD-BOLT ASSEMBLIES, ALONG WITH CLEAR, APPROVED HD-BOLT INTERFACE DRAWINGS TO THE CONTRACTOR, WHERE HD-BOLTS ARE TO BE CAST INTO CONCRETE.
- WELDING:
 - ALL WELDS SHALL CONFORM TO SANS 10044 AND CLEARLY SPECIFIED WELDING PROCEDURE SPECIFICATIONS (WPS).
 - WELDING SHALL ONLY BE PERFORMED BY CODED WELDERS WITH PROPER EQUIPMENT IN A GOOD CONDITION.
- ALL SPLICES SHALL DEVELOP THE FULL STRENGTH OF THE ELEMENTS JOINED, UNLESS NOTED OTHERWISE.
- WHERE TEMPORARY BRACING OR PROPPING IS REQUIRED, THE FABRICATOR SHALL BE RESPONSIBLE FOR THE DESIGN, ERECTION, MAINTENANCE AND REMOVAL (WHERE NECESSARY) OF SUCH SUPPORTS. IF SPLICES IN TRUSSES ARE REQUIRED DUE TO TRANSPORT, PROPOSALS OF THIS SHALL BE SUBMITTED TO THE ENGINEER AT AN EARLY STAGE FOR WRITTEN APPROVAL.
- CORROSION PROTECTION:
 - SECTIONS TO BE HOT-DIP GALVANISED TO A MINIMUM 100 MICRON.
 - EPOXY PRIMER PAINTED ON TO A MINIMUM OF 40 MICRON.
 - HIGH BUILD EPOXY PRIMER PAINTED ON TO A MINIMUM 60 MICRON.
 - POLYURETHANE PAINT PAINTED ON TO A MINIMUM OF 60 MICRON.
 - ALL CORROSION PROTECTION TO BE COMPLETED BY CERTIFIED, COMPETENT PERSON.
 - CONFIRMATION OF ALL APPLICATIONS TO BE SENT TO ENGINEER FOR REVIEW PRIOR TO APPROVAL.
 - ALL PRODUCTS TO BE APPLIED IN STRICT ACCORDANCE WITH SUPPLIER'S SPECIFICATIONS.

DECKING: RHINO WOOD OR EQUAL AND APPROVED

Engineer will relate to "Supervisor" and/or "Project Manager" in NEC terminology possibly also acting as Client's (NEC4) agent for the contract.

T	FOR TENDER ONLY	'20-09-07	SM	LB	
REV	DESCRIPTION	DATE	REV BY	CHKD	
REVISIONS					

DESIGNED	LB	
DRAWN	SM	
CHECKED	LB	

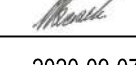


LYNERS

PO Box 4901
TYGERVALLEY
7530

Tel: 021 914 0300/Fax: 021 914 0437
email: belville@lyners.co.za

APPROVED

ENGINEERS: 

DATE: 2020-09-07



Western Cape Government

Transport and Public Works

APPROVED

CLIENT: _____

DATE: _____

PROJECT

STONY POINT NATURE RESERVE -
TOURIST ACCOMMODATION

TITLE

GENERAL NOTES

SCALE on A2	SHEET
AS SHOWN	1 OF 1
CONTRACT No. CE	PROJECT No. 18131
DRAWING No. 18131-S-009	REV 
COORDINATE SYSTEM:	

Part 2.7

Waiver of Contractor's Lien



®

Waiver of the Contractor's Lien

for use with the:

Principal Building Agreement

Edition used:

Minor Works Agreement

Edition used:

Contractor

Employer

Works

Site

AGREEMENT

The **contractor** waives in favour of the **employer** any lien or right of retention that is or may be held in respect of the **works** to be executed on the **site**

This waiver shall only come into effect on provision by the **employer** of a **security for payment** in fulfilment of obligations in terms of the identified **agreement**

This done and signed at

Date

Name of Signatory

Capacity

For and on behalf of the **contractor** who by
signature hereto warrants such authorisation

Signature of Witness

Contractor

Street Address

Postal Address

E-mail

Fax

Code

Code

Mobile

Telephone

Part 2.8

Guarantee for Construction



Guarantee for Construction

For use with the JBCC® Principal Building Agreement

edition /date

GUARANTOR DETAILS

Guarantor:			
Physical address:			
Guarantor's signatory 1:		Capacity	
Guarantor's signatory 2:		Capacity	
Employer:			
Contractor:			
Principal Agent:			
Works:			
Site:			
Name of Signatory:			
Contract Sum:	Accepted amount inclusive of tax	Currency	
... amount in words:			
Guaranteed Sum:	The maximum aggregate amount	Currency	
... amount in words:			
Guarantee for Construction	(insert variable or fixed)		Expiry date

AGREEMENT DETAILS

Sections	Total number / not applicable		Last section	
Principal Agent issues	'JBCC® format Interim Payment Certificates, the Final Payment Certificate, the Certificate of Practical Completion and the Certificate of Final Completion			

1.0 GUARANTEE for CONSTRUCTION (Variable)

- 1.1 Where a Guarantee for Construction (Variable) in terms of the Agreement has been selected this clause 1.0 and 3.0 to 13.0 shall apply. The Guarantor's liability shall be limited to the diminishing amounts of the Guaranteed Sum as follows:-

GUARANTOR'S LIABILITY

PERIOD OF LIABILITY

- 1.1.1 Maximum Guaranteed Sum (not exceeding 10.0% of the contract sum) in the amount of:

Amount in words:

- 1.1.2 Reducing to the Guaranteed Sum (not exceeding 6.0 % of the contract sum) in the amount of:

Amount in words:

- 1.1.3 Reducing to the Guaranteed Sum (not exceeding 4.0% of the contract sum) in the amount of:

From and including the date of issue of this Guarantee for Construction and up to and including the date of issue of the interim payment certificate certifying in excess of 50% of the contract sum

From and including the day after the date of the aforesaid interim payment certificate and up to and including the date of issue of the only Certificate of Practical Completion or last Certificate of Practical Completion where there are sections

From and including the day after the date of the applicable Certificate of Practical Completion and up to and including the date of issue of

the only Certificate of Final Completion or the last Certificate of Final Completion where there are sections

Amount in words:

1.1.4 Reducing to the Guaranteed Sum (not exceeding 2.0% of the contract sum) in the amount of:

From and including the day after the date of the applicable Certificate of Final Completion and up to and including the date of issue of the Final Payment Certificate where payment is due to the Contractor, whereafter this Guarantee for Construction shall expire. Where the Final Payment Certificate reflects payment due to the Employer this Guarantee for Construction shall expire upon payment of the full amount certified

Amount in words:

1.2 The Guarantor's liability limits set out in 1.1.1 to 1.1.4 shall apply in respect of any claim received by the Guarantor during the Security

2.0 GUARANTEE for CONSTRUCTION (Fixed)

2.1 Where a Guarantee for Construction (Fixed) in terms of the Agreement has been selected this clause 2.0 and 3.0 to 13.0 shall apply. The Guarantor's liability shall be limited to the amount of the Guaranteed Sum as follows:-

GUARANTOR'S LIABILITY

Maximum Guaranteed Sum (not exceeding 5,0% of the contract sum) in the amount of:

PERIOD OF LIABILITY

From and including the date of issue of this Guarantee for Construction and up to and including the date of the only Certificate of Practical Completion or the last Certificate of Practical Completion where there are sections, whereafter this Guarantee for Construction shall expire

Amount in words:

3.0 The Guarantor acknowledges that:-

- 3.1 Any reference in this Guarantee for Construction to the Agreement is made for the purpose of convenience and shall not be construed as any intention to create an accessory obligation or any intention to create a suretyship
- 3.2 Its obligation under this Guarantee for Construction is restricted to the payment of money
- 3.3 Reference to a Recovery Statement or an Interim or Final Payment Certificate, or a Certificate(s) of Practical or Final Completion shall mean such certificate issued by the Principal Agent
- 4.0 Subject to the Guarantor's maximum liability referred to in clauses 1.0 or 2.0 , the Guarantor hereby undertakes to pay the Employer the sum certified upon receipt of the documents identified in 4.1 to 4.3:-
 - 4.1 A copy of a first written demand notice issued by the Employer to the Contractor stating that payment of a sum certified by the Principal Agent in an Interim or Final Payment Certificate has not been made in terms of the Agreement and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 4.2
 - 4.2 A written demand notice issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Contractor stating that a period of seven (7) calendar days has elapsed since the issue of the first written demand notice in terms of 4.1 and that the sum certified has not been paid to date. The Employer herewith calls up this Guarantee for Construction and demands payment of the sum certified from the Guarantor
 - 4.3 A copy of the applicable payment certificate which entitles the Employer to receive payment in terms of the Agreement of the sum certified in 4.0
- 5.0 Subject to the Guarantor's maximum liability referred to in 1.0 or 2.0 , the Guarantor undertakes to pay the Employer the Guaranteed Sum or the full outstanding balance upon receipt of a first written demand notice from the Employer to the Guarantor at the Guarantor's physical address calling up this Guarantee for Construction stating that:-
 - 5.1 The Agreement has been terminated due to the Contractor's default and that the Guarantee for Construction is called up in terms of 5.0. The demand notice shall enclose a copy of the notice of termination; or
 - 5.2 A provisional sequestration or liquidation court order has been granted against the Contractor and that the Guarantee for Construction is called up in terms of 5.0. The demand notice shall enclose a copy of the court order

- 6.0 The aggregate amount of payment to be made by the Guarantor in terms of 4.0 and 5.0 shall not exceed the Guarantor's maximum liability in terms of 1.0 or 2.0
- 7.0 Where the Guarantor is a registered insurer and has made payment in terms of 5.0, the Employer shall within one hundred and eighty (180) calendar days of receipt of payment submit an expense account to the Guarantor showing how all monies received in terms of the Guarantee for Construction have been expended, or will be expended, and shall refund to the Guarantor any surplus amount. All monies refunded to the Guarantor in terms of this Guarantee for Construction shall bear interest at the prime overdraft rate of the Employer's bank compounded monthly and calculated from the date of payment by the Guarantor to the Employer until the date of refund
- 8.0 Payment by the Guarantor in terms of 4.0 or 5.0 shall be made within seven (7) calendar days upon receipt of the first written demand notice to the Guarantor
- 9.0 The Employer shall have the absolute right to arrange his affairs with the Contractor in any manner which the Employer deems fit and the Guarantor shall not have the right to claim his release from this Guarantee for Construction on account of any conduct alleged to be prejudicial to the Guarantor
- 10.0 The Guarantor chooses the physical address-stated above for all transactions in relation to this security
- 11.0 This Guarantee for Construction is neither negotiable nor transferable and shall expire in terms of either 1.1.4 or 2.1, or on payment in full of the Guaranteed Sum or on the Guarantee expiry date, whichever is the earlier, where after no claims will be considered by the Guarantor. The original Guarantee for Construction form shall be returned to the Guarantor after it has expired
- 12.0 This Guarantee for Construction, with the required demand notices in terms of 4.0 or 5.0, shall be regarded as a liquid document for the purpose of obtaining a court order
- 13.0 Where this Guarantee for Construction is issued in the Republic of South Africa the Guarantor hereby consents to the jurisdiction of a court in the area where the project is located

Signed at

Date

Guarantor's Signatory 1

.....

Guarantor's Signatory 2

.....

Witness

.....

Witness

.....

Guarantor's seal or stamp

Part 2.9

Guarantee for Advance Payment



® Guarantee for Advance Payment

For use with JBCC® Principal Building Agreement

state edition /date

For use with JBCC® NSSA Subcontract Agreement

state edition /date

For use with JBCC® Minor Works Agreement

state edition /date

GUARANTOR DETAILS

Guarantor:			
Physical address;			
Guarantor's signatory 1:		Capacity	
Guarantor's signatory 2:		Capacity	
Employer:			
Recipient:			
Contractor:			
Contractor:			
Principal Agent:			
Works:			
Site:			
Guaranteed Advance Payment Sum (maximum aggregate amount)	Currency		
... amount in words:			
Security expiry date:			

AGREEMENT DETAILS

Principal Agent issues JBCC® format Interim Payment Certificates, interim Recovery Statements

1.0 GUARANTEE FOR ADVANCE PAYMENT

1.1 The particulars of the recoupment of the guaranteed Advance Payment sum are set out in the following schedule:-

Recoupment period	(no. of months)	
Recoupment period commencement	(start month)	
Monthly recoupment	(amount)	
Note: Where the recoupment amounts and/or periods are irregular a schedule of recoupment amounts and dates must be attached		

1.2 The Guarantor's liability shall be limited to the outstanding diminishing amounts of the guaranteed Advance Payment sum as follows:-

1.2.1 The guaranteed Advance Payment sum on receipt thereof by the Recipient

1.2.2 The full outstanding balance after the deduction of each recoupment made in terms of the monthly payment certificate as stated in 1.1

1.2.3 After the deduction of the last scheduled recoupment payment or on settlement of the full outstanding balance this Guarantee for Advance Payment shall expire

2.0 The Guarantor acknowledges that:-

2.1 Any reference in this Guarantee for Advance Payment to the Agreement is made for the purpose of convenience and shall not be construed as any intention to create an accessory obligation or any intention to create a suretyship

- 2.2 Its obligation under this Guarantee for Advance Payment is restricted to the payment of money
- 2.3 Reference to a recovery statement or a Payment Certificate shall mean such certificate issued by the Principal Agent
- 3.0 Subject to the Guarantor's maximum liability referred to in 1.0 the Guarantor undertakes to pay the Employer the sum certified on receipt of the documents identified in 3.1 to 3.3:-
- 3.1 A copy of a first written demand notice issued by the Employer to the Recipient stating that payment of a sum certified by the Principal Agent has not been made in terms of the Agreement and failing such payment within seven (7) calendar days, the Employer intends to call upon the Guarantor to make payment in terms of 3.2
- 3.2 A first written demand notice issued by the Employer to the Guarantor at the Guarantor's physical address with a copy to the Recipient stating that a period of seven (7) calendar days has elapsed since the issue of the first written demand notice in terms of 3.1 and that the sum certified has not been paid to date. The Employer herewith calls up this Guarantee for Advance Payment and demands payment of the sum certified from the Guarantor
- 3.3 A copy of the recovery statement and payment certificate which entitles the Employer to receive payment in terms of the Agreement of the sum certified in 3.0
- 4.0 Subject to the Guarantor's maximum liability referred to in 1.0 the Guarantor undertakes to pay the Employer the guaranteed Advance Payment sum or the full outstanding balance upon receipt of a first written demand notice from the Employer to the Guarantor at the Guarantor's physical address calling up this Guarantee for Advance Payment stating that:-
- 4.1 The Agreement has been terminated due to the Recipient's default and that the Guarantee for Advance Payment is called up in terms of 4.0. The demand notice shall enclose a copy of the notice of termination; or
- 4.2 A provisional sequestration or liquidation court order has been granted against the Recipient and that the Guarantee for Advance Payment is called up in terms of 4.0. The demand notice shall enclose a copy of the court order
- 5.0 The aggregate amount of payments to be made by the Guarantor in terms of 3.0 and 4.0 shall not exceed the Guarantor's maximum liability in terms of 1.0
- 6.0 Payment by the Guarantor in terms of 3.0 or 4.0 shall be made within seven (7) calendar days on receipt of the first written demand notice to the Guarantor
- 7.0 The Employer shall have the absolute right to arrange his affairs with the Recipient in any manner which the Employer deems fit and the Guarantor shall not have the right to claim his release from this Guarantee for Advance Payment on account of any conduct alleged to be prejudicial to the Guarantor
- 8.0 The Guarantor chooses the physical address as stated above for all transactions in connection with this Guarantee
- 9.0 This Guarantee for Advance Payment is neither negotiable nor transferable and shall expire upon payment of the final payment certificate in terms of the Agreement or on payment in full of the guaranteed Advanced Payment Sum or on the expiry date of the Guarantee whichever is the earlier, whereafter no claims will be considered by the Guarantor. The original Guarantee for Advance Payment form shall be returned to the Guarantor after it has expired
- 10.0 This Guarantee for Advance Payment, with the required demand notices in terms of 3.0 or 4.0, shall be regarded as a liquid document for the purpose of obtaining a court order

Signed at

Date

Guarantor's Signatory 1

.....

Guarantor's Signatory 2

.....

Witness

.....

Witness

.....

Guarantor's seal or stamp

Part 2.10

Methodology Statement



Our reference : 18131C/REP/AP/ap/01

Your reference :

Postal Address : P O Box 4901 TYGERVALLEY 7536

Street Address : Office 2, Ground Floor, Riverside Place
South Gate Entrance, Carl Cronjé Drive
Tyger Valley Waterfront BELLVILLE 7530

Tel: +27 (0) 21 914 0300 | **Fax:** +27 (0) 86 607 2990
E-mail: bellville@lyniers.co.za | **Website:** www.lyniers.co.za

18131 - STONY POINT NATURE RESERVE: PROPOSED NEW BOARDWALK: METHODOLOGY STATEMENT – REV. 1

1. INTRODUCTION

This report includes a methodology statement outlining the details of constructing a new boardwalk in the Stony Point Nature Reserve in Betty's Bay, South Africa, to replace the existing boardwalk. The detail designs of the proposed boardwalk are indicated on the relevant engineering drawings and documents. The methods of construction, the sequence of works and the materials used will be described in detail in this report. The demolition of the existing boardwalk will also be discussed.

It is important to note that the Stony Point Nature Reserve is known for being home to a large African penguin colony and special consideration was given to the construction methods in this regard. A segmental construction philosophy was adopted for this project. This design approach entails the construction of boardwalk segments off-site with only assembly taking place on site within the shortest time possible. In this manner, the potential impact on penguins and other wildlife by noise and the presence of construction workers in the reserve is minimized. In addition, the utilization of similar segments for the design of the boardwalk greatly improves the simplicity and speed of construction.

2. DESCRIPTION OF WORKS

2.1. Construction sequence

What follows is a detailed description of the works that must be performed during construction, categorised by element type and discussed in the sequence in which the works will be performed. Refer to the engineering drawings for additional details on the design of the boardwalk and materials used. A figure is included at the end of each subsection to graphically indicate the construction step.

It is important to note that approximate lengths and distances included in this report are according to the design of '3m Straight' segments and are given for descriptive purposes only. All lengths and distances must be verified with the detail design drawings and will differ for different types of segments.

2.1.1. Anchoring

The exact coordinates of each proposed boardwalk column (at a spacing of approximately 3m) are shown on drawing no. 18131-C-011. Columns are mostly located where bedrock is very shallow or at the surface to minimise any disturbance to the natural ground. A site inspection has confirmed that this will likely always be the case. If the bedrock is located under a thin layer of sand, the surface must be cleared to expose the underlying bedrock. At each column location, six holes must be drilled 250 mm deep into the bedrock after which six Y20 galvanised rebars will be epoxy fixed into the bedrock. The rebars were deliberately designed to be oversized in terms of structural requirements to allow for a greater surface area for the epoxy material to bond to the rock and steel. The length of each rebar must be calculated from the vertical alignment design of the proposed new boardwalk. Rebars must be manufactured to specified lengths and not cut on site to minimise corrosion potential.

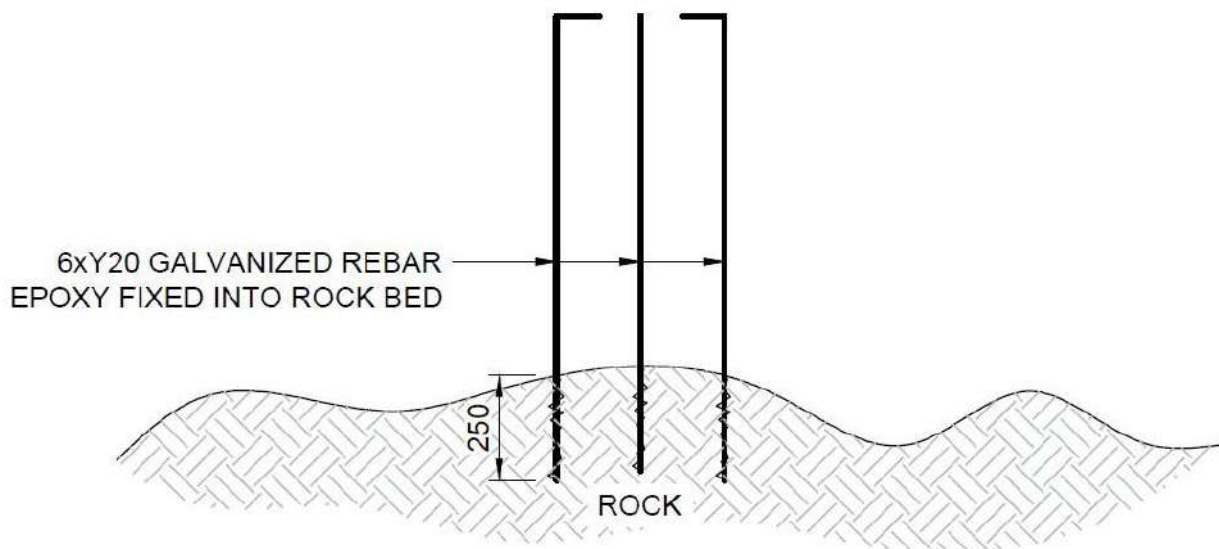


Figure 1. Anchoring of rebars.

2.1.2. Columns

All boardwalk columns will consist of concrete cast in place with the use of shuttering. To create a level working surface, a rectangular plinth of 700 x 300mm with 25x25mm chamfers must be cast at the base of all columns up to a point where all bedrock is covered. Figure 2 below illustrates this concept graphically.

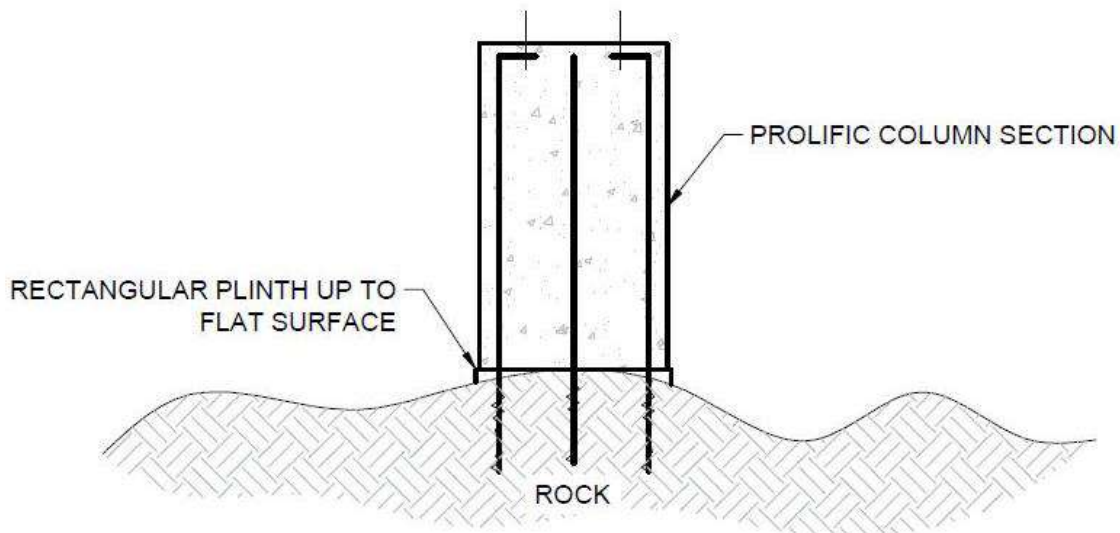


Figure 2. Graphical representation of concrete plinths at columns.

On top of each plinth, the remaining section of each column must be cast in place according to a stadium profile as shown on the engineering drawings. Each column must be cast to a specific height. The height of each column is indicated on drawings 18131-C-010 and 18131-C-011. At the top of each column, four M20 galvanised bolts must be cast at a depth of 200mm into the column at specific positions. A template plate can be used to ensure that the bolts cure correctly in place. Care must be taken to ensure minimal wastage of concrete on the natural ground during the casting of the columns.

After the columns have been cast in place, the only remaining construction is the assembly of premanufactured elements with bolts.

2.1.3. Main H-beams

After all columns have been cast and adequately cured, the boardwalk must be constructed in segments. Each of the following steps in the construction sequence must be completed for each individual segment before repeating the steps for the next segment. To minimize the effect of construction on the natural environment, all elements of the proposed boardwalk were designed to be light enough to carry onto the site by hand, removing the need for any heavy machinery.

A 152x152x37 H-beam of approximately 2.33m in length must be affixed to each column via the four M20 bolts that were previously cast into the top of the columns. Each H-beam must be premanufactured to the exact length and a 450x250x10mm end plate must be pre-welded to the bottom of each beam at the centre of its length. Additionally, 10mm web stiffeners must be welded to each H-beam at specified locations, according to the design drawings. Four slotted holes must be pre-drilled in the end plate where it should be affixed to the concrete column. If the casting of the bolts was done correctly, the H-beam should be carried into site and simply slide onto the pre-cast bolts. Each bolt must be affixed on both sides of the end plate. The space between the end plate and the top of the concrete column must be filled with 30MPa non-shrinkage structural grout.

Each H-Beam will cantilever to both sides of the beam over a distance of 1.165m. During the manufacturing process, a 154x162x10mm end plate must be welded to each side of each beam, with slotted holes pre-drilled for the connection of channel beams, discussed in the next section.

Depending on the spacing of the decking planks, discussed later, some slotted holes must be predrilled into the top flanges of the H-beams at specific locations. Here, the decking planks will be bolted to the beams instead of wooden joists.

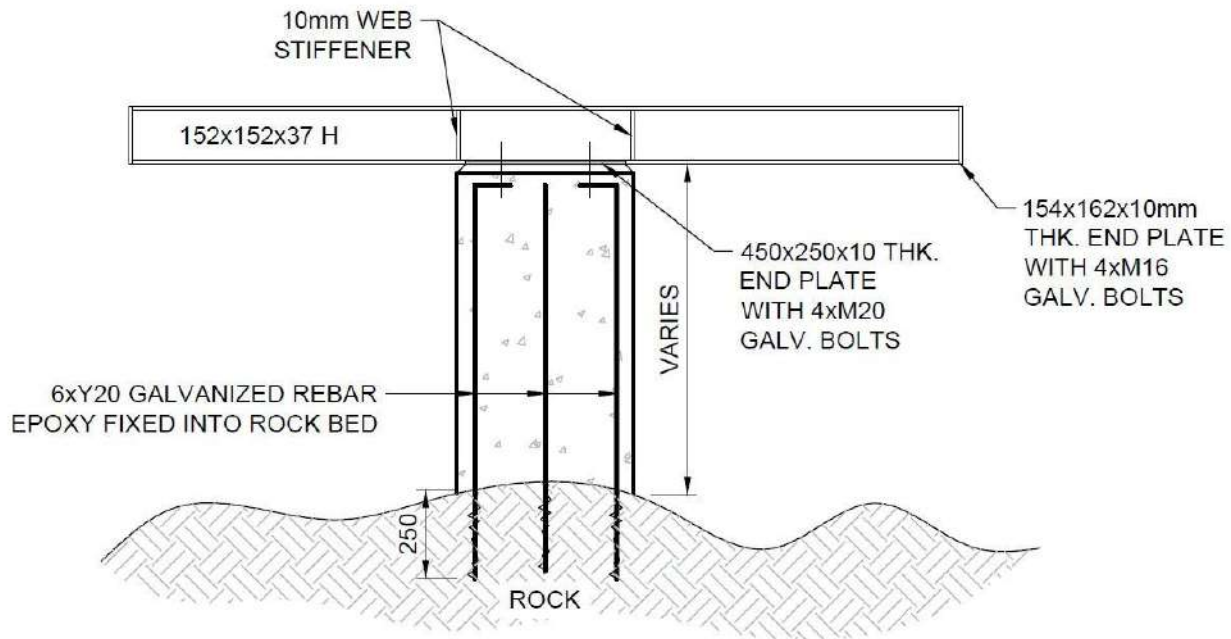


Figure 3. Installation of main H-beams.

2.1.4. Edge channel beams

One 152x76 channel beam will span between the main H-beams on either side of the boardwalk. Like the H-beams, all channel beams must be premanufactured off-site, hot-dip galvanised and carried into site by hand. Each channel beam will be approximately 3m in length, depending on the exact spacing and vertical alignment of the proposed boardwalk design. Each channel beam must be manufactured to the exact dimensions required for it to fit into its place on the boardwalk. Two slotted holes must be drilled in either end of a channel beam during the manufacturing process, before galvanisation takes place. Each channel beam should fit into place between two H-beams and be fixed with two galvanised M16 bolts to the welded end plates of the H-beams on either side. Four slotted holes should have been predrilled into the endplates.

It is important to note that each channel beam will have specific dimensions and cutting angles, depending on its position in the boardwalk alignment. Although most channel beams will be straight, some beams will have to be manufactured at a radius for segments that form a bend. It is imperative that the method used to manufacture the channel beams at a radius ensures maximum protection against corrosion.

During the manufacturing of the channel beams, slotted holes must be drilled into the top of each channel

where handrails are to be bolted.

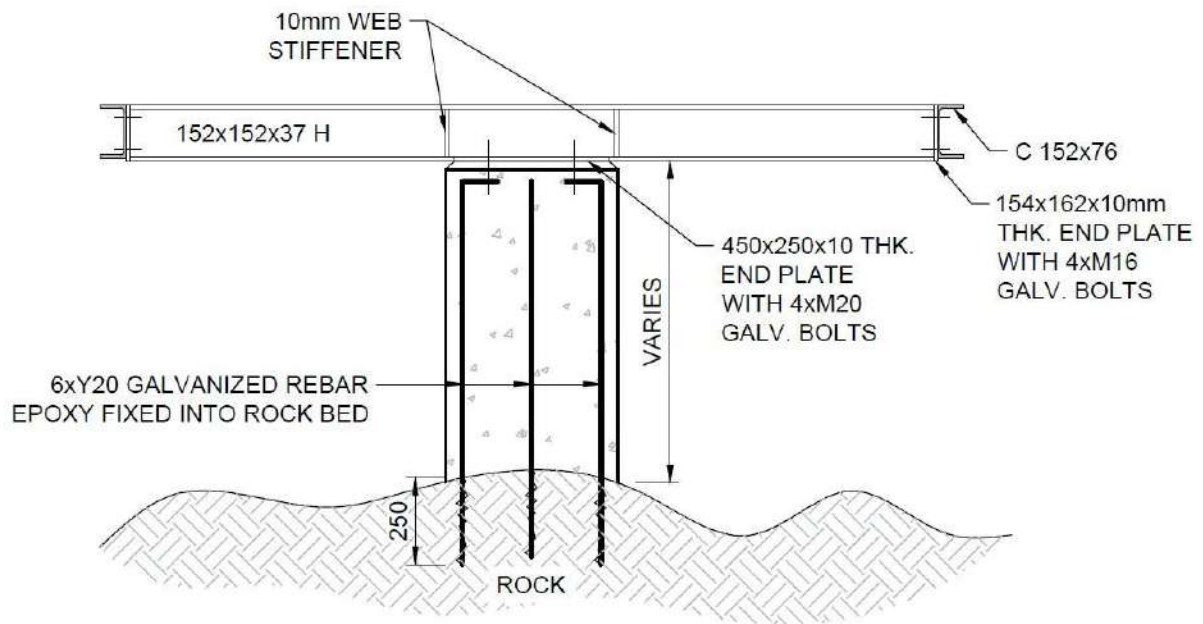


Figure 4. Installation of edge channel beams.

2.1.5. Joists

Timber joists will span between each H-beam parallel to the channel bends, except on bends. Although channel beams can be manufactured at a radius, timber cannot be bent. At segments where bends occur, joists must be installed at an angle to the channel beams, depending on the segment design.

Five 150x95mm Rhino Wood beams will span between each H-section. Similar to the channel beams, the length of each beam will be approximately 3m, but will depend on the exact horizontal and vertical alignment of each segment. Rhino Wood is an eco-friendly heat-treated and impregnated timber product that is much stronger than normal timber products. Additionally, it requires minimal maintenance and is very resistant to moisture ingress and fungal rot and decay.

The joists must be affixed to cleats on the H-beams on either side via side-bolting with galvanised bolts. Once again, joists must be carried onto site by hand and installed per segment. Holes for the decking planks to be bolted into place must be predrilled off-site.

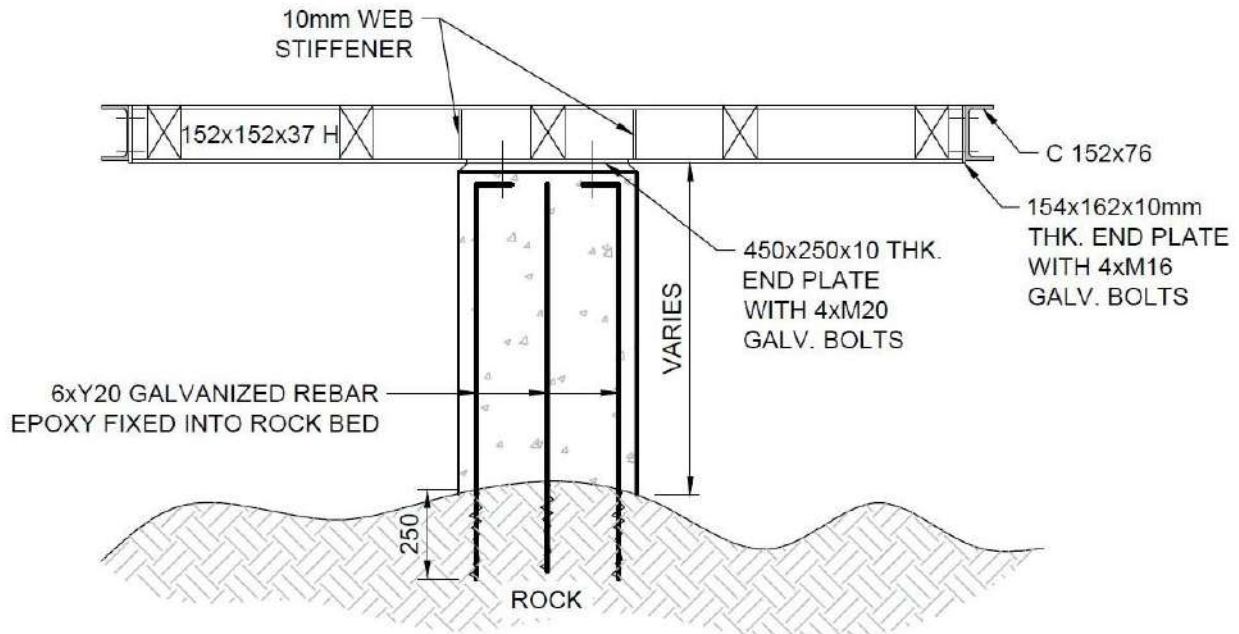


Figure 5. Installation of joists.

2.1.6. Decking surface

The deck of the boardwalk will also consist of Rhino Wood. Along the entire boardwalk, segment by segment, 140x27mm planks must be laid perpendicular to the channel beams on top of the wooden joists. Each plank will be 2.348m long; the inner width between the channel beams. The length of the planks may differ on bended segments and embayments. Each plank must be carried onto site and bolted to the main boardwalk structure through predrilled slotted holes. Where planks run over H-beams they must be bolted to the beams through predrilled slotted holes.

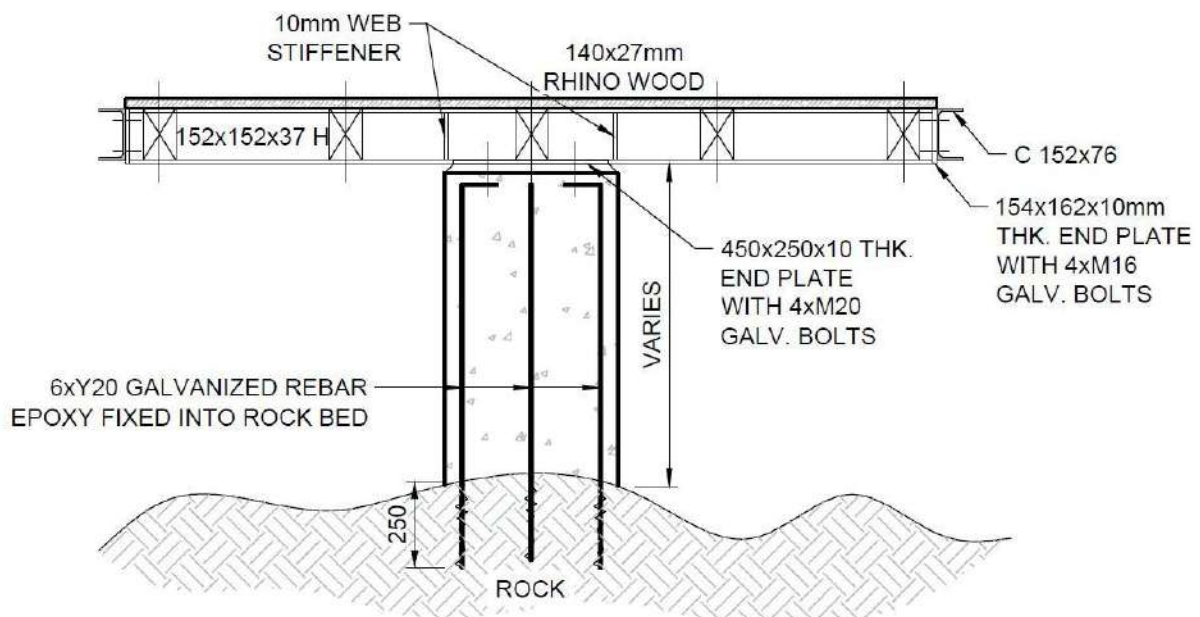


Figure 6. Installation of decking surface.

2.1.7. Handrails

All handrails will be completely manufactured off site in segments and merely bolted into place on site. Each handrail segment will be an approximately 1m wide and 1m high segment consisting of 75x20mm steel flat bars on the top and bottom and 20mm dia. steel solid rods running vertically between the bars at a spacing of 120mm c/c, welded into place. The rods were deliberately designed to be larger than structurally required to allow for hot-dip galvanisation and sufficient protection against corrosion. A 20mm thick laser cut steel plate rail bracket and 38 mm solid steel rod handrail must be welded to the top of each top steel plate. Each segment of handrail must be galvanised after welding and drilling is completed. Refer to the architect's detail design drawings for the handrail details.

Each handrail segment must be manufactured with predrilled slotted holes where it must be bolted to the channel sections on the main boardwalk structure. It must be noted that handrail segments on bends will be curved. The exact dimensions of these handrail segments must be determined from the detail design drawings. Handrails must be bolted to the channel beams of the boardwalks with two galvanised M10 bolts and a 50x8mm stainless steel fixing plate. A 20mm spacer must be inserted between the bottom of the handrail flat bar and the top of the channel beam. This will ensure that water is not trapped between the two steel elements, potentially increasing the risk of corrosion. Where two handrail segments meet, they must be bolted together at the top with two M10 galvanised bolts and a 50x8mm stainless steel fixing plate.

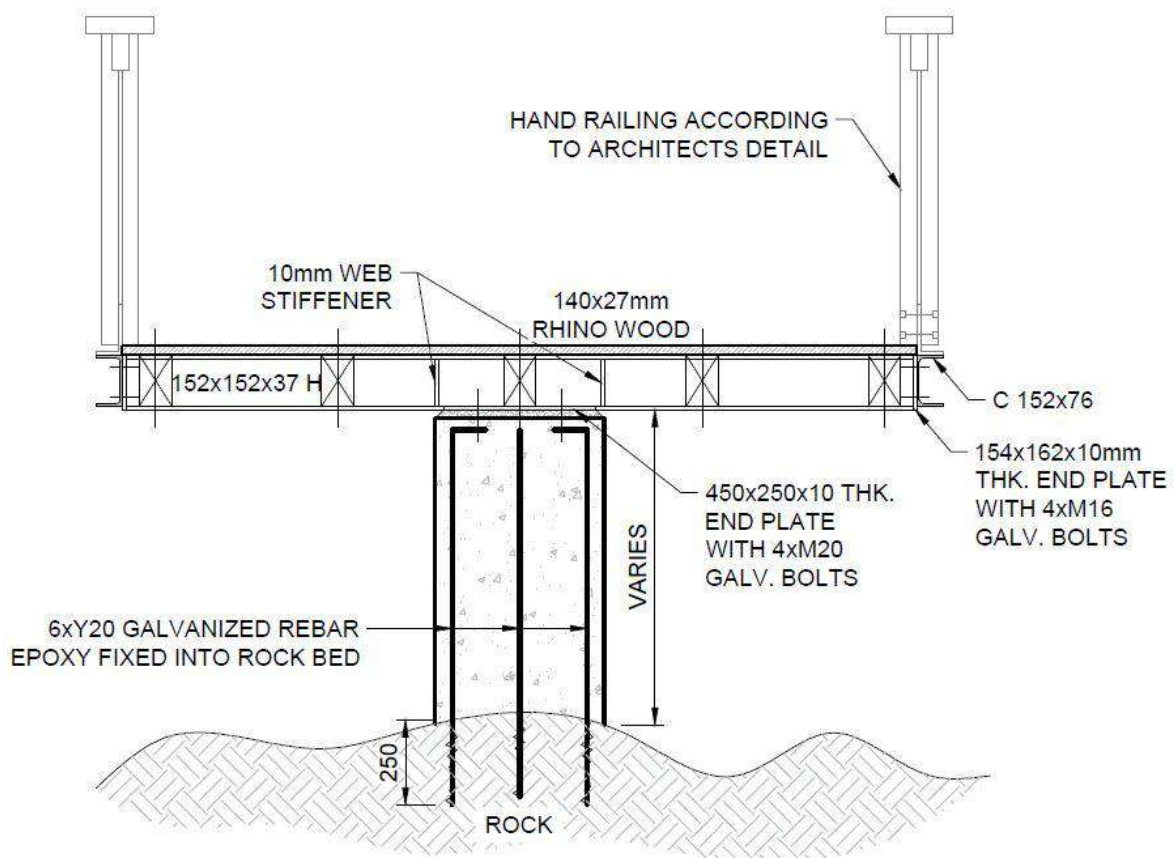


Figure 7. Installation of handrails.

2.1.8. Other fixtures

After the handrails are installed, the boardwalk structure is practically complete with only minor additional elements being installed. These include benches and signage and the installation will depend on the design of the elements. However, these fixtures can be installed after all boardwalk segments are constructed and will most likely not require any drilling or cutting.

2.2. Embayments

Several embayments are located along the boardwalk alignment to allow for viewing decks. The design principles are the same for embayments as the main boardwalk alignment. At these locations, an additional concrete column is designed at an offset of 2.5m from the main alignment column with a 152x152x37 H-beam spanning between the two columns. On the outer edges of the two columns, the same cantilever conditions as on the main alignment will apply for the structural elements. The embayments will be constructed in the same manner as discussed above. The segmental design approach followed allows for the boardwalk to be extended outwards at sections where embayments are required.

2.3. Construction tolerances

When following a segmental design philosophy, care must be taken that construction work is carried out accurately to ensure that all elements will align. However, it must always be taken into account that misalignment may occur to some extent because of the nature of the work. To accommodate for this, the boardwalk was designed with slotted holes. Slotted holes provide construction tolerances without the need to cut or weld steel on site, which could lead to higher corrosion potential and noise impact on the sensitive wildlife in the area.

2.4. Demolition of existing boardwalk

The existing boardwalk will be used as a surface from which construction will take place at most sections of the new boardwalk, since the alignment of the new boardwalk was designed to follow the existing boardwalk as closely as possible. As such, the applicable section of the existing boardwalk will be dismantled and removed by hand after each new section of boardwalk has been constructed. No heavy machinery is required to demolish the existing boardwalk.

3. ALIGNMENT DESIGN

The alignment design of the proposed boardwalk is greatly influenced by three factors:

3.1. The segmental design approach

The segmental design approach followed in this project places some constraints on the horizontal alignment of the proposed boardwalk. Because one of the objectives is to simplify the construction process, segment should not vary significantly in terms of horizontal design. The design goal was to create the horizontal alignment from straight segments and a maximum of three curved segments with different radii. This had to

be taken into account when designing the horizontal alignment of the boardwalk to ensure that segments fit.

3.2. Aesthetics

Because the proposed boardwalk is slated to be a tourist attraction, it is imperative that it be aesthetically pleasing to visitors. This involves the inclusion of smooth curves in the horizontal alignment as opposed to the jagged edges that the existing boardwalk has on bends. Smoothing out the walking path will also improve the mobility of visitors on the boardwalk and allow for smooth travel paths for motorized vehicles on the boardwalk (e.g. motorized wheelchairs and golf carts). Therefore, the horizontal alignment of the proposed boardwalk was designed to be as smooth as possible while still taking all other design and mobility considerations into account.

The vertical alignment of the boardwalk was also influenced by the need to provide an aesthetically pleasing structure. The boardwalk had to be designed in such a manner as to ensure that the boardwalk will be on a level grade on all horizontal bends, with vertical rises only taking place over straight sections of the boardwalk.

3.3. Universal access

It is critical to provide universal access to all potential visitors of the boardwalk, including disabled persons. For this reason, the vertical alignment of the proposed boardwalk was designed to comply to the regulations set out for the design of structures for disabled persons. This included the requirement that no slope on the boardwalk may exceed 1:12 and that this maximum slope may only be maintained over a distance of 7.2m before a flat surface is provided. This restricted both the horizontal and vertical path that could be considered for the alignment of the proposed boardwalk. At two locations along the boardwalk, the maximum length of 7.2m is exceeded due to rocky outcrops that had to be negotiated. This was, however, discussed with the client and approved as acceptable.

3.4. Conservation of existing boardwalk path

To minimise the impact on the environment, the alignment of the proposed boardwalk was designed to conform to the existing boardwalk alignment as closely as possible. It was also important to stay as close to the existing boardwalk as possible since it will be used as a working surface during the construction phase. It was, however, not always possible to follow the existing alignment due to the restrictions discussed in the previous sections. Where this was the case, all possible measures were taken to minimize the distance between the proposed and existing boardwalks.

4. ENVIRONMENTAL CONSIDERATIONS

4.1. Corrosion protection

The Stony Point Nature reserve is located directly on the coast, leading to a significant risk of corrosion of steel elements used in the boardwalk. If the steel is sufficiently treated, however, the risk can be adequately

mitigated. The structural and practical advantages of steel far outweigh other materials that could be used for the boardwalk and it cannot be justified to use other materials instead of sufficiently protecting the steel with proper methods.

A double-barrelled corrosion protection approach is implemented to ensure a high protection against steel corrosion in the harsh climatic conditions. Firstly, all steel elements used in the construction of the boardwalk must be hot dip galvanised off-site. Additionally, all steel must be painted with a top spec, high quality marine-grade epoxy paint. If these protection measures are correctly implemented, the maintenance required to keep the boardwalk in good shape will be minimal.

All steel elements of the boardwalk were slightly oversized in terms of structural requirements to allow for hot dip galvanisation to be possible and to minimise the risk of structural decay due to corrosion.

Corrosion protection is further ensured by the fact that all drilling and steel cutting will take place in a controlled environment off-site. This reduces the risk of small section of steel being open to the environment if it is not adequately protected after cutting or drilling.

4.2. Wildlife conservation and environmental impact

Several environmental constraints need to be considered during the construction of the proposed boardwalk, even more than other similar projects. This is because the boardwalk is located in the natural habitat of a large colony of African penguins as well as inside a nature reserve with other sensitive wildlife present. The main objective of the entire design and construction approach is to minimize the impact on the penguins and rest of the natural environment.

The segmental design philosophy followed ensures that most of the element construction and manufacturing takes place off-site. The only construction that will take place in the area of the penguins will be the anchoring of column rebars in bedrock, the casting of concrete columns and the assembly of the other elements with bolts. With this approach, noise levels on site is significantly lowered. All elements will also be carried in by hand, eliminating the need for heavy machinery to be present in the vicinity of the penguins. The use of the existing boardwalk as a working surface also reduces the number of workers that will be in the penguins' habitat.

It is important that all workers on site be mindful of the presence of penguins by working as quietly as possible and not interacting with the birds. Park rangers and other applicable officials should be on site at all construction times to guide penguins and ensure that the construction will have the lowest possible impact.

In terms of the impact on the natural environment, the design allows for minimal earth disturbance. The only disturbance to the natural environment will be the drilling of holes for the anchoring of column rebars. No other earthworks are required.

5. CONCLUSION

This report discusses in detail the construction methodology of a proposed new boardwalk in Stony Point Nature Reserve in Betty's Bay, South Africa. The reserve is home to a large colony of African penguins and a major tourist attraction. Special consideration was given to adopting a design approach that would have the smallest impact on the penguins and the rest of the natural environment. A segmental approach was adopted which entails the manufacturing of boardwalk elements in segments off-site. These elements will then merely be carried into site and bolted in place.

The location of the proposed boardwalk played a major role in the selection and specification of materials used in the construction of the new boardwalk. The fact that the site is on the shore means that corrosion of steel and moisture ingress of timber are high risks. Mitigation efforts are, however, included in the construction methodology.

The main objective of the design philosophy is to reduce the impact of construction on the wildlife in the reserve and to sufficiently protect the structural elements from the climatic conditions. If all specifications discussed in this document are followed during construction, it is believed that this goal will be easily achieved.

Part 2.11

Decking Installation Guide



RHINO WOOD OR EQUAL AND APPROVED DECKING INSTALLATION

The following serves only as a guideline on how to install Rhino Wood for decking applications

GENERAL INFORMATION/INTRO

Base construction for decking needs to be done in keeping with and in accordance to good building practices, standards and regulations. It is important to ensure good drainage and ventilation beneath the structure to avoid pooling of water and unnecessary moisture collection. A Rhino Wood deck must be installed with adequate ventilation below the deck to allow a free flow of hot and cold air from the decking below the decking surface.

We recommend a maximum joist spacing of 450mm CC apart for 20mm thick material, and a maximum of 600mm CC joist spacing for 27mm thick material.

A fully treated CCA sub-structure is recommended. Class 4 treated timber should always be used when in contact with the ground. Galvanized steel or aluminum may be used as an alternative to Class 4 timber and the same standards of good building practices apply.

MOUNTING/FIXING

Screw fixing

Due to the hardness of Rhino Wood decking timber, it is essential to pre-drill prior to fixing the decking boards down onto the substructure. Screwing down boards without pre-drilling a pilot hole MAY result in the boards cracking.

We highly recommend that a pilot hole be drilled, no more than half a millimeter smaller than the diameter of the fixing screw. If the pilot hole is too small it MAY result in the boards being forced apart, especially towards the board ends.

* You may also want to consider using the 135mm x 27mm Heavy Duty Rhino Wood deck board for secret fixing applications as it is suitable for the side grooving necessary for some secret fixing applications.

RHINO WOOD OR EQUAL AND APPROVED

RHINO WOOD OF EQUAL AND APPROVED

JOINING OR BUTT JOINING

When butt joining the timber, we recommend using a double joist on the butt join, in order to have enough surface area to fix the boards correctly to the sub-structure. When installing with screws, it is recommended that the spacing be a minimum of 20mm from the edge of the boards.

DIFFERENT RHINO WOOD FINISHES

We typically offer three different types of finishes:

Smooth

Rhino Wood finishes to a smooth clean finish that will surface weather to a grey patina over time.

Brushed

Our most popular finish due to the unique modified nature of Rhino Wood is brushing. This textured finish adds to the visual appeal of the boards and is also the option to select if you want a no-slip surface. .

Reeded

Rhino Wood Boards can be reeded on request.

TESTS & CERTIFICATIONS

Rhino Wood has been tested for a number of performance characteristics both locally and abroad including dimensional stability, durability, weather resistance and termite damage.

Rhino Wood's improved characteristics are the result of extensive study and research into timber modification. The test and certifications provide proof of Rhino Wood's claim that it represents a revolution in wood modification. Please view the tests conducted to date by various institutions by clicking on this link: http://www.rhinowood.co.za/tests_and_certifications/

Rhino Wood will continue to conduct tests on its products into the future and will publish all test results on this page. If there is a test you would like conducted or you require any further information please contact scott@rhinowood.co.za

RHINO WOOD OR EQUAL AND APPROVED

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Part 2.12

Health and Safety Specification

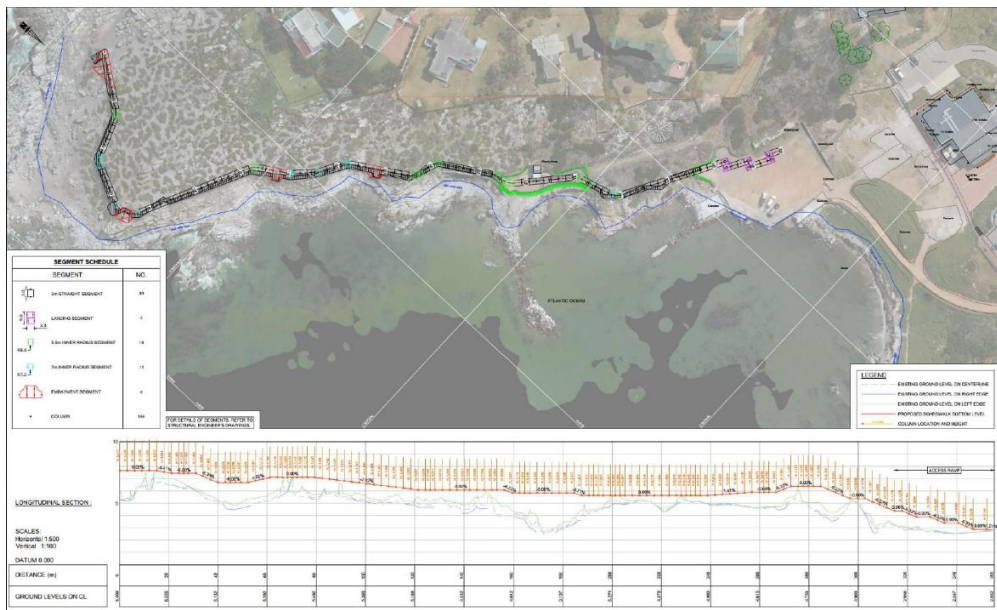
OCCUPATIONAL HEALTH AND SAFETY SPECIFICATION

25139C – STONEY POINT BOARDWALK REPLACEMENT: STONEY POINT NATURE RESERVE (PENGUIN SANCTUARY),
STONEY POINT ROAD, BETTY'S BAY, OVERSTRAND MUNICIPALITY, WESTERN CAPE, SOUTH AFRICA

OCCUPATIONAL HEALTH AND SAFETY SPECIFICATION (REV 00)

FOR

25139C – STONEY POINT BOARDWALK REPLACEMENT (PENGUIN SANCTUARY)



ON BEHALF OF WESTERN CAPE
GOVERNMENT – DEPARTMENT OF
INFRASTRUCTURE

OCCUPATIONAL HEALTH AND SAFETY SPECIFICATION

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SITE DETAILS, SITE ASSESSMENT AND CLIENT IDENTIFIED HAZZARDS

Project Number: 25139C – Stoney Point Boardwalk Replacement

Project Address: Stoney Point Nature Reserve (Penguin Sanctuary), Stoney Point Road, Betty's Bay, Overstrand Municipality, Western Cape, South Africa

Project Description / Scope of Work

The project entails the demolition and replacement of the existing timber boardwalk within the Stoney Point Nature Reserve Penguin Sanctuary. The works are located within an environmentally sensitive coastal conservation area and will be undertaken in a manner that minimizes disturbance to the African Penguin colony and surrounding natural habitat.

Scope of Work

1. Site Establishment

Establish temporary site facilities.

Implement environmental protection measures.

Install temporary barriers, signage and public exclusion zones.

Maintain controlled pedestrian access where required.

2. Demolition of Existing Boardwalk

Careful dismantling and removal of sections of the existing timber boardwalk.

Segregation and removal of demolition waste.

Transportation and lawful disposal of demolition materials.

Protection of sensitive environmental areas during demolition activities.

3. Rock Drilling and Anchor Installation

Survey and setting out of new boardwalk alignment.

Drill holes into existing rock formations.

Install epoxy-fixed galvanized reinforcing bars into the rock substrate to form foundations for boardwalk support columns.

Quality control and testing of anchor installations.

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4. Construction of Concrete Support Columns

Construct reinforced concrete support columns founded on drilled and anchored rock formations.

Install formwork and cast concrete plinths/columns.

Cure concrete and prepare for installation of prefabricated structures.

5. Installation of Prefabricated Boardwalk Structure

Delivery and handling of prefabricated boardwalk components.

Installation of galvanized steel beams and support members.

Installation of edge channel beams and structural connections.

Bolting and securing structural members to concrete supports.

6. Decking Installation

Installation of Rhino Wood (or approved equivalent) decking planks.

Alignment and securing of decking components.

Installation of connection hardware and finishes.

7. Handrails and Safety Features

Installation of handrails and edge protection systems.

Installation of viewing platforms, embayment sections and landing areas where indicated on drawings.

Installation of signage and other associated fixtures.

8. Environmental Rehabilitation

Removal of construction waste and temporary works.

Restoration of disturbed areas.

Final cleaning and handover.

Key Construction Activities for Risk Assessment

- Work within a public tourist facility.
- Work adjacent to active penguin colonies and environmentally sensitive habitats.
- Demolition works.
- Drilling into rock formations.

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- Use of epoxy anchoring systems.
- Concrete works.
- Manual handling of prefabricated sections.
- Work near uneven rocky terrain.
- Work adjacent to the coastline and wave action.
- Lifting and handling operations.
- Use of power tools and portable equipment.
- Steel erection and bolting activities.
- Potential work at height during assembly.
- Public interface management.
- Environmental management and wildlife protection.

Principal H&S Risks

- Public safety and visitor interaction.
- Environmental damage to penguin habitat.
- Slips, trips and falls on uneven rock surfaces.
- Falling objects during assembly.
- Hand and power tool injuries.
- Exposure to coastal weather conditions.
- Manual handling injuries.
- Work near marine environments.
- Concrete and epoxy chemical exposure.
- Noise and dust generation.
- Emergency response limitations due to location.
- Potential biological hazards associated with wildlife

Appointed Contractors must provide their detailed scope of works in their Safety Plans, Followed with Task Specific Risk Assessment's, DSTI'S and Written Safe Work Procedures. The full scope of works is available in the tender documents provided.

NON-COMPLIANCE TO THIS SAFETY SPECIFICATION

Should it be that the Principal Contractor or Contractors are in non-compliance with this specification or the approved Health and Safety Plan, the Client Agent has the responsibility to stop any activity or all construction work until compliance has been reached. The cost for stop of work on site due to non-compliance will be carried by the Principal Contractor or Contractors. In the event of extra audits being done by the OHS Representative due to ongoing non-compliance, the cost of that audit will be carried by

OCCUPATIONAL HEALTH AND SAFETY SPECIFICATION

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the Principal Contractor or Contractor and will be equal to the amount as per the signed quotation by the client.

SITE ASSESSMENT AND CLIENT IDENTIFIED HAZARDS

Hazardous Chemical Agents: Hazardous Chemical Agents such as: solvents, cement, grout, fuels, oils, water proofing components, etc. Contractors to identify and set out SWP's; hazardous waste must be removed in a safe way.

Plant on site: Daily inspection registers to be completed. No operator will be allowed on site without his medical Fitness Certificate, competency certificate and driver's license.

Working at Height: All activities at height to be done as per fall protection plan and risk assessment. All documentation to be assessed and approved before working at height commences. Working at height will be included but not limited to: Working on Scaffolding, Working on Ladders, Erecting and dismantling of Temporary Works etc.

Environmental Management plan: Some snakes may be present on site. The Principal Contractor is to ensure that all workers adhere to environmental procedures. No snakes may be killed or harmed. All workers to receive a toolbox talk on snakes and a signed register is to be placed on file. No fires will be allowed on site.

Scaffold Scaffold must be erected and inspected by competent employees. No employees may be allowed to work on unsafe scaffold, the scaffold must be signed off and safe to work signage displayed before any work commences. Safety Harnesses must be worn at all times by all employees working at heights.

Excavations and Trenches: All excavations to follow construction regulations. Daily registers must be completed. Appointed contractor must ensure that all excavation work is carried out under the supervision of a competent person who has been appointed in writing for that purpose; and evaluate, as far as is reasonably practicable, the stability of the ground before excavation work begins. The expected depth of excavations on site will be 2m. Shoring, bracing and permit to dig will be required by the Principal Contractor.

Traffic management: Delivery of materials and the safe movement of construction vehicles will be controlled by means of a traffic management plan to alleviate any congestion or interference.

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1. Introduction and Background

1.1 Background to the Health and Safety Specification (also termed This Specification)

The Construction Regulations (February 2014) place the onus on the Client to (a) prepare a baseline risk assessment for an intended construction work project; (b) prepare a suitable, sufficiently documented and coherent site-specific health and safety specification for the intended construction work based on the baseline risk assessment contemplated in paragraph (a).

1.2 Purpose of the Health and Safety Specification

To assist in achieving compliance with the Occupational Health & Safety Act 85/1993 (OHS Act) and the now promulgated Construction Regulations (February 2014) in order to prevent or as far as possible, reduce incidents and injuries. This specification shall act as the basis for the drafting of the Principal Contractor's and Contractors construction phase health & safety plans.

The health & safety specification sets out the requirements to be followed by the Principal Contractor and other Contractors so that the health & safety of all persons (including the public) potentially at risk may receive the same priority as other facets of the project e.g. cost, programmer, environment, etc. The entire document is to be considered

1.3 Implementation of the Health and Safety Specification

This health & safety specification forms an integral part of the contract, and the Principal Contractor is required to use it when drawing up its project-specific construction phase health & safety plan. The Principal Contractor must forward a copy of this specification to all Contractors at their bidding stage so that they can in turn prepare a health & safety plan relating to their operations.

2. HEALTH AND SAFETY SPECIFICATION

2.1 Scope of the Health and Safety Specification

This Specification covers the requirements for eliminating and mitigating incidents and injuries on this Project.

The scope also addresses legal compliance, hazard identification and risk assessment, risk control, and the promotion of a health and safety culture amongst those working on the project. The health & safety specification also makes provision for the protection of those persons other than employees.

This Specification aims to address the duties laid upon the Client in terms of the Construction regulations. The initial risk assessment attached to this document is deemed a base-line risk assessment addressing existing pre-construction hazards and construction stage hazards. The Principal Contractor

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and Contractors are required to develop their own project and task specific risk assessment in terms of Section 9 of the Construction Regulations and General Safety Regulations 2(1).

Section 2.3 of the specification considers all the administrative requirements as well as administrative processes, which the Principal Contractor must adhere to, or implement prior to and during the construction period.

Section 2.4 of the specification describes several anticipated requirements in terms of the physical activities to be undertaken during the construction period. The Principal Contractor is responsible for all construction related processes as well as the potential impact such process may have on the surrounds including members of the public.

Section 2.5 covers the requirements in terms of plant and equipment.

This specification attempts to address all the anticipated concerns and requirements however where an issue, process or plant usage is not covered the Principal Contractor must ensure all legal requirements are met regardless.

2.2 Interpretations

2.2.1 Application

This specification is a compliance document drawn up in terms of the Occupational Health & Safety Act no 85 of 1993 (OHSA), Construction Regulation 2014 and is therefore binding. It must be read in conjunction with all other relevant legislation as noted previously.

2.2.2 Definitions

The definitions as listed in the Occupational Health & Safety Act 85/1993 and Construction Regulation (February 2014) shall apply.

"Client" means any person for whom construction work is being performed.

"Agent" means a competent person who acts as a representative for a client.

"Principal contractor" means an employer appointed by the client to perform construction work.

"Construction site" means a work place where construction work is being performed.

"competent person" means a person who has, in respect of the work or task to be performed, the required knowledge, training and experience and, where applicable, qualifications, specific to that work or task: Provided that where appropriate qualifications and training are registered in terms of the provisions of the National Qualification Framework Act, 2000 (Act No.67 of 2000)

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"Construction Manager" means a competent person responsible for Managing and supervising construction activities on a construction site.

"Construction vehicle" means a vehicle used as a means of conveyance for transporting persons or material, or persons and material, on and off the construction site for the purposes of performing construction work.

"Construction work" means any work in connection with- The construction, erection, alteration, renovation, repair, demolition or dismantling of or addition to a building or any similar structure; or the construction, erection, maintenance, demolition or dismantling of any bridge, dam, canal, road, railway, runway, sewer or water reticulation system; or the moving of earth, clearing of land, the making of excavation, piling, or any similar civil engineering structure or type of work.

"Contractor" means an employer who performs construction work.

"Design" in relation to any structure, includes drawings, calculations, design details and specifications.

"Designer" means a competent person who-

- prepares a design;
- checks and approves a design;
- arranges for a person at work under his or her control to prepare a design, including an
- Employee of that person where he or she is the employer; or
- designs temporary work, including its components;
- an architect or engineer contributing to, or having overall responsibility for a design;
- a building services engineer designing details for fixed plant;
- a surveyor specifying articles or drawing up specifications

"Fall protection plan" means a documented plan, which includes and provides for- (a) all risks relating to working from a fall risk position, considering the nature of work undertaken; (b) the procedures and methods to be applied in order to eliminate the risk of falling; and (c) a rescue plan and procedures; "fall risk" means any potential exposure to falling either from, off or into.

"Health and safety file" means a file, or other record containing the information in writing required by these Regulations.

"Health and safety plan" means a site, activity or project specific documented plan in accordance with the client's health and safety specification.

"Health and safety specification" means a site, activity or project specific document prepared by the client pertaining to all health and safety requirements related to construction work.

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"Bulk mixing plant" means machinery, appliances or other similar devices that are assembled in such a manner so as to be able to mix materials in bulk for the purposes of using the mixed product for construction work.

"Material hoist" means a hoist used to lower or raise material and equipment, excluding passengers.

"Medical certificate of fitness" means a certificate contemplated in regulation 7(8).

"Mobile plant" means any machinery, appliance or other similar device that is able to move independently, and is used for the purpose of performing construction work on a construction site.

"scaffolding" means a temporary elevated platform and supporting structure used for providing access to and supporting workmen or materials or both.

"shoring" means a system used to support the sides of an excavation and which is intended to prevent the cave-in or the collapse of the sides of an excavation.

"Structure" means any building, steel or reinforced concrete structure (not being a building), railway line or siding, bridge, waterworks, reservoir, pipe or pipeline, cable, sewer, sewage works, fixed vessels, road, drainage works, earthworks, dam, wall, mast, tower, tower crane, bulk mixing plant, pylon, surface and underground tanks, earth retaining structure or any structure designed to preserve or alter any natural feature, and any other similar structure; separate ropes from each support.

"Temporary works" means any falsework, formwork, support work, scaffold, shoring or other temporary structure designed to provide support or means of access during construction work.

"The Act" means the Occupational Health and Safety Act, 1993 (Act No. 85 of 1993)

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2.3 Minimum Administrative Requirements

2.3.1 Health and Safety File

The Principal Contractor and all contractors are responsible for the establishment and maintenance of a Health and Safety File. This file will be a compilation of all health and safety documents related to or generated during the construction phase. This file must be kept safe and on site at all times. On completion of the project the consolidated Safety File must be handed to the Safety Representative for review and presentation to the Client.

2.3.2 Health & Safety Management Plan

The Principal Contractor and all contractors are required to implement a project specific health & safety management plan. The health & safety plan assessment process considers the content of the plan as well as the commitments made therein where the objective of the assessment process is to determine whether or not the contractor understands health & safety planning / management and acknowledges their responsibility to ensure the effective management thereof.

The following list presents the contractor with a guideline of what critical aspects we intend measuring or assessing during the safety plan approval process:

Scope of works – a clear description of how the work will be done.

Site establishment – site yard and site office setup as well as access control and public safety.

Site Management & Supervision – not only the appointment of a manager, supervisor and Safety Officer but a clearly defined commitment to ensure the appointed person is on site at all times and competent where competence relates to health & safety management.

Risk Assessments – the contractor needs to provide a risk assessment as well as describe how their management system allows for the on-going assessment of risks specific to tasks on site.

Training – the plan must define the contractor's commitment to training: induction training, toolbox talk training, key competency training and risk specific training.

Contractor selection – a description of the process of selecting contractors which specifically includes safety plan approvals and proof of good standing with workman's compensation.

Contractor management – what systems will be implemented to manage and monitor compliance among contractors on a continual basis including the stoppage of unsafe activities and situations. The Client/OHS Agent, Principal Contractor and Department of Labour may stop work immediately if there is a life threatening situation or non-compliance with this Specification or Principal Contractor OH&S Plan.

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Stop order will be issued by the Principal Contractor. The contractor must provide an action plan to prevent reoccurrence. Non-compliance will be discussed at the site meeting.

Emergency management and first aid provisions

Inspection records – a commitment to ensure that all plant and equipment is inspected and maintained including incident management and the reporting, investigation, and improvement processes to be implemented by contractors.

Fall Protection Planning & Edge Protection – a description of how they intend managing all penetrations, scaffolds, and ladders: it is important to describe what materials will be used.

Plant and Equipment – the plan needs to describe the contractor's commitment to the provision of suitable equipment relative to the work being performed, the competence of the workers making use of the plant and equipment, the maintenance of such plant and equipment.

PPE – a commitment to provide and ensure the use of PPE needs to be described.

The health & safety management plan including Risk Assessments, Method Statements and Fall Protection Plan must be electronically emailed to the Client Representative within 7 days before Commencement of work for approval. All contractors will be required to forward their health & safety management plan to the Principal Contractor within 7 Days before commencement of work for approval. The Safety plan and Approval letter must form part of the Safety file.

2.3.3 Notification of Construction Work

The Principal Contractor must notify The Department of Labor in writing, (Annexure 2) seven (7) days before construction work commences. Proof thereof must be electronically sent to the Clients Representative a copy of this notification and proof thereof must form part of the Safety File on Site.

2.3.4 Assignment of the Principal Contractor's / Contractor's Responsible Persons to Supervise Health and Safety on Site

The Principal Contractor and all Contractors must make all relevant appointments in writing (as stipulated the OHSA, Construction Regulations 2014 and all other relevant regulations/Acts/SANS etc.), prior to commencement of work.

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2.3.5 Competence of the Principal Contractor's / Contractor's Appointed Competent Persons

The Principal Contractor's and all Contractor's will make use of a competent person for the various risk management portfolios and must fulfill the criteria as stipulated under the definition of 'Competent' in accordance with the Construction Regulations (February 2014). Proof of competence must be attached to their appointment letters

The Principal Contractor must note that the Construction Site Manager – CR 8(1); being the most senior company representative on site is ultimately responsible to implement the company's health & safety plan and all related procedural documents and therefore he must be competent in terms of safety management. The appointed person will also be responsible to ensure that all contractors are effectively managed in terms of health & safety compliance.

The Client OH&S Agent reserves the right to instruct the Principal Contractor or Contractors to assign an alternative Construction Site Manager and/or Supervisors to the project.

2.3.6 Compensation for Occupational Injuries and Diseases Act 130 of 1993 (COIDA)

This could also be a Letter of Good Standing with FEM (Federated Employers Mutual). The Principal Contractor and Contractors shall have in its possession a letter of good standing with its Compensation assessor as proof of registration. The Principal Contractor and Contractors must before commencement of work electronically forward the Letter of Good Standing to the Clients Representative. A VALID Copy thereof must form part of their Safety Files.

The Principal Contractor OR Contractors WILL NOT be ALLOWED TO COMMENCE WORK WITHOUT Proof of registration

2.3.7 Occupational Health and Safety Policy

The Principal Contractor and all Contractors shall submit a Health and Safety Policy including but not limited to: Alcohol and Drug Policy, Environmental Policy, & PPE Policy, these policies must be communicated to all employees and be signed by its Chief Executive Officer. The Policy should outline the Employer's objectives as well as how they will be achieved and implemented by the Employer.

2.3.8 Health and Safety Organogram

The Principal Contractor and all Contractors shall prepare an organogram, outlining the site management health & safety structure including the relevant appointments/competent persons. In

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cases where appointments have not been made, the organogram shall reflect the intended positions. The organogram must be updated when there are any changes in the Site Management structure.

2.3.9 Preliminary Hazard Identification and Risk Assessment, Progress Hazard Identification and Risk Assessment, Risk Reviews, Monitoring and DSTI

The Principal Contractor must in writing appoint a competent person Knowledge training and Experience (Valid Certificate) before commencement of work, the Risk Assessments shall form part of the health and safety plan applied on site. This risk assessment will need to be comprehensive and may well lead to further, separate, more in-depth risk assessment studies. Should the Principal Contractor commence work without approval of the risk assessment, or should the risk assessment not reflect the activities being undertaken, The Client Representative may instruct the work to be immediately halted, and The Principal Contractor will have no claim against the Client and the same for the Contractors, in such a case for lost time or costs, irrespective of whether it can be demonstrated that the work was being safely undertaken.

The risk assessment should include the following:

- The identification of the risks and hazards to the health and safety to which persons may be exposed;
- The analysis and evaluation of the hazards identified;
- a documented plan and safe working procedures to mitigate, reduce or control the risks identified; and
- The monitoring and review plan of the risks and hazards.
- The relevant personal protective equipment or clothing

The Principal Contractor shall ensure that all Contractors are informed, instructed and trained by competent persons regarding any hazard and related work procedures before any work commence. The competent person will be required to review and monitor (Planned Job Observations) the risks on a monthly basis. The construction Manager 8(1) will be responsible to conduct Daily Safe Task Instructions with all employees on a daily basis, proof must be kept in the Health and Safety File.

2.3.9.1 Issue Based Risk Assessment

As circumstances and needs arise, separate risk assessment studies will need to be conducted. These will be associated with a system for the management of change. An additional risk assessment will need to be conducted and submitted to the Client/Representative for approval when for example:

- A new machine is introduced onto site
- A system for work is changed or operations altered

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- After an accident or a near miss has occurred
- New knowledge comes to light and information is received which may influence the level of risk to employees on site.

2.3.9.2 Continuous Risk Assessment

This is the most important form of risk assessment which should take place continually, as an integral part of day-to-day management. This should be conducted by the Safety Officer, management and supervisors on site and it is essential that formal training be provided to enable this process to be efficient. Examples of Continuous Risk assessment include:

- Audits
- DSTI
- General hazard awareness linked to a suggestion scheme
- Pre-work assessments using checklists.

In general, the Contractor must ensure that the Risk Assessment involves identifying the hazards present in a work activity on site. This is followed by an evaluation of the extent of the risk involved taking into account those precautions already being taken.

The Contractor shall be responsible for making sure that all employees under his/her control are conversant with the content of the Risk Assessment and what appropriate measures have been put in place to either eliminate or reduce the identified risks. The Contractor shall outline to employees what role they are expected to play in the Risk Assessment and control measure process.

2.3.10 Health and Safety Training

2.3.10.1 Induction

The Principal Contractor shall ensure that all site personnel undergo a site-specific health & safety induction training before commencement of work. Each contractor must induct their own personnel specific to their hazards, activities, conditions. Storage and Control of Hazardous Chemical Agents, Site rules, Welfare Facilities, Emergency procedures and Method Statements. A record of attendance shall be kept in the Health & Safety file.

2.3.10.2 Awareness

The Principal Contractor shall ensure that, on site, periodic toolbox health & safety talks take place at least once every week – these training talks form part of the Daily Task Risk Assessment process.

Training talks should deal with risks relevant to the construction work in process, conveying safe work

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procedures to the employees involved. A record of attendance shall be retained within the health & safety file. All Contractors have to comply with this minimum requirement.

2.3.10.3 Competence

All competent persons must have the knowledge, experience, training, and qualifications specific to the work they have been appointed to supervise, control, and carry out. This will have to be assessed on a regular basis e.g. training, evaluation, and periodic audits by the Client, progress meetings, etc. The Principal Contractor is responsible to ensure that competent Contractors are appointed to carry out construction work.

2.3.11 General Record Keeping

The Principal Contractor/Contractors shall keep and maintain Health and Safety records to demonstrate compliance with this Specification, with the OHS Act 85/1993, and with the Construction Regulations (February 2014). The Principal Contractor shall ensure that all records of incidents/accidents, emergency procedures training, inspections, audits, etc. are kept in a health & safety file held in the site office. On Completion of the project the Health and Safety File must be handed over to the Client/ Client Representative.

2.3.12 Health & Safety Audits, Monitoring and Reporting

The Client Representative shall conduct Monthly ad hoc Health & Safety audits on the safety management system as well as the physical site activities (No notification will be given to ensure compliance). The Principal Contractor: is obligated to conduct similar audits on all Contractors appointed by it and keep audit reports in its health & safety file. All audit reports must be circulated / distributed to the relevant parties / persons.

2.3.13 Emergency Procedures

The Principal Contractor must prepare a detailed Emergency Procedure prior to commencement on site. The procedure shall detail the response plan including the following key elements:

- List of key competent personnel
- Details of emergency services
- Actions or steps to be taken in the event of the specific types of emergencies;
- First Aid Cases
- Medical Cases
- Fires
- Evacuations

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- Information on any hazardous material/situations.

Emergency procedure(s) shall include, but shall not be limited to: fire; chemical spills; injury to employees; damage to material/equipment/plant; use of Hazardous Chemical Agents; bomb threats; major incidents/accidents; etc. The Principal Contractor shall advise the Client in writing forthwith, of any emergencies, together with a record of action taken. A contact list of all service providers (Fire Department, Ambulance, Police, Medical and Hospital, etc.) must be maintained and available to site personnel.

2.3.14 First Aid Boxes and First Aid Equipment

The Principal Contractor and contractors shall appoint a First Aider in writing (If employees exceed more than 10). Copy of valid certificates is to be kept on site. First Aid Box with relevant signage must be kept on site (If employees exceed more than 5)

2.3.15 Incident / Injury Reporting and Investigation

The Contractor will ensure that they will appoint an Incident Accident Investigator in writing to investigate all incidents and near misses. The Contractor will inform the Client Agent as well as the Department of Labour when required within twenty-four (24) hours. All investigation reports must be completed and forwarded to the Client Agent within seven (7) working days from the date of the incident.

Records of incidents as well as investigation reports must form part of the Safety File.

2.3.16 Medical Certificate of Fitness

All contractors must ensure that their employees on site have a valid medical Certificate of fitness, specific to the construction work being performed, issued by an occupational health practitioner in the form of an Annexure 3.

2.3.17 Personal Protective Equipment (PPE) and Clothing

The Principal Contractor shall ensure that all site workers are issued with and wear hard hats and safe footwear. The Principal Contractor and all Contractors shall make provision and keep adequate quantities of SABS approved PPE on site at all times according to the risk assessments. The Principal Contractor shall clearly outline procedures to be taken when PPE or Clothing is:

- Lost or stolen
- Worn out or damaged

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The above procedure applies to Contractors and their Contractors, as they are all Employers in their own right and must therefore carry their own PPE. Every Contractor is responsible for supplying the necessary PPE to its own employees however; the responsibility to enforce compliance in this regard remains that of the Principal Contractor. Labor Only Contractors appointed by the Principal Contractor become the responsibility of the Principal Contractor.

2.3.18 Occupational Health and Safety (OHS) Signage

The Principal Contractor must provide adequate on-site OHS signage. Including but not limited to: 'no unauthorized entry', 'report to site office', 'site office', 'beware of overhead work', 'hard hat area'. Signage Emergency Assembly point, Danger, Open Excavation, First Aid Box Signage and Fire Extinguisher must be posted at all entrances to site as well as on site in strategic locations e.g. access routes, entrances to structures scaffolding, and other potential risk areas/operations.

Health & safety signage must be well maintained including weekly inspections, cleaning, replacement and repair.

2.3.19 Permits

The Principal Contractor must ensure that all permit requirements and standards are met and the copies of all permits obtained or issued are retained on file.

Permits may include the following:

- Closure of public walkways, roadways;
- Hoarding Permits
- Hot-work Permits
- Scaffold Handover Certificates
- Confined Space Access Permits

2.3.20 Contractors Requirements and Health and Safety File

No contractors are permitted to work on site unless at least one of the Principal Contractors competent site supervisors is available on site and unless the workers have access to all of the on-site facilities. All Contractors and contractors must be appointed by the Principal Contractor in writing and copies of these appointments must be kept on file. The Principal Contractor shall ensure that all Contractors appointed by it comply with this Specification, the OHS Act 85/1993, Construction Regulations (February 2014), and all other relevant legislation that may relate to the activities directly or indirectly. The Contractor, when appointing other Contractors as 'contractors', shall mutatis mutandis ensure compliance as if it was the Principal Contractor.

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The Clients Consultant will email the Mandatary between Client and Principal Contractor which must be signed and returned via email to the clients Consultant. The Principal Contractor will also ensure a signed Mandatary Agreement entered into between the Principal Contractor and each contractor.

The principal contractor shall take all reasonable steps necessary to ensure co-operation between all contractors to enable each of those contractors to comply with the provisions of these regulations;

The Principal contractor must ensure that where changes are brought about to the design and construction, that sufficient health and safety information and appropriate resources are made available to Contractors so as to allow them to execute the work safely;

The Principal Contractor must ensure that every contractor is registered and in good standing with a recognized compensation fund or with a licensed compensation insurer prior to work commencing on site;

The Principal Contractor must ensure that potential Contractors submitting tenders have made provision for the cost of health and safety measures during the construction process;

The Principal Contractor shall discuss and negotiate with the Contractor the contents of the health and safety plan and shall finally approve that plan for implementation;

The Principal Contractor shall hand over a consolidated health and safety file to the client upon completion of the construction work and shall include a record of all drawings, designs, materials used and other similar information concerning the completed structure;

The Principal Contractor shall not appoint a Contractor to perform construction work unless the Principal Contractor is reasonably satisfied that the Contractor, he or she intends to appoint has the necessary competencies and resources to perform the construction work safely.

2.3.21 Public and Site Visitor Health & Safety

The Principal Contractor shall ensure that every person working on or visiting the site, as well as the public in general, shall be made aware of the dangers likely to arise from site activities, including the precautions to be taken to avoid or minimize those dangers. Appropriate health and safety notices and signs shall be posted up, but shall not be the only health & safety measures taken. Both the Client and the Principal Contractor have a duty in terms of the OHS Act 85/1993 to do all that is reasonably practicable to prevent members of the public and site visitors from being affected by the construction activities. Site visitors must be briefed on the hazards they may be exposed to as well as what measures are in place or should be taken to control these hazards. As per the Construction Regulations, a record of these 'inductions' must be kept on site (attendance register or visitors' book with site rules leaflet).

Where scaffolding is erected adjacent to or over public areas, see scaffold requirements 2.4.6 Where

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pedestrians have to be diverted, ready fence panels and signs must be used. Where traffic has to be diverted, flagmen must be used.

2.3.22 Night Work (Before and After Hours)

The Principal Contractor must ensure that adequate lighting is provided to allow for work to be carried out safely. Workers must be supervised at all times and contractors are only permitted to work on site while a competent supervisor representing the Principal Contractor is available on site. Workers must have access to facilities.

2.3.23 Transport of Workers

The Principal Contractor and other Contractors shall not:

Transport persons together with goods or tools unless there is an appropriate area or section to store the tools or equipment; Transport persons in a non-enclosed vehicle, e.g. truck; there must be a proper canopy structure (steel). Workers shall not be permitted to stand or sit at the edge of the transporting vehicle. (Covering the back and top) with suitable sitting area Transport workers in Pick-up trucks unless they are closed / covered and have the correct number of seats for the Passengers.

2.3.24 Construction Health & Safety Officer

The Principal Contractor must appoint a Part Time Health & safety Officer. The Health and Safety Officer must conduct fortnightly (Twice a month) Health and Safety Audits. Each contractor is also required to appoint their own safety officer. This appointment can be part-time in nature, the site visit intervals would need to be agreed with the Principal Contractor based on such criteria as: number of site personnel, work complexity, risk profile, sub-contractor appointed by the contractor, etc. The Health and Safety Officer must have proof of Registration with the SACPCMP (Up to date letter of Good Standing)

Audits and inspections including administrative and physical audits of all Contractors' health & safety plans, files and activities, and record findings in the form of audit reports to be kept in the health & safety file; and emailed to the Client Agent.

- Maintain the health & safety plan and file;
- Assist with investigating near misses, incidents and injuries;
- Co-ordinate the function of reviewing the hazard identifications and risk assessments;
- Developing Method Statements
- Assisting with method statements, safe work procedures and checking whether the responsible persons follow these procedures.
- Ensuring that all OH&S reports and relevant correspondence is issued to the respective party

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- Assisting the Induction training process.
- Review and Monitoring
- Risk Assessment Training
- Fall Protection Review and Monitoring

2.3.25 Penalties

Penalties may be imposed for ongoing non-compliance with the provisions of the Client's health & safety specification, the Principal Contractor's and Contractor's health & safety plans. The penalty procedure shall consist of a written warning with a compliance time frame. Non-conformances relating to the following critical areas may result in the imposition of immediate penalties:

- Edge protection standards and other fall risk related standards.
- Contractor safety plan approvals
- Contractor audits
- Induction Training
- The on-going development of task specific risk assessments
- The effective development of method statements
- Plant operator and crane operator appointments, competency and medical fitness
- Inspection records relating to plant and small plant.
- Management of excavations and inspections relating to excavations

2.3.26 Employee Identification

It is the responsibility of each contractor to ensure that their employees are identifiable. All employees will be issued with an overall indicating their company name.

A copy of each employees' ID document must be placed on the Contractors Safety File for record purposes. These records must be kept up to date.

2.3.27 Traffic Management Plan

It will be required from the Principal Contractor to produce a site-specific traffic management plan indicating how traffic will be controlled on site. The traffic Management Plan shall ensure that operators and public do not collide or cause any environmental damage. The traffic management should form part of the health and safety file and should be displayed on a notice or site container.

2.3.28 Health and Safety Representative and Committee

The Principal Contractor and all Contractors shall ensure that Health and Safety Representative(s) are appointed under consultation with the employees and trained to carry out their functions. The

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appointments must be in writing. The Health and Safety Representatives shall carry out regular inspections, keep records and report all findings to the Responsible Person forthwith and at health & safety meetings. Health & safety representatives are required as soon as an Employer has 20 employees on site (A Safety Representative will be required once there are 20 employees, up to 50, and then another as soon as there are 51 employees, and then a 3rd once there are 101 employees). The Principal Contractor shall ensure that a project health and safety committee meeting is held monthly and minutes are kept on record. Meetings must be organized and chaired by the Principal Contractor's Responsible Person (Section 16(2) person or CR 8(1) person). Site H&S meeting (apart from safety committee meetings) must be held once a month, chaired by the Principal Contractor and have in attendance all site supervisors and contractor supervisors. Safety reps and safety officers can also attend however the site supervisors are the critical attendees.

2.3.29 Pricing for Health and Safety Compliance

The Client shall make provision for the Health and Safety Compliance of the Principal Contractor. The Principal Contractor shall make provision for all contractors Health and Safety as per Construction Regulation 2014 (All pricing can be found in the Bill of Quantities)

2.4 Physical Requirements

2.4.1 Site Set-up

The Principal Contractor will be responsible to set-up a suitable site-office and storage area or yard. The location of such an office must be planned and discussed in advance with the Client. It is of vital importance that the Principal Contractor considers all environmental issues or concerns during the planning and implementation process.

The site set-up must consider and include all the requirements in terms of accessibility, facilities, security and public safety; thereby ensuring that the site is practically laid-out, well organized and accessible at all times. The perimeter must be secured to effectively control access thereby preventing members of the public from entering the site without permission. The following non-negotiable provisions must be established, available and maintained on site;

One toilet per 30 persons on site; a first aid box fully stocked; Fire fighting equipment as per the requirements as set out in the Principal Contractors fire risk assessment done before the site set-up commences; all relevant symbolic and descriptive signage; all anticipated Personal Protective Equipment requirements including at least four (4) full-body harnesses; A notice board for the displaying of safety related information; a flammable store (where necessary); ladders; temporary walkways constructed as required; Cement Mixing / Batching area (demarcated); as well as any other facilities which would contribute to an effective safety management system.

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2.4.2 Excavations/Trenching/Foundational Works

The Principal Contractor will appoint in writing a competent Excavation Supervisor writing for this project. This appointment must form part of the Safety File.

The Principal Contractor must formulate a Safe work Procedure and Method Statement for this Activity. All excavations must be performed under strict supervision prior to the commencement of construction activity. All plant operators must be competent and all plant must be in a safe-for-use condition. Plant must be inspected on a daily basis. These inspections must be recorded on a checklist.

The Principal Contractor and any relevant Contractors shall make provision in their tender for shoring and bracing of any excavations / trenches as per this specification. Where any uncertainty exists, the decision of a professional engineer or professional technologist competent in excavation work will be decisive.

The Principal Contractor shall ensure that:

- Excavations/trenches are inspected before every shift and a record of these inspections is kept;
- Safe work procedures have been communicated to the workers;
- The safe work procedures are enforced and maintained by the Principal Contractor's and Contractors' Responsible Persons at all times;
- Safe access is provided;
- No load, material, plant or equipment is placed or moved near the edge of any excavation or trench. A safe distance of no less than 1.5 meters from the edge of the excavation must be maintained;
- The requirements as per section 13 of the Construction Regulations are adhered to.

2.4.3 Existing Structures

The Principal Contractor must hoard the perimeter of the Construction site. Height of the Hoarding to be decided by design team – At least 1.5m high hoarding is recommended. If applicable the Hoarding must be designed and signed off by a Structural engineer (Design team to be consulted). Every effort must be made to protect all existing services, roadways around the site that may be affected by construction work. Any structures, existing curb-lines, manholes and storm-water drains, entrances etc. must be checked for any signs of damage prior to commencement and monitored thereafter. Should any damage be caused to the existing services, roadways or nearby structures, the client in consultation with the design team will instruct the Principal Contractor on how to proceed. No materials may be stored on any of the adjacent properties or in any public area.

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2.4.4 Edge Protection and Penetrations

The Principal Contractor must ensure that all exposed edges and openings are guarded and demarcated at all times until permanent railings, barriers or structures have been erected. The temporary rails or guards must be constructed of scaffold tubing or a material of similar strength and offering similar protection. Guardrails must be placed at 1m above the platform / floor and must be distinguishable from the rest of the structure, scaffold or formwork. The Principal Contractor's risk assessment must include the following areas:

- Penetrations
- Excavations

2.4.5 Fall Protection Plan and Working at Heights

The Principal Contractor/Contractors will in Writing appoint a Competent Fall Protection plan developer with Knowledge, training and Experience (Valid Certificate) The fall protection Plan must be in line with regulation 10 of the Construction Regulation of 2014. The plan must be revised on a monthly basis. The Fall Protection Plan must include:

- Risk Assessment for fall risk.
- Training of persons working at height. (Fall Plan and Rescue Plan)
- Procedure for inspecting, testing and maintenance of equipment.
- The evaluation of employee's medical fitness for working at height. (Include medication and fasting).
- Access to work area.
- Rescue plan.
- Method of safeguarding fall Risk.
- Written Safe work Procedure
- Proof of communication to employees

2.4.6 Scaffolding

All scaffolding must comply with the requirements of SANS 085. Principal Contractor must in writing appoint a Competent Scaffolding inspector for this project. This appointment must form part of the Safety File. The Principal Contractor must in writing appoint at least 1 competent scaffold erectors to this Project. The appointment must form part of the file.

All scaffolding platforms above 2m from the ground must be complete with guardrails and toe boards and must be fully boarded at the level from which the work will be undertaken as per the requirements of general-purpose scaffold platforms. Mobile or Tower scaffolds may not exceed 3 X their minimum

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base width in height and must be adequately boarded as per their loading requirement (no less than 3-board wide). Mobile scaffolds and static frame towers must be erected as per the manufacturer's requirements (copies of these erection specifications/data sheets must be available on site).

Any scaffold structures must be erected by a competent scaffold erector. Scaffolding must be declared safe for use by a competent scaffold inspector who must complete the scaffold hand-over certificate. Inspections must thereafter be carried out weekly, after bad weather, after any alterations, after an incident, and before dismantling. The Principal Contractor must keep all scaffold inspection registers on site.

All persons working in elevated positions must be assessed / evaluated for physical and psychological fitness. Proof of these assessments / evaluations must be contained within the site safety file. All persons working in elevated positions must be trained and records of this training must be kept on site.

Work from elevated positions may only be conducted from a safe ladder or safe scaffold. Where fall prevention or fall arrest devices are being used, the correct devices must be used for the purpose and they must be properly maintained. Workers must be trained in the use and Maintenance of the fall prevention and arrest equipment/devices.

Where work is taking place in an elevated position, the area below must be adequately demarcated, preventing persons from walking or working directly below. Where scaffolding is erected adjacent to or over public areas and roadways, adequate public protection measures must be put in place. Pavement gantries, fans/aprons, scaffold sheeting and/or closure/diversion of the public from the area are considered the accepted measures.

No materials may be thrown down from platforms,, decks or any other elevated position unless a demarcated area has been established on ground level to prevent other employees or persons from walking out into the area to which the materials is being thrown.

2.4.7 Roof work

Not though to be applicable.

2.4.8 Temporary Work / Formwork and Support Work

The Principal Contractor/Contractor shall ensure that the provisions of section 12 of the Construction Regulations (February 2014) are adhered to.

The Principal Contractor/ Contractor will appoint in writing a Temporary Works Designer. This Appointment must form part of the Safety File. The Client Agent will not take responsibility for any temporary works.

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The Principal Contractor/Contractor will be required to formulate a Safe Work Procedure for the placement and dismantling of form work. This safe work procedure must be relevant to the form work system used on the project. The Principal Contractor/Contractor must appoint a person with sufficient knowledge and experience of this activity as the Form Work and Support Work Supervisor. Proof of competency may be requested by the Safety Representative. A copy of this appointment must be placed on the Safety File. The Construction Supervisor is to ensure that movement of mobile plant and mobile pumps are controlled when pouring of concrete is in process. Proper communication between the Form Work Supervisor and the pump operator is essential. The area underneath the cast must be demarcated with no access during the pour. The form work and support work supervisor will be required to do pre and post casting inspections with records kept on the Safety File. All form work must be in line with the specification provided by the structural engineer. Support work must be secured, properly braced and checked on a daily basis until back propping can be removed. Removal of propping may only be done on instruction from the structural engineer and once the concrete has properly cured.

2.4.9 Stacking of Materials and Housekeeping

The Contractor will ensure that they appoint a Stacking and Storage Supervisor. This Appointment will form part of the Safety file. The Supervisor will make sure all materials and all equipment is stacked and stored safely, on level, compacted ground, out of access ways Walkways must be clear of all materials. No materials may be stacked for storage on scaffold platforms, No materials may be stacked on the edge of any deck, and penetration, balcony, loading platform or drop-off. A safe clearance of 1.5 meters from any such edge must be maintained and where materials have been deposited near such an edge they must immediately be removed. The Principal Contractor will be required to appoint a Housekeeping Supervisor to ensure all rubble is removed from site and contractors comply with the environmental regulations, if the Principal Contractors fails to maintain good housekeeping the Client Agent has the right and responsibility to stop the contract until all waste and pathways are cleared from rubble.

2.4.10 Electrical Supply (Temporary), Distribution and Installations

All electrical work on this project must be done by a competent electrical company registered with the Electrical Contracting Board of SA and appointed in writing as the Electrical Installations and Machinery Inspector. This appointment must form part of the Safety File. All electrical work must comply with the following:

- All electrical installations must have an electrical compliance certificate. This will apply to the site office as well.
- All electrical installations (distribution boards) must be fitted with an earth leakage system.

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- All temporary lighting must comply with the legal requirements and must be properly fitted or fitted with a tripod.
- All distribution boards must be numbered and tested on a weekly basis.
- All distribution boards must be depicted with the correct signage.
- All electrical leads used must be in good condition and properly insulated.
- All generators used on the project must comply and must be inspected

2.4.11 Hazardous Chemical Agents

The Principal Contractor and other relevant Contractors must provide the necessary training and information as far as the use, transport, and storage of HCS. The Principal Contractor shall ensure that the use, transport, and storage of HCS are carried out as prescribed in the HCS Regulations. The Contractor shall ensure that all Hazardous Chemical Agents on site have Material Safety Data Sheets (MSDS) on site and the users are made aware of the hazards and precautions that need to be taken when using the chemicals.

The risk assessment must address the following items:

- The HCS's that employees may be exposed to;
- The effects that the HCS can have on the employee;
- Where the HCS may be present and in what physical form;
- The route of intake;
- The nature of the work and process involved.

The First Aiders must be made aware of the MSDS and how to treat HCS incidents accordingly. Flammable substances must be stored in a separate area, away from other materials.

2.4.12 Batch Plant and Mixers

All Batch Plant must comply with the following: All batch plant operations must be done under the supervision of a competent person appointed in writing. Placement of batch plant must be in accordance with the manufacturer's specification. Access to the plant must be kept clear at all times. All batch plant need to be inspected on a daily basis and records of these inspections must form part of the Safety File. All persons involved in the process need to wear the correct PPE.

2.4.13 Brick Work

All brickwork needs to be done from a safe platform such as scaffolding. The Construction Work Manager is to ensure that the amount of bricks loaded on the scaffold is not excessive so as to overload the structure. All bricks not used must be removed from the scaffold after use or at the end of the day.

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No bricks or cement will be allowed on scaffolding after hours. Walls under construction must be completed before the end of the day. No single skin wall will be left over night as this may become a hazard in windy conditions.

2.4.14 Structural Steel Work and Metal Work

Not thought to be applicable.

2.4.15 Demolition Work

The Principal Contractor must ensure that a demolition method statement be produced for the work to be done. This document must highlight:

- The sequence of demolition
- The method of demolition
- Propping of elements where and if required
- Access of plant and vehicles to site/removal of rubble
- Placement of plant
- Hoarding layout where deviation of site hoarding is required
- Protection of other structures
- Dust Management

This method statement must be approved by the structural engineer as well as the client before work may commence.

All demolitions must be done under the supervision of a competent person with the required knowledge of the activity. This person must be appointed in writing as the Demolitions Supervisor and a copy of this appointment must be placed in the Safety File.

All areas being demolished will be demarcated to restrict access. Only authorized persons may enter these areas and only on approval of the Demolitions Supervisor. Demolished material will be removed as a matter of urgency so as not to hinder the demolition process.

2.5 Plant and Machinery

2.5.1 Construction Plant & Small Plant

“Construction Plant” includes all types of plant including but not limited to, cranes, piling rigs, excavators, road vehicles, dumpers and all lifting equipment.

The Principal Contractor /Contractors will be required to formulate a Written Safe Work Procedure to ensure that all such plant complies with the requirements of the OHS Act 85/1993 and Construction

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Regulations (February 2014). The Principal Contractor and all Contractors shall inspect and keep records of inspections and load tests of the construction plant used on site. The inspection register must be plant specific and the plant must be referenced on the register.

Only authorized/competent persons may use machinery and the proper supervision must be provided. Appropriate PPE and clothing must be provided and maintained in good condition at all times.

No employees may travel as passengers on any mobile plant or construction vehicle unless they are seated in the cab.

Small plant must be inspected before use and weekly thereafter for as long as it remains on site. The inspection register must be plant specific.

All small plant must be in a safe for use condition. Small plant operators must also be provided with the necessary PPE and specifically hearing protection.

2.5.2 Vessels under Pressure (VuP) and Gas Bottles

The Principal Contractor and all relevant Contractors shall comply with the Vessels under Pressure Regulations, including:

- Providing competency and awareness training to the operators;
- Providing PPE
- Inspect equipment regularly and keep records of inspections;
- Providing appropriate firefighting equipment (Fire Extinguishers);
- Oxygen and acetylene bottles must be secured in an upright position and must not show signs of corrosion or damage.

2.5.3 Fire Extinguishers and Fire Fighting Equipment

The Principal Contractor /Contractors must in writing appoint a Fire Equipment Inspector. This Appointment must form part of the Safety file The Principal Contractor shall provide adequate, regularly serviced firefighting equipment located at strategic points on site, specific to the classes of fire likely to occur. The appropriate notices and signs must be posted as required. A minimum of two 9kg dry chemical powder units are required.

Wherever hot work is taking place, additional fire extinguishers must be on hand. Contractors are responsible for ensuring compliance with hot work procedures and must be in possession of method statements detailing the safe working procedures.

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2.5.4 Hired Plant and Machinery

The Principal Contractor shall ensure that any hired plant and machinery used on site is safe for use and complies with the minimum legislation requirements. The necessary requirements as stipulated by the OHS Act 85/1993 and Construction Regulations (February 2014) shall apply. The Principal Contractor shall ensure that operators hired with machinery are competent and that certificates are kept on site in the health & safety file.

Any load test requirements and inspections in terms of legislation must be complied with and copies of load test certificates and inspections must be kept in the health & safety file. All relevant Contractors must ensure the same.

2.5.5 Ladders and Ladder Work

The Principal Contractor/Contractors must appoint a Ladder Inspector in writing, this appointment must form part of the Safety File. The Principle Contractor / Contractors must ensure that all ladders are inspected daily before use, are in good safe working order, are the correct height for the task, extend at least 900 mm above the landing, fastened and secured, and at a safe angle. Stepladders must be safe for use, must be the correct height for the task and the top two rungs may not be used. Records of inspections must be kept in a register on site. Contractors using their own ladders must ensure the same.

2.5.6 General Machinery and Lifting Machines

2.5.6.1 Mobile Crane

Not thought to be applicable for this project.

2.5.6.2 Conveyor belt

Not thought to be applicable for this project.

2.5.7 Installation, Testing and Commissioning of New Electrical Installation

Not thought to be applicable for this project.

2.5.8 Loading Platforms

Should these platforms be used, they must carry a design drawing issued by a competent person indicating the maximum safe workload and the erection and maintenance procedures. The platform must be complete with guardrails and toe boards and must carry a notice indicating the maximum safe

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workload. Access routes under the loading platforms must be diverted and persons must be protected from the potential material and objects falling.

2.6.0 Occupational Hygiene

The Principal Contractor and all Contractors are to ensure that proper health and hygiene measures are put in place to prevent exposure to these hazards and risks. The occupational hazards and risks may enter the body in three ways: Inhalation, Ingestion and Absorption. All Contractors should ensure that Occupational Hygiene surveys are conducted as per the Occupational Health and Safety Act to ensure employees are not exposed to hazards. Risk Assessments should identify areas where surveys are to be conducted.

2.6.1 Occupational Hygiene

Exposure of workers to occupational health hazards and risks is very common in any work environment, especially in construction. Occupational exposure is a major problem and all Contractors must ensure that proper health and hygiene measures are put in place to prevent exposure to these hazards. Prevent inhalation, ingestion, absorption, and noise induction.

2.6.2 Welfare Facilities

The Principal Contractor must supply sufficient toilets (1 toilet per 30 workers), changing facilities, hand washing facilities, soap, toilet paper, and hand drying material must be provided. Waste bins must be strategically placed and emptied regularly. Safe, clean storage areas must be provided for workers to store personal belongings and personal protective equipment. Workers should not be exposed to hazardous materials/substances while eating and must be provided with adequate, sheltered eating areas.

2.6.3 Alcohol, Drugs and Smoking

No alcohol and other drugs will be allowed on site. No person may be under the influence of alcohol or any other drugs while on the construction site. Any person on prescription drugs must inform his/her superior, who shall in turn report this to the Principal Contractor forthwith. Any person suffering from any illness/condition that may have a negative effect on his/her safety performance must report this to his/her superior, who shall in turn report this to the Principal Contractor forthwith. Any person suspected of being under the influence of alcohol or other drugs must be sent home immediately, to report back the next day for a preliminary inquiry. The Contractor concerned must follow a full disciplinary procedure and a copy of the disciplinary action must be forwarded to the Principal

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Contractor for his records. No Smoking is permitted on site. There must be a designated area for smoking. With signage.

2.7 Duties of the Designers

Construction Regulation 6 requires a Designer to do the following:

The designer of a structure must- (a) ensure that the applicable safety standards incorporated into these Regulations under section 44 of the Act are complied with in the design; (b) take into consideration the health and safety specification submitted by the client; (c) before the contract is put out to tender, make available in a report to the client- (i) all relevant health and safety information about the design of the relevant structure that may affect the pricing of the construction work; (ii) the geotechnical-science aspects, where appropriate; and (iii) the loading that the structure is designed to withstand; (d) inform the client in writing of any known or anticipated dangers or hazards relating to the construction work, and make available all relevant information required for the safe execution of the work upon being designed or when the design is subsequently altered; (e) refrain from including anything in the design of the structure necessitating the use of dangerous procedures or materials hazardous to the health and safety of persons, which can be avoided by modifying the design or by substituting materials; (g) when mandated by the client to do so, carry out the necessary inspections at appropriate stages to verify that the construction of the relevant structure is carried out in accordance with his design: Provided that if the designer is not so mandated, the client's appointed agent in this regard is responsible to carry out such inspections; (h) when mandated as contemplated in paragraph (g), stop any contractor from executing any construction work which is not in accordance with the relevant design's health and safety aspects: Provided that if the designer is not so mandated, the client's appointed agent in that regard must stop that contractor from executing that construction work; (i) when mandated as contemplated in paragraph (g), in his or her final inspection of the completed structure in accordance with the National Building Regulations, include the health and safety aspects of the structure as far as reasonably practicable, declare the structure safe for use, and issue a completion certificate to the client and a copy thereof to the contractor; and (j) during the design stage, take cognizance of ergonomic design principles in order to minimize ergonomic related hazards in all phases of the life cycle of a structure. (2) The designer of temporary works must ensure that- (a) all temporary works are adequately designed so that it will be capable of supporting all anticipated vertical and lateral loads that may be applied; (b) the designs of temporary works are done with close reference to the structural design drawings issued by the contractor, and in the event of any uncertainty consult the contractor; (c) all drawings and calculations pertaining to the design of temporary works are kept at the office of the temporary works designer and are made available on request by an inspector; and (d) the loads caused by the temporary works and any imposed loads are clearly indicated in the design.

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BASELINE RISK ASSESSMENTS

Risk Evaluation System Risk Rating = Likelihood of harm(L) × Potential consequence of harm (C)		Potential consequence of harm		
		1 – Minor Injury (hazard can cause illness, injury or equipment damage but the results would not be expected to be serious)	2 – Significant Injury (hazard can result in serious injury and/or illness, over 3 day absence)	3 – Major Injury (hazard capable of causing death or serious and life threatening injuries)
Likelihood of harm	1 – Unlikely (injury rare, though possible)	1 – Low	2 – Low	3 – Medium
	2 – Possible (injury could occur occasionally)	2 – Low	4 – Medium	6 – High
	3 – Probable (injury likely to occur)	3 – Medium	6 – High	9 – Extreme

Activity	Hazards	Risks	Risk Rating			Low Med High	Minimum Control Measures to reduce the Risk
			L	C	R		
Development and Implementation of Site-Specific Health and Safety File (Including all emergency procedures, Routes etc.)	Lack of administration duties, OHS Requirements not being adhered to	Duties of Contractor not being complied with, Employees not being informed	1	1	1	Low	Health and Safety Officer to ensure safety file is ready and implemented on site before commencement of works. Contractor to ensure all employees are present for Safety Training. Safety Officer to conduct on-going training with employees and all documentation to be reviewed fortnightly.

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Site Establishment (Temporary Fencing, OHS Signage Etc.)	Restricted access to parking and delivery areas to storage areas, Theft of property Access to unauthorised persons, Not having essential services at hand, Not informing employees and public what the site rules are With inadequate space various materials will be stacked on top of each other causing unstable stacks,	Damage to transport and plant, Loss of property Injury to employee, Health of employees Loss of property through fire, Injury to employees Damage to property, Injury to employees Damage to property, Health risks	2	2	4	Med	Proper layout of site by Construction Manager and Site Agent taking into consideration all transport plant and material movements and storage on site. Security guards to be appointed to keep watch First aider and first aid boxes to be included on first order placed for contract Dry chemical powder ABCDE fire extinguishers to be order (1 to start with) Company standard notices and/or posters to be displayed. low sufficient space for lay down area during planning stage of site layout. Access to be considered important. Toilet Extraction fans to be fitted if required
Isolating and Identifying of all existing services	Unauthorised work, Electrocuting, Fire, Electric shock, Property damage, Trips and falls	Electrocution and burns, Finger and hand injury, Bruises and cuts	2	3	6	High	Ensure all Electricity and Water are switched off before commencing work. Ensure all the existing pipes and electrical cables are identified by the client before commencing work and the principal contractor is aware of all services underground.
Accessing to the Construction Site, Deliveries and offloading	Unauthorized Entry, Blocking or disturbing traffic/Public, Other Vehicles entering and	Injury to employees, damage to plant and equipment, Damage to vehicles/Equipment,	2	2	4	Med	Principal Contractor shall ensure they are appointed by the Client before entering the site. All visitors to ensure they report to the site office before accessing the site. Contractors shall only use parking areas provided by the Principal Contractor. Drivers of vehicles to ensure traffic flow is not disrupted. Other contractors/visitors on site will be considered. All employees to receive induction training by the safety officer prior to entering the site. Site traffic to be managed. Safety Officer to ensure

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materials/ equipment	exiting the site Insufficient Signs and Notices, Poor Housekeeping and Stacking and Storage, Working from heights	disrupting traffic flow Damage to Property/vehicles/ Plant/equipment, Confusion, collision of vehicles/Mobile Plant					employees understand the layout of the site and the meaning the construction signs displayed. (During induction training). Appointed stacking and storage supervisor to ensure good housekeeping and stacking and storage principles are implemented on site. Safety Officer to ensure ongoing training in the form of Toolbox Talks, Risk Reviews/monitors etc. is done with employees weekly. Employees to have a safety harness when working higher than 3m. Safety Officer to insure harnesses are in good condition and adequate for employee. Anchorage point to be provided for employees (See fall protection plan)
Excavations	Employees not visible to operator or moving machinery, Danger of injury to employee by machine, Materials can fall onto employees and the excavation may need extra work, Unsafe use of a pick or shovel, Unstable / loose material causes unsafe conditions, Materials can fall onto employees when working inside the excavation, Employees not able to enter or exit the	An injury to all parts of the body as well as more serious or fatal injuries, Injuries to employees and the excavation may need extra work, In case of emergency too many employees may be buried as a result of inadequate access. Employees may also strain muscles to get in or out of an excavation without safe and convenient access, Damage to excavations. Damage to plant and machinery	2	3	6	High	Operator must work under close supervision. He must inspect the work area prior to commencing work Supervisor must instruct operator when to commence work Supervisor must instruct operator where to place discharged soil and gravel Induct employees on safe working procedures Supervisor to inspect sides on a regular basis Employees to be instructed not to place loose soil on edge of excavation Providing a ladder makes access into and out of excavation areas easy and safe Put adequate shoring and strong physical barricades in place immediately Keep area barricaded with strong physical barricade and backfill as soon as possible

ANNEXURE A: BASELINE RISK ASSESSMENTS

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	excavation safely, Sides may collapse.						
Plant and machinery operations	Vibration of plant to back falling stones from bucket, Hitting employee, Driving over employee, No preventative maintenance in force, Failing parts, Reversing and Driving over person/s Damage to property, Front-end loader being in place where it is not expected – speeding, Colliding with structures, Leaking oil, Inspections cannot be conducted in a proper manner if plant is not clean	Injury to all parts of body, possible fatality, Loss of production, Damage to property, Fatality or damage to property or plant, Possible injury to persons, Collision with other transport or plant, Damage to plant and structures, Contamination of underground water	2	3	6	High	Operator to be inducted on use of their PPE (Gloves, reflective jackets, maintenance thereof and advantages of use Operator to be inducted in safety rules Operator to be trained how to do the daily inspections with the use of a checklist and procedures of reporting Operator to have proof of competency available in the health and safety file at all times. Reverse sirens on all construction mobile plant. Driver to be inducted before entering the site. A drip tray is to be used to collect oil Contaminated soil to be removed and disposed of at a suitable place Housekeeping to be included into safety induction and daily inspection training
Installation of Manholes Plumbing and Drainage	Lifting and moving pipes to installation area, Stacking of Pipes at installation area, Hoisting Pipes, Securing the	Severe injury to persons and can cause damage to property and equipment, Hand and foot injuries	2	2	4	Med	Wear hand protection. Lift materials with a straight back and bent knees. Handle pipes with pipe grabs. Get assistance if material is too heavy (max 25kg). Maintain good housekeeping. Beware of hand pinch places. Ensure enough finger room when lowering materials to floor level. Keep colleagues' safety in mind Ensure that material is stacked in such a manner that it cannot topple. Ensure that material are not stacked in front of fire extinguishers, doors and escape routes. Inspect floor for soft

ANNEXURE A: BASELINE RISK ASSESSMENTS

25139C – STONEY POINT BOARDWALK REPLACEMENT: STONEY POINT NATURE RESERVE (PENGUIN SANCTUARY), STONEY POINT ROAD, BETTY'S BAY, OVERSTRAND MUNICIPALITY, WESTERN CAPE, SOUTH AFRICA

	pipe, Handling loose tools in elevated positions,	from falling materials – self and others					or uneven places Ensure that supports are solid and spaced correctly. Demarcate the area around the stacked equipment Ensure hoisting rope is secure. Tie hoisting rope with a double knot to the pipe to prevent slipping. Ensure that equipment will not slip whilst hoisting.
Erecting and Dismantling of Temporary Works/Form Work	Overhead lines / obstructions, uneven ground / surface, Material causing a tripping hazard, blocking walkways and falling if not stacked correctly, Scaffold / formwork could subside and collapse, People not knowing what is being done and causing damage and or injury, Scaffolding not erected level can cause it to topple and even collapse.	Scaffold unstable / falling, Damage to property and or injury to workers, Damage to property and or injury to workers, Damage and or injury.	2	3	6	High	Ensuring that the site is prepared and ready for the work to be carried out. Ensuring that the location, stacking and area barricaded. Ensuring that the foundation / footing where the scaffold is to be built is stable and level. Toolbox talks held by team leaders / supervisors / foreman ensuring awareness and understanding. The correct use of PPE, gloves, hard hats, safety shoes, safety glasses, safety harnesses. Workers trained in the correct use of the issued PPE. Ensuring that assembled scaffold is on jacks, base plates and braced correctly. Ensure that scaffold is red tagged (Unsafe to Use) until it is completed and inspected and passed as green tagged (Safe to Use). Scaffolding level and to be in a good serviceable condition. All platforms to be fully boarded and boards used should comply with SABS 085 standards. Ensure hand rails and toe boards fitted and secure. Material / equipment should be lifted raised using hand ropes and containers Do not throw equipment / materials from one level to another. Do not throw tools or equipment to the ground. Correct issue of PPE and how, why and when to use it. Ensure that there is no loose material / tools left on top of the scaffold. Area scaffold is to be relocated is clear. No workers are permitted to be on the scaffold while it is being moved.
Painting	Large quantities of paint drawn from store increases the chances of having a fire incident on site, Allowing	Injury to body, burns, Blindness caused by explosion, Employee injury, Damage to property	2	2	4	Med	Storeman to be instructed only to issue quantities that are sufficient for painting operation of one day only Procedure to be explained to all employees working in the paint section Employees must be trained in the use of material data sheets Employees to be inducted regarding the use and maintenance of PPE required and also consulting the material data sheets The correct PPE to be used for specific material used Ventilation of the utmost importance and should be brought to

ANNEXURE A: BASELINE RISK ASSESSMENTS

25139C – STONEY POINT BOARDWALK REPLACEMENT: STONEY POINT NATURE RESERVE (PENGUIN SANCTUARY), STONEY POINT ROAD, BETTY'S BAY, OVERSTRAND MUNICIPALITY, WESTERN CAPE, SOUTH AFRICA

	access to other employees of dangerous substances, Possible ignition by flame or smoking, Incorrect handling, Contact with other materials that not compatible,	in the event of explosion or fire, Injury to hands, eyes, lungs, Damage to property					attention of all painter. Employees to be inducted to close all containers after use Employee to be trained to be aware of the hazards associated with his work The correct type of fire extinguisher for the products used is to be close to work area. Painter should know how it operates Only flameproof light fittings to be used by paint section. All electrical lights and fittings in paint section to be flame-proof Employees to be informed about these hazards First aid box to be readily at hand and not too far from painting workplace Painters to be taught how to inspect their equipment and maintain it Employees to be inducted to avoid being under suspended load nor cause a load over other people Painters to be inducted into keeping their work places at high standard
Cutting Disc	Noise from machine, Fire, Flying debris Blade shattering	Injury to employees, damage to plant and equipment,	2	3	6	High	Use competent personnel. Hot works control- fire extinguisher, fire watchman. (Permit may be required) PPE to include gloves, eye protection, hearing protection, Stable working position, Clear working area Right type of blade must be used. Good ventilation to be provided. Changing of disc - by competent persons only Cutting discs must not be used for grinding (grinding disc thicker) Bystanders to wear hearing protection, as applicable
Electric Tools	Electric, shock Fire	Employee injury, Damage to property	2	3	6	High	Electric tools and installations to be in good condition. Inspect electric tools before use. Do not use electric tools in wet/damp conditions. Use personal protective equipment such as insulated gloves. Electrical installations register to be maintained, inspected by competent person. Electrician to oversee all electrical work. All electrical personnel to be trained and competent. Lock-out procedures to be enforced when working on any live electrical equipment. Tag-out procedures to be implemented and enforced and all on site to be informed of these procedures.
Fire and Fire Fighting Equipment	Not having fire equipment on site, employees not trained	injuries to workers, damage to property	2	2	4	Med	No littering on site which could become fire hazard, maintain site in clean condition. No fires to be lit on site. Have a working fire extinguisher at hand at all times. No smoking or naked flame near flammable substances or in unauthorized areas, Ensure proper storage/use of petrol/diesel/flammable substances – post warning notices.
Hand tools	Faulty/damaged Hand tools, not	Injuries caused by use of hand tool,	2	2	4	Med	Ensure: Tool is correct for job Tool is in good order and suitably sharp, Personnel must be competent/instructed in tool usage and tool safely, Lighting is sufficient,

ANNEXURE A: BASELINE RISK ASSESSMENTS

25139C – STONEY POINT BOARDWALK REPLACEMENT: STONEY POINT NATURE RESERVE (PENGUIN SANCTUARY), STONEY POINT ROAD, BETTY'S BAY, OVERSTRAND MUNICIPALITY, WESTERN CAPE, SOUTH AFRICA

	inspecting hand tools	Impact with the tool, Falls					Access is safe, working platform is secure, leading edge is guarded, Employee is wearing all necessary PPE
Hazardous Chemical Agents	Employees not wearing PPE, Lung dysfunction, exposure to HCS	Injuries to workers through use of Hazardous Chemical Agents , e.g. injuries to eyes, skin, etc.	2	3	6	High	Use substances in accordance with data sheet, particularly reference protective clothing required (example: gloves, goggles, etc.) Know what First Aid measures are, Have welfare facilities available for washing of hands, etc.
Manual Handling of General Items	Employees not being trained on manual handling, Toolbox Talks not being conducted weekly.	Muscular skeletal injuries if the load is too heavy or awkward, Operative falling/ tripping, Contamination from the substance being carried, Fall of material being carried	2	2	4	Med	Personnel should be aware of safe manual handling techniques Personnel to wear Personal Protective Equipment when carrying items, eg: safety footwear and gloves. Ensure good housekeeping against tripping/fall hazards. Operative to get assistance if load too heavy- team lift if necessary. Utilise mechanical lifting and carrying aids where possible. Personnel to ensure access equipment, ladders will take weight of operative and load being carried. Personnel to ensure item being carried is properly bonded or will not be liable to break apart whilst being manually handled
Public & Visitors	Site not enclosed, signage not displayed, housekeeping not in good order.	Injury to public members - from site works	2	3	6	High	Barriers and signage to be in place, Workers must warn away any members of public from the works, Footpaths and bridges which are open to public must be closed off if in area of works or otherwise made safe so that no injury occurs to members of public. Visitors to be escorted on site, Look at other parts of this risk assessment and assess likely impact upon members of public and make adequate provision for their health and safety.
Noise and Dust	Earplugs not being worn, employees not being inducted	Noise can damage hearing, Breathing in dust can cause long term health problems	2	2	4	Med	Wear hearing protection, Dust masks etc. Principal Contractor to ensure all employees were inducted before entering the site. All effort needs to be made to ensure noise and dust are reduced.

ANNEXURE A: BASELINE RISK ASSESSMENTS

25139C – STONEY POINT BOARDWALK REPLACEMENT: STONEY POINT NATURE RESERVE (PENGUIN SANCTUARY), STONEY POINT ROAD, BETTY'S BAY, OVERSTRAND MUNICIPALITY, WESTERN CAPE, SOUTH AFRICA

Weather	Construction Manager not letting employees come off site if weather is bad	Inclement weather – Exposure to: Rain – wet conditions Extreme Temperatures Strong Winds	2	3	6	High	Use Correct PPE to prevent slips and falls Temperatures – Too hot (dehydration) drink enough water. Too cold – (hypothermia) seek shelter
Small Plant	Ensure drip trays are used underneath generators.	Noise induced hearing loss, poisoning - carbon- monoxide, burns, fires.	2	2	4	Med	No smoking allowed. Check for leaks – petrol, diesel, oil. Check Switches (kill switch)

OCCUPATIONAL HEALTH AND SAFETY SPECIFICATION

25139C – STONEY POINT BOARDWALK REPLACEMENT: STONEY POINT NATURE RESERVE (PENGUIN SANCTUARY),
STONEY POINT ROAD, BETTY'S BAY, OVERSTRAND MUNICIPALITY, WESTERN CAPE, SOUTH AFRICA

ANNEXURE B: ACKNOWLEDGEMENT OF RECEIPT OF THE HEALTH & SAFETY SPECIFICATION DOCUMENT

Acknowledgement of Receipt by Principal Contractor:

I, _____ (Principal Contractor Name and Surname) Have received the Health and Safety Specification for project, 25139C – STONEY POINT BOARDWALK REPLACEMENT: STONEY POINT NATURE RESERVE (PENGUIN SANCTUARY), STONEY POINT ROAD, BETTY'S BAY, OVERSTRAND MUNICIPALITY, WESTERN CAPE, SOUTH AFRICA - familiarized myself with the content of the Occupational Health and Safety Specification (OHSS) and shall ensure that the Contractor and his / her personnel comply with all the relevant obligations in respect thereof.

This document is legally binding in terms of Regulation 4(1) (a) of the Construction Regulation (2014).

Signature of Principal Contractor: _____

Date: _____

Part 2.13

Environmental Management Plan



Ecological Input for Environmental Management Programme for New Boardwalk at Stony Point African penguin Colony February 2026

By

Alana Duffell-Canham, Deon Geldenhuys & Ramese Mathews

SIGNATURE PAGE

All parties signing here agree to be bound by the requirements of this EMP document, and to fulfil the obligations of their role as set out below.

Role in Project	Agency	Name	Signature	Date
Principle Agent	Lyners	Neil Pitzer		
CapeNature Infrastructure specialist	CapeNature	Ramese Mathews		
Environmental Control Officer (ECO)	External (to be appointed)			
Environmental Specialist(s)				
Contractor				
Senior Site Supervisor				
OHS Representative				

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1. Introduction and Site Location

Stony Point Colony is located in the town of Betty's Bay in the Overstrand Municipality and lies adjacent to the proclaimed Betty's Bay Marine Protected Area. The first African penguin (*Spheniscus demersus*) nest at Stony Point was found in 1982 and the numbers slowly increased to 35 breeding pairs in 1986. The site was established as a reserve in 1982 by the then-Department of Nature and Environmental Conservation. The colony lies on the site of the old Waaygat Whaling Station, which was used to harvest and process whale meat in the early to mid-1900s. Remnants of the infrastructure for this industry which closed in 1930 can still be found at the site.

CapeNature took over the management of the Stony Point penguin colony at Betty's Bay in 2016, it was previously managed by the Overstrand Municipality. CapeNature colonies currently support approximately 50% of the remaining African Penguin population at three different colonies, one of which is the Stony Point colony.

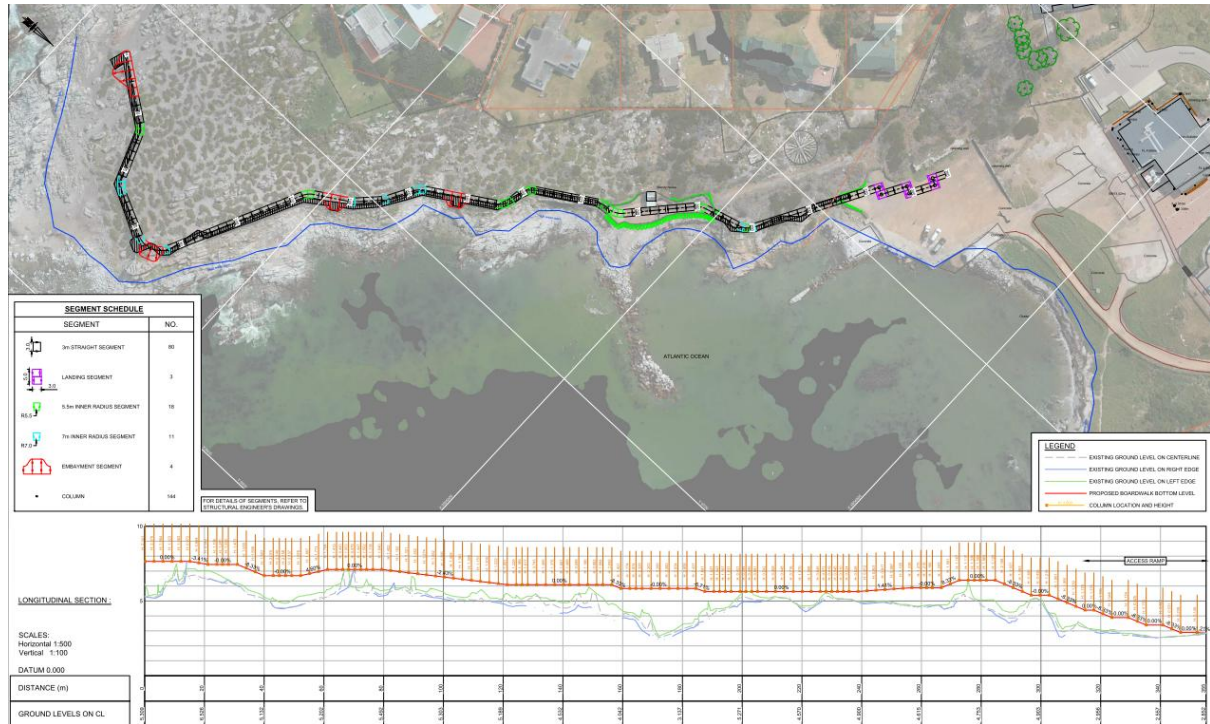


Figure 1. Map showing the location of Stony Point Nature Reserve

2. Project Description

The removal of the existing timber walkway and construction of a new structural steel and timber walkway, consisting of concrete support columns, steel beam structure, steel balustrades. In addition to all other contractual requirements, it is highlighted that the works are to be executed in accordance to Proposed New Boardwalk Methodology Statement and the Environmental Management Plan (part of this tender document)

Figure 2: Diagram of approved boardwalk



Purpose of the Environmental Management Program

The main purpose of an Environmental Management Programme (EMP) is to identify key environmental risks & hazards and prevent avoidable damage and/or minimise or mitigate unavoidable environmental damage associated with a construction, maintenance, or demolition project/works.

An EMP is required as part of the application process for any project triggering environmental authorisation, but must also be used for any project with risk of environmental harm in our protected areas.

The EMP forms part of the contractual obligations to which all contractors/employees involved in construction, maintenance, or demolition work must be committed.

The EMP facilitates and reminds contractors to comply with all applicable laws, regulations, standards and guidelines for the protection of the environment; and adopts best practise principles for construction, upgrades and maintenance in Protected Areas.

This EMP:

- identifies important and sensitive species and environments near project site/s that could feasibly be affected by works;

- identifies project activities that could cause environmental damage (risks) and provides a summary of actions required;
- identifies persons responsible for ensuring compliance with the EMP and provides their contact information;
- provides standard procedures to avoid and/or minimise the identified negative environmental impacts and to enhance the positive impact of the project on the environment;
- provides site and project specific rules and actions required, including a site plan/s showing:
 - o areas where construction, maintenance, or demolition work may be carried out;
 - o areas where any material or waste may be stored;
 - o o allowed access routes, parking and turning areas for construction or construction related vehicles;
- forms a written record of procedures, responsibilities, requirements and rules for staff, and any other person who must comply with the EMP;
- provides a monitoring and auditing programme to track and record compliance and identify and respond to any potential or actual negative environmental impacts; and
- provides a monitoring programme to record any mitigation measures that are implemented.

3. Roles and Responsibilities

As the client, CapeNature must take final responsibility for compliance monitoring of this EMP and its requirements including any environmental rehabilitation that may be needed. *This is mandated by Section 28 (Duty of Care and Remediation of Damage) of the National Environmental Management Act, (Act No. 107 of 1998).*

Table 1. Roleplayer Contact list

Role in Project	Agency	Name	Contact detail
Principle Agent	Lyners	N. Pitzer	
CapeNature Infrastructure specialist	CapeNature	R. Mathews	
Environmental Control Officer (ECO) – Conservation Manager			

Environmental Specialist			
Senior Site Supervisor			
OHS Representative			

Responsibilities:

The Principle Agent: LYNERS

- The Principal Agent is responsible for ensuring that the construction contract is completed to specification, on time, in budget and that the team fulfils their obligation in terms of the EMP.
- Must ensure that the team is provided with a copy of this EMP before any construction work starts, and that the team is familiar with the relevant documentation;
- Ensure that the ECO undertakes and records inspections of the site as required by the monitoring protocol and checklist, but not less than once every two weeks;
- Must communicate any deviations from the requirements of specifications within 48 hours to both the Project Manager and the ECO in writing.
- All communications between the ECO and the Site supervisor must be copied to the Principle Agent;
- Enforce work-stoppage in the event of contravention of this EMP or Environmental Legislation

CapeNature Infrastructure Specialist: Ramese Mathews

- Ensuring all drawings, specifications, bill of quantities and associated specialist reports and documents are distributed to relevant parties
- Oversight of all construction, upgrades or maintenance work aligned with approved specifications
- Ongoing correspondence with the project team to update on progress
- On site inspection on work quality
- Pre-final inspection and works snags list
- Final inspection and sign off of work quality
- Notifying DEA&DP of any incident as defined in section 30(1) (a) of NEMA (Control of Emergency Incident)

Environmental Control Officer (ECO): Independent person to be appointed

The ECO must be independent and have expertise in conducting environmental compliance auditing, including knowledge of the EIA Regulations and any other environmental legislation, guidelines and policies related to environmental management³.

The ECO must be proactive and have access to specialist expertise as and when required. The ECO must conduct audits on compliance to the CEMP for the project. Site inspections must be undertaken weekly for the duration of construction.

The ECO must communicate and inform the Employer and Engineer of any changes to Environmental Conditions as required by relevant authoritative bodies. The ECO must ensure that the updating of all relevant CEMP documentation is carried out.

The ECO shall be responsible for monitoring, reviewing and verifying compliance with the CEMP by the Contractor. The ECO's duties in this regard will include the following:

- • Monitoring and verifying that the CEMP is adhered to at all times and recommending necessary action if the specifications are not followed;
- • Monitoring and verifying that environmental impacts are kept to a minimum;
- • The ECO along with the Engineer, must obtain, examine and approve Method Statements;
- • Assist the Contractor in finding environmentally responsible solutions to problems;
- • Report back on the environmental issues at the site meetings and other meetings that may be called regarding environmental matters, if required;
- • Monitor and review the Site Diary of all activities / incidents / complaints concerning the environment on Site;
- • Inspecting the Site and surrounding working areas with regard to compliance with the CEMP;
- • To be reachable by the public regarding matters of environmental concerns as they relate to the development, however all communication to be undertaken in line with the approved CapeNature communication protocols via the Corporate Communications Team.
- • Provide environmental awareness training for site personnel;
- • Recommend corrective action to the Engineer and the Contractor where construction activities are not in compliance with the CEMP;
- • To inform the Engineer immediately of the occurrence of non-compliances and to recommend appropriate measures of rectification, e.g. issuing of fines.
- • Ensure that activities on site comply with legislation of relevance to the environment;
- • Keep a photographic record of progress on Site from an environmental perspective;
- • Undertake weekly site visits and associated checklists; and
- • Compile and submit all monthly audit reports to the Employer, Engineer and Contractor.
- • Engage and liaise with CapeNature site patrolling the site on a daily basis for additional feedback and input.

The Environmental Specialist:

- The CapeNature Environmental Specialist will identify and advise on major risks, hazards or concerns and will be called in for serious incidents where environmental damage and degradation is anticipated or experienced.

- The Environmental Specialist will liaise with the Environmental Control Officer and / or the Site supervisor, to indicate special concern areas or risks.

The Occupational Health and Safety Officer

- Establish the OHS file as per standard requirement (See OHS section in this EMP);
- Ensure compliance to all OHSA regulations;
- Be on site daily and ensure the team use their PPE properly;
- Ensure the team practise safe work procedures;
- Ensure that only the trained first aider applies first aid;
- Undertake regular OHS inspections and report incidents immediately;
- Determine and implement risk and hazard mitigation;
- Assist in direct implementation of the EMP specifically related to SHE issues;
- Ensure OHS monthly meetings are held and minutes taken;
- Ensure weekly toolbox talks are conducted and recorded (attendance and talk topic);
- Evaluate the construction work method statements and identify risk and PPE needs; and
- Report non compliance and incidents to EMP.

4. Potential Environmental Impacts, Risks and Threats

The potential environmental impacts as well as threats or risks are listed below. They refer to the broad categories, which will be monitored throughout the project. It is important to note that impacts rated as extreme, high, medium or low refer both to the severity of the negative impact as well as the potential persistence of the impact.

Very High Impact: Human and/or animal life and property in danger, permanent behavioural changes are seen in species breeding on site, significant cost implications. Impact may last for more than 1 year

High Impact: Serious negative impact (life or property), serious behavioural changes seen in species breeding on site, will need rehabilitation or remedial action (with cost implications). Impact may last up to a year.

Medium Impact: Negative impact, which may have cost implications, temporary changes in behaviour of species breeding on site, potential tourism impacts. Impacts may last up to three (3) months.

Low Impact: Some negative impacts, not likely to have cost implications. Impacts will be resolved in less than 1 day.

Table 2: Impact ratings of activities that may impact negatively on African penguins and other seabirds and summarised management actions that must be implemented (note more detail on the management actions is provided in Section 10)

Aspect	Significance Rating		Required Management Actions
	Before Management/ Mitigation	After Management/ Mitigation	
Noise and Vibration	Very High Negative	Low Negative	Drilling or use of other loud machinery may not take place during moulting or first breeding attempt season (i.e. November to March). At other times of year, the use of loud machinery/drilling may only take place between 10:00 and 14:00.
Trampling of habitat around nest sites and disturbance of penguins sitting on nests	High Negative	Low Negative	Workers must always stay within the screened off area for all construction activities and no movement outside this area will be allowed.
Blocking penguin access to and from the ocean	Medium Negative	Very low Negative	No structures or equipment may be placed on ground permanently or temporarily that are not part of approved boardwalk
Disturbance of moulting penguins	High Negative	Low Negative	Workers may not approach any penguins or other seabirds. If penguins are close to working area they must be allowed to move off in their own time and not be chased.
Pollution: litter	Medium Negative	Low Negative	Any waste as a result of construction must be cleared daily. Workers may not eat or smoke within the colony boundaries, only in the parking area, restaurant and delegated smoking areas respectively.
Pollution: runoff	Medium Negative	Low Negative	No mixing of concrete on site. Pre-mixed concrete to be kept in containers with lid before pouring. Any paint, glue or varnishes to have drip trays.

5. Heritage Management

The Heritage Resources Act and permit conditions set by the managing authorities protects heritage resources. Failure to plan for the protection of these areas will have legal implications

All staff and suppliers must ensure to remain in the approved areas and to be mindful to not cause damage to any objects or structures that have historic significance.

6. OHS Management

Every contractor and sub-contractor is required by the Occupational Health and Safety Act 85 of 1993 and the Construction Regulations 2014, to have a Safety File that must be available at all times. The Occupational Health and Safety Act 85 of 1993 and Construction Regulations 2014 state the following: Construction Regulation 3(6)– A client must ensure that the principle contractor keeps a copy of the construction work permit contemplated in sub-regulation (1) in the occupational health and safety file for inspection by an inspector, the client, the client's authorized agent, or an employee; Construction Regulation 5(1)(s) – The client must ensure that health and safety file contemplated in regulation 7(1)(b) is kept and maintained by the principal contractor; Construction Regulation 7(1)(b) –A principal contractor must open and keep on-site a health and safety file which must include all documentation required in terms of the Act and these Regulations, which must be made available on request to an inspector, the client, the client's agent or a contractor. The Health and Safety File must be maintained by the site safety personnel and audited by a competent person.

The OHS Officer is responsible to ensure that the OHS Files and Systems are put in place and available on site. The office must also ensure that all methods statements and works on site are in line with safe work procedures. PPE must be supplied and correctly worn or used to mitigate incidents and accidents.

The OHS file must include at minimum the following:

- Copy of the OHS Act
- Occupational Health and Safety Management Plan
- Company Occupational Health and Safety Policy
- Letter of Good Standing
- Material Safety Data Sheets for hazardous materials used (if required)
- Risk Assessments
- Safe work procedures (Site Specific)
- Fall Protection plan (if required)
- Legal appointment with proof of training (Ex. Chief Executive Officer, Risk Assessor, First Aider, etc.)
- Incident reporting procedures
- Incident reports (General Administrative Regulation 9 (3) – Annexure 1)
- Incident registers
- Reports of accidents
- Emergency preparedness documents
- First aid documents
- Induction records
- Medical surveillance records
- Safety communication (e.g. Toolbox talks)
- Minutes of safety meetings (toolbox talks)

- Inspection registers
- Copies of vehicle and trailer roadworthy certificates and licenses

NB: The team representative do attend the CapeNature OHS monthly meeting and report back to the meeting on any OHS incident and updates from the construction site.

7. EMP Compliance & Penalties

Compliance with this EMP is critical to ensure the environment is protected. Non-Compliance with the EMP may result in:

- Non-compliance Warnings
- Non-compliance Penalties (See Penalties List)
- Work stoppages
- Prosecution in terms of Environmental Legislation (Fines/Arrests)
- Rehabilitation work, invoiced to the Contractor

Penalties:

Table 4: Penalties list

Nr	Transgression Type	First Offence	Corrective Action	Serious incident / damage or 2nd offence
1	Unsanctioned access to "No-Go Areas"	Warning	Stop activity, prevent future incidents & Toolbox talk	Prosecution as per legislation & removal of repeat offender
2	Speeding or reckless driving	Warning	Stop activity, prevent future incidents & Toolbox talk	Prosecution as per legislation & removal of repeat offender
3	Unlawful parking / blocking access	Warning	Stop activity, prevent future incidents & Toolbox talk	Prosecution as per legislation & removal of repeat offender
4	Storage of materials outside approved locations	Warning	Stop activity, prevent future incidents & Toolbox talk & remove materials	Prosecution as per legislation - Work stoppage to correct
5	Damage to Flora	Minor (Warning); Major / intentional - Prosecution)	Prevent future incidents & Rehabilitation of veld	Prosecution as per legislation & Access to Cederberg Revoked
6	Damage to cultural historic infrastructure	N/A	Stop activity, prevent future incidents & Toolbox talk & Repairs / rehabilitation	Prosecution as per legislation & Access to Cederberg Revoked
7	Damage to natural features	N/A	Stop activity, prevent future incidents & Toolbox talk & Repairs / rehabilitation	Prosecution as per legislation & Access to Cederberg Revoked
8	Negligent or Intentional disturbance or harm to wildlife	Prosecution	Stop activity, prevent future incidents & Toolbox talk. Animal to vet and costs to contractors	Prosecution as per legislation & Access to Cederberg Revoked
9	Negligent leaks or spillages	Warning	Immediate removal of item and rehabilitation/ cleaning of site within 8 hours & prevent future incidents	Prosecution as per legislation - Work stoppage to correct
10	Negligent, intentional litter or construction waste on site (not in provided container)	Warning	Immediate removal of item and rehabilitation/ cleaning of site within 8 hours	Prosecution as per legislation - Work stoppage to correct
11	Failure to clean / clear site or facilities in use or litter containers weekly / as required	Warning	Immediate removal of item and rehabilitation/ cleaning of site within 8 hours	Prosecution as per legislation - Work stoppage to correct
12	Smoking or fire outside the designated site	Warning	Prevent future incidents & Toolbox talk	Prosecution as per legislation & Access to Cederberg Revoked
13	Causing a veld fire due to negligence or other reason	Prosecution & Cost for firefighting & damages/loss will be invoiced to contractor	Extinguish fire, prevention & investigation	Workstoppage, investigation & possible contract termination
14	Use of an area (other than designated ablutions) for ablution activities	Warning	Prevent future incidents & Toolbox talk	Removal of offending staff from site
15	Excessive noise/ disturbance/ inappropriate behaviour (Human/ Music)	Warning	Stop activity, prevent future incidents & Toolbox talk	Removal of offending staff from site
16	Damage/ Loss to CapeNature Property	Warning & Replacement cost invoiced to the contractor	Prevent future incidents	Potential termination of contract in serious cases.

8. Induction

Induction and EMP training will be done by the ECO prior to work commencement. All staff who will access or work on the site will be required to attend, including any project supervising staff and OHS appointed staff. Access to the site will not be granted to staff who have not attended the training.

The purpose of the Induction and training is to create awareness about the Hottentots Holland Nature Reserve, the sensitivity of the site, the risks and hazards, the content, terms and conditions of the EMP and Site rules.

9. EMP Checklist and Environmental Register

This checklist prompts the ECO in terms of what to check during site inspections and will be the Report Format used. The EMP checklist must be completed each time the ECO comes to do site inspections, copies of the report will be submitted to the Principle Agent and the Environmental Specialist.

An environmental register must be provided by the Principal Agent and always kept on-site as well as being freely accessible to all project team members.

In the event of any environmental incidents, the Environmental Register must be completed by the most senior person on site: the Principal Agent, the Engineer or the Site Manager. The Environmental Register may also be completed by the ECO if the ECO is on site when the incident occurs.

The register will provide a record of all environmental incidents that occur as a result of the on-site activity. This may include information related to such aspects as spillages, dust generation and complaints from adjacent neighbours and any other environmental incidents. It must also contain information relating to action taken/mitigation measures employed.

10.EMP terms and conditions

10.1. *Access - General*

Access must be carefully managed to mitigate against:

- Unacceptable noise, vibration and visual disturbance to African penguins and other fauna in the area
- The uncontrolled pedestrian or vehicular access to construction area
- Unmanaged parking & traffic build up
- Blocking access (impacting deliveries, normal work functions or rapid evacuation in case of emergency)
- Damage to vegetation
- Accidents
- Loss of soil
- Negative visitor experiences

Access to the site is subject to the following conditions:

- Access to the construction site is only for authorized personnel from CapeNature and the appointed contractor (staff and suppliers).
- Access attendance registers must be kept on site.
- Access is permitted Monday to Fridays, 10:00 – 14:30 (workers must stop construction activities by 14:00 and complete clear up by 14:30)

- Activities which create loud noises and/or vibration are not permitted during the first breeding attempt period or moulting season. This is to mitigate against noise pollution and disturbance which penguins are highly sensitive to. This means that no drilling or other noisy activities may take place from November to February. Other construction activities may be permitted which do not create noise or vibration but must be closely monitored.
- Working on weekends is permitted, within the same limited hours, subject to consultation with the Conservation Manager when this is needed and ensuring that such work does not include operating noise generating machinery and tools.
- All contractors, subcontractors and staff must be easily identified by clothing with company logos and be in possession of valid SA identity documents.
- Deliveries of new construction materials, removal of old material etc. to be completed during between 10:00 – 14:30 Monday to Friday.
- All vehicles and access to the site must remain within demarcated access routes and working areas on site.
- No new roads or tracks may be created
- Vehicle access is restricted to the existing parking areas.
- Offroad driving or parking is not permitted
- Damage shall not be permitted to the road or tracks and any damages caused shall be repaired by the contractor to the specifications set by the Principal Agent.
- All vehicles must be in a roadworthy conditions and drivers must have the required licenses.

10.2. Demarcated Areas, Parking and Turning Areas

Construction and storage areas, as identified by the Conservation Manager (ECO) must be physically demarcated on site (by the contractor). The Senior Site Supervisor and Project Manager will ensure that the construction team, machinery and equipment stay within the working areas and do not encroach on “no-go” areas.

We suggest phasing of the construction due to the restricted time periods that work can occur in. Construction should begin at Point A (refer to Figure 3 below) and the first phase should entail completion of the section from Point A to Point B. This may mean that construction of the entire boardwalk may need to be completed over 2 or more years but it is imperative that no disturbance occurs from December to March, especially between Points B and C. Each section must be further sub-divided into small screened areas and the screens must be moved concurrently with construction activities.



Figure 3: Aerial imagery (GoogleEarthPro) showing the track of the existing boardwalk at Stony Point.

In addition:

- Movement must be restricted to the boardwalk for access to the worksite which may only be a small section of the new boardwalk at a time that is screened (as per above) where construction is taking place. The screen needs to be flush with the ground to prevent penguins accessing the work site. Refer to Figure 4 below for an example of a building site screen.
- Hazard tape is not permitted as the site is windy and broken tape poses a hazard to birds.
- Attaching or fixing of any fencing, signs or other materials on natural item (Vegetation, Rocks etc) is not permitted other than what is shown in the approved structure diagram (as shown in Figure 2 on page 4).
- Contractors may not store any construction material in any other area which is not within the screened area where it could impede normal access or cause any negative impact to nature or other user groups.



Figure 4: Example of a building site screen

An independent ECO with appropriate experience working in this type of environment and with penguins must visit the site at least weekly while construction is taking place. In addition, CapeNature must maintain sufficient capacity of staff with the appropriate ecological knowledge and experience working with penguins to patrol the site daily.

10.3 Fauna and Flora

Construction Activities, if unmanaged will cause negative impacts to plants and animals (as well as the natural environment in general). Such damages could impact specific species (plant or animal) ecosystem functioning, lead to biodiversity loss. There is also the extended implications in terms of reputational harm to CapeNature and the Contractor.

The objective with mitigating measures is to prevent any damage or harm to the natural environment, especially fauna and flora.

Mitigation measures include:

- Ensure construction footprint does not include any nesting sites
- Avoid permanently blocking access paths used by penguins to move to and from the ocean
- Demarcate no-go areas
- No item, including signs, fencing or posts may be erected against any natural vegetation
- No vehicles are permitted past the existing parking areas. Exception may be made if necessary but no further than concrete area in front of the restaurant and only after consultation with the reserve manager or conservation officer.
- Trampling, cutting or other damage of any natural vegetation is not permitted
- Animals (all species including mammals, birds, insects, snakes, spiders etc) are protected and may not be harmed or disturbed in any way.
- Animals may not be lured or fed
- Should any animal enter the construction area and become a hazard to the work continuing, work should cease and the ECO must be contacted immediately to ensure that the animal is relocated or deterred by an appropriate professional.

Rehabilitation and Penalties: Any negligent and wilful damage or harm shall require the contractor/ official to pay for rehabilitation costs. Prosecution may also follow, depending on nature of damage.

10.4 Noise and Disturbance

In addition to the site being in Stony Point Nature Reserve, there is a restaurant, parking areas, offices and meeting venues in close proximity to the construction site.

Mitigation Measures:

- Music is not permitted
- Shouting (except to prevent a serious accident) is not permitted
- Hooting and revving of vehicles are not permitted.
- Communication noise levels should be appropriate for work required.

- Generators may not be used unless they are silent generators or inverters with zero sound.
- Disruptive behaviour, arguments, verbal or physical conflict must be avoided completely.

10.5 Litter & Waste Management

Construction activities, by their very nature generate litter or waste. This must be carefully managed to ensure that at no point there is waste or litter impact on the natural environment.

Mitigation Measures:

- No waste materials or liquids, including contaminated waste water may be disposed of on site, neither in the designated working area/s, nor any no-go areas.
- Waste must be held onsite in sealed storage containers and properly disposed of at a designated waste facility.
- No exceptions will be made.
- Enough waste bins / bags must be provided by the contractor
- This litter must be disposed of to the approved local municipal site.
- Special attention must be paid to cement bags, plastics, materials packaging etc.
- Special care must be taken to ensure construction materials (broken planks, nails, screws, cabling, wires, plumbing accessories etc) are left on site. A thorough clean up must be done daily.
- Hazardous waste (chemicals, medical etc) must be taken to a suitable waste disposal site that is registered to deal with it. This is the responsibility of the Contractor.
- Bins must be cleaned and serviced regularly (absolute minimum of weekly) to ensure there is not build up of waste and it does not attract pests (insects, worms, flies etc).
- Waste must be contained at all times. There should be no loose bags or packet lying around.
- Bins need to have lids and waste storage / sorting areas enclosed to prevent wind-blown litter and to prevent animals from accessing it.
- Waste bins to be secured where necessary
- No waste shall be illegally dumped, burnt or buried, but disposed to an adequate waste facility.
- Records of waste disposal shall be kept for audit purposes.
- Recycling: Where possible recycle wastewater, plastics, paper, wood, scrap metal, compostable waste etc.
- There are sufficient toilets on site and using the natural environment as a toilet is not only illegal, but also unacceptable.

10.6 Fires

Wildfires can cause major damage and loss to human life, vegetation loss, wildlife loss and tourism infrastructure. These losses are very costly in terms of suppression, rehabilitation and reconstruction activities.

Any veldfire which is the result of potential negligence or failure to act in terms of this EMP may result in costs being recovered from the Contractor as well as further prosecution.

Mitigation Measures include:

- Smoking is only permitted in designated locations.
- No cooking or other fires are permitted.
- Smoking is not permitted outside the designated area or in any CapeNature facility
- Heavy vehicles must have fire extinguishers.
- All precautions must be taken to avoid accidental fires
- Hotworks (e.g welding) must be pre-approved by the ECO and the method statement and mitigation must be pre-approved.

11.Pre-construction phase

- EMP checked and signed off
- Specs supplied
- OHS file updated and signed off
- Induction completed
- High risk activities listed and method statements provided
- Confirm construction area on site
- Confirm storage areas on site
- Confirm No-Go areas on site

12.CONSTRUCTION PHASE – GENERAL TERMS AND CONDITIONS

13.1 CEMENT MIXING AND USE

The team is advised that cement and concrete are highly hazardous to the natural environment because of the high pH levels of the material, and the chemicals contained therein.

The following shall apply:

- Prevent cement pollution - ensure that soil and water is not contaminated with cement.
- Premixed cement/concrete should be used on site
- Concrete / cement may not be mixed on the site
- Concrete spills (no matter how small) must be physically removed immediately and disposed of as hazardous waste.
- Washing of equipment must be done off site.
- No equipment shall be washed in the sea or elsewhere within the natural environment

13.1. Fuel Management

Vehicles and machinery must be refilled and serviced outside of the boundaries of Stony Point Nature Reserve.

13.2. Chemicals and other hazardous materials

Should the contractor be required to make use of any chemical, corrosive substance or potentially hazardous product, this must be declared to the OHS officer and ECO, before the items is brought on site. Methods statements on the handle, use and storage of the items must be approved by the OHS officer. There will need to be toolbox talks regarding these items use and PPE should be in place and correctly used.

**Failure to comply with special activity method statements and EMP conditions will result in immediate work stoppage, require special cleaning operations and may result in further prosecution in severe cases.*

14. Post construction phase

- Pre-final site inspection and snagging – Tourism Officer; ECO & Project Team
- Final site inspection – Tourism Officer; ECO & Project Team
- Safe decommissioning of site (Removal of all construction items, materials, vehicles; full site clean up etc)
- Site sign off – Principle agent & ECO
- Site handover from Tourism Development to Conservation Operations in safe and fully operational state.

15. Contract Obligations

It is understood that all contract documentation related to the construction, operation and decommissioning (if required) of the proposed development will include the conditions of this EMP. It is important to note that the contract obligations must include the recording of any complaints on the project in the environmental register (defined below). It is the responsibility of the ECO to keep an accurate audit trail showing compliance with the EMP during construction phase.

ANNEXURE 1 – SITE RULES

A copy of these rules must be posted at the work site and be complied with by all staff entering the work area.

- 1) Comply with all environmental legislation (NEMA, NEM:PAA; NEM:BA; Conservation Ordinance as it applies in terms of site access and environmental protected
- 2) Comply with all mitigation measures as listed in this EMP
- 3) Remain within designated construction site and work areas
- 4) Storage only permitted in designated work areas
- 5) All natural areas outside the construction area are considered “no-go” areas
- 6) Damage to or trampling of vegetation is not permitted
- 7) Luring, harming or killing of any wildlife (all vertebrates, invertebrates, including snakes, birds, buck etc) is not permitted
- 8) Fishing or removing any type of aquatic life is not permitted
- 9) Swimming in the river is not permitted (this is to avoid water contamination)
- 10) Water sources may not be contaminated in any way or form
- 11) Use water responsibly and sparingly
- 12) Washing off of paintbrushes, cement and other contaminants may not take place in the natural environment or anywhere where it could run off to the veld or water. NB contaminated water must be put into containers and disposed at a approved waste removal site
- 13) Abstraction of water from natural water sources (excluding the provided taps) are not permitted
- 14) Damage to geological or cultural historic structures are not permitted
- 15) No natural items (resources, including wood, plants, animals or parts thereof) may be removed
- 16) Smoking is only allowed in the designated smoking area.
- 17) Litter may not under any circumstances be allowed to blow around the site
- 18) Littering is not permitted
- 19) Use of any place for ablutions, other than the approved ablutions are not allowed
- 20) Generators and other tools must be used in accordance with the EMP and safety specifications
- 21) Spillages of any kind is prohibited (Waste water, cement, fuel, chemicals)
- 22) Noise pollution is not permitted.
- 23) Light pollution is not permitted – use minimum lights to avoid disturbance to other users, wildlife or the dark skies principle.
- 24) Parking is only allowed in approved bays.
- 25) Cement, stone and sand must be covered to avoid being rained on, washed away or blown away
- 26) Demolitions / explosives of ANY kind is strictly prohibited
- 27) Be respectful to the staff, residents, guests and other users at all times.
- 28) Follow the instructions of the OHS officer on site
- 29) Follow the instructions of the ECO on site, especially where it pertains to environmental safety & access
- 30) Be aware of bees and snakes in the area, do not antagonize or in any way harm them. Call the ECO if you have a problem
- 31) Domestic animals and plants may not be brought into Stony Point Nature Reserve
- 32) Only appointed staff and suppliers may enter the area, not guests or visitors. This includes family or friends of the staff, the purpose is access for work purposes.
- 33) Vehicles must be fully roadworthy, leak free and operated responsibly. No hooting, revving or driving around after the designated work hours, except in case of necessity. NB This speaks to reducing disturbance to other uses and neighbours through noise or light pollution

ANNEXURE 2: NATIONAL ENVIRONMENTAL MANAGEMENT ACT PRINCIPLES

The NEMA Principles states that sustainable development requires the consideration of all relevant factors including the following:

- *Disturbance of ecosystems and loss of biological diversity must be prevented, or, where they cannot be altogether avoided, must be minimised and remedied;*
- *Pollution and degradation of the environment must be avoided, or, where they cannot be altogether avoided, must be minimised and remedied;*
- *Disturbance of landscapes and sites that constitute the nation's cultural heritage must be avoided, or where it cannot be altogether avoided, must be minimised and remedied;*
- *Waste must be avoided, or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise dispose of in a responsible manner;*
- *Use and exploitation of non-renewable natural resources must be responsible and equitable, and take into account the consequences of the depletion of the resource;*
- *Development, use and exploitation of renewable resources and the ecosystems of which they are part must not exceed the level beyond which their integrity is jeopardised;*
- *A risk-averse and cautious approach must be applied, that takes into account the limits of current knowledge about the consequences of decisions and actions; and*
- *Negative impacts on the environment and on people's environmental rights must be anticipated and prevented, and where they cannot be altogether prevented, must be minimised and remedied.*