GOVERNMENT OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF TRANSPORT & HIGHWAYS
ROAD DEVELOPMENT AUTHORITY

INVITATION FOR BID (IFB)

1. The Chairman, Ministry Procurement Committee, on behalf of the Road Development Authority (RDA), invites sealed bids from eligible and qualified bidders for the project described below:-

Contract No.	Contract Name	Engineer's Estimate w/o contingencies (Rs. Mn)	CIDA Grade	Bid Security (Rs. Mn)	Contract Period (Calendar days)
RDA/DC/UVA/FD/ GOSL/2023/02	CONSTRUCTION OF RAJAMAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300km), INCLUDING TWO BRIDGES AT CH 07+960km AND CH 08+380km	498.3	C1 or above	7.0	546

2. The work consists of construction of road and two bridges at CH:07+960 and CH: 08+380 km on Rajamawatha Extension Road from Ketawala to Maspanna in Badulla District.

   The above work includes subbase, base, shoulder, surfacing, drainage, structures, incidental construction of road section and substructure, superstructure and approach roads of bridges.

3. Bidding will be conducted through the National Competitive Bidding Procedure.

4. To be eligible for contract award, the successful bidder shall be currently registered with the Construction Industry Development Authority (CIDA) in grade given in the above table in **Bridges and Highways** specialty.

5. Interested bidders may obtain further information from the following offices and inspect the bidding documents via **www.rda.gov.lk** from **10/04/2023**.

   a. Provincial Director (Uva), Road Development Authority, No. 40, Dharmapala Mawatha, Bandarawela.
   T.P. : 057-2222170 Fax : 057-2222170

   b. Director (Construction), Road Development Authority, 3rd Floor, "Maganeguma Mahamedura", 216, Denzil Kobbekaduwa Mawatha, Battaramulla.
   T P :011-2864388 Fax : 011-2861821

6. The Pre-Bid meeting will be held at **10:00 hrs** on **19/04/2023** at the office of the Provincial Director (Uva), Road Development Authority, No. 40, Dharmapala Mawatha, Bandarawela and a site visit will be arranged thereafter if necessary.

7. A complete set of Bidding Document in English language shall be purchased by the interested bidders via email on submission of a written application and valid cash deposit slip of non – refundable tender fee (contract number and name of the contractor should be indicated on the cash deposit slip) to Director Construction, RDA via email from **10/04/2023** until **02/05/2023** during **09:00 hrs** to **15:00 hrs** for above contract. The email address is **construction.rda@gmail.com**

   Non-refundable tender fee of **Rs. 69,000.00 (with VAT)** for the bidding document can be paid by depositing cash to the following bank account.

   Account Name : Director General – RDA
   Account Number : 0000001943
   Bank Name : Bank of Ceylon - Corporate Branch

   Original/valid cash deposit slips should be submitted with the Bids at the submission of bids and it will be checked. The bids without the original/ valid cash deposit slip will be rejected.

   As per the Public Contract Act No. 3 of 1987, only the Agents and Successful winners of tenders shall be registered in Department of Registrar of Companies.

8. Bid shall be accompanied by a Bid- Security for an amount given in the above table. Bid- Security shall be valid up to **25/10/2023**.

9. Bids shall be delivered in **duplicate** to the **Chairman, Ministry Procurement Committee, Ministry of Transport and Highways, Procurement Division, 7th Floor, "Maganeguma Mahamedura", Denzil Kobbekaduwa Mawatha, Battaramulla** on or before **14:00 hrs** on **03/05/2023**. Late bids will be rejected. Bids will be opened soon after the closing, in the presence of the bidders' or their representatives who choose to attend.

10. Bid shall be valid up to **27/09/2023**.

The Chairman,
Ministry Procurement Committee,
Ministry of Transport & Highways,
Procurement Division,
7th Floor, "Maganeguma Mahamedura",
Denzil Kobbekaduwa Mawatha, Battaramulla.

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

MINISTRY OF TRANSPORT AND HIGHWAYS

ROAD DEVELOPMENT AUTHORITY

BIDDING DOCUMENT

FOR

CONSTRUCTION OF RAJAMAWATHA EXTENTION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300 km), INCLUDING TWO BRIDGES AT CH 7+960 km AND CH 8+380 km

CONTRACT NO. RDA/DC/UVA/FD/GOSL/2023/02

BID SUBMITTED BY

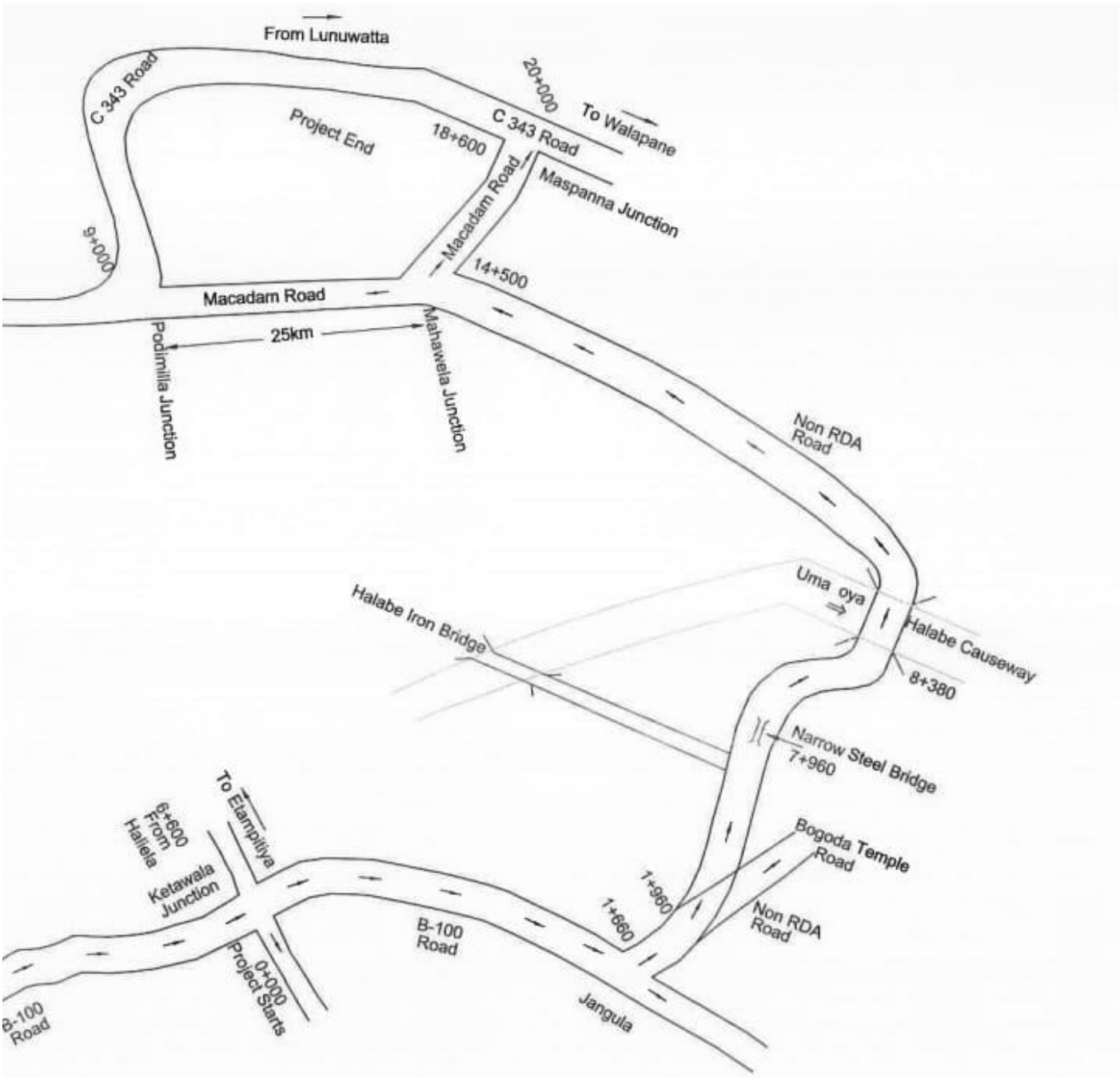
. . . . . .

[Name of the Bidder]

CONTENTS

		Page
Project Location Map		03
Volume 1		05
Section 1	**Instructions to Bidders**	07
Section 3	**Conditions of Contract**	08
Section 5	**Standard Forms - Contract**	09
Volume 2		15
Invitation for Bids		17
Section 2	**Bidding Data**	18
Section 4	**Contract Data**	25
Section 6	**Specifications**	31
Section 7	**Form of Bid**	44
Section 8	**Bill of Quantities**	46
Section 9	**Schedules**	61
Section 11	**Standard Forms (Bid)**	71
Section 10	**Drawings**	75

Project Location Map



Introduction

This Bidding Document has two parts, namely, Volume 1 and Volume 2.

The bidders are expected to buy the following Standard Bidding Document from the Construction Industry Development Authority (CIDA) (former ICTAD): -

STANDARD BIDDING DOCUMENT
PROCUREMENT OF WORKS
MAJOR CONTRACTS
SECOND EDITION – JANUARY 2007 with **addendum issued in October 2009 by ICTAD**
ICTAD PUBLICATION NO. – ICTAD/SBD/02

This Bidding Document shall be read in conjunction with the above Standard Bidding Document.

The Address of CIDA is

Construction Industry Development Authority
'Savsiripaya'123, Wijerama Mawatha,
Colombo-07

VOLUME 1

VOLUME 1

Section	**1**	Instruction to Bidders
Section	**3**	Conditions of Contract
Section	**5**	Standard Forms (Contract)

Section - 1

Instruction to Bidders

The text of this 'Instructions to Bidders' is found in the 'Standard Bidding Document Procurement of Works Major Contracts '
ICTAD Publication No. ICTAD/SBD/02 – Second Edition – January 2007 with **Addendum issued in October 2009 by ICTAD**

Construction Industry Development Authority
'Savsiripaya'
123, Wijerama Mawatha
Colombo-07

This has to be read in conjunction with Section 2 - 'Bidding Data of this Bidding Document. Wherever the Clauses of the Section 1 - 'Instruction to Bidders' have to be modified and/or supplemented, it is done through the text in the Section -2 – 'Bidding Data'.

Section - 5

Standard Forms (Contract)

- Letter of Acceptance
- Performance Guarantee
- Form of Agreement
- Advance Payment Security
- Retention Money Guarantee

FORM OF LETTER OF ACCEPTANCE

_____ ***[Date]***

_____
[Contractor's Name & Address]

This is to notify you that your bid dated …… for the construction and remedying the defects of the '**CONSTRUCTION OF RAJAMAWATHA EXTENTION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300 km), INCLUDING TWO BRIDGES AT CH 7+960 km AND CH 8+380 km** ' under Contract No: RDA/DC/UVA/FD/GOSL/2023/02 for the Contract Price of Rupees …… as corrected in accordance with Instruction to Bidders is hereby accepted.

You are hereby instructed to proceed with the execution of the said Works in accordance with the Contract Documents.

The Commencement Date shall be ……. .

The amount of Performance Security is…….

The Performance Security shall be submitted on or before ……..

Director General
Road Development Authority

FORM OF PERFORMANCE SECURITY

(Unconditional)

……..……...
[Issuing Agency's Name, and Address of Issuing Branch or Office]

Beneficiary: Director General, Road Development Authority (hereinafter called and referred to as "the Employer") 1st floor, "Maganeguma Mahamedura", 216, Denzil Kobekaduwa Mawatha, Battaramulla.

Date: ……

PERFORMANCE GUARANTEE No.: ……..

We have been informed that ……... *[Name of Contractor]*

(hereinafter called, "the Contractor") has entered into Contract No **RDA/DC/UVA/FD/GOSL/2023/02**dated ……. with you, for the '**CONSTRUCTION OF RAJAMAWATHA EXTENTION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300 km), INCLUDING TWO BRIDGES AT CH 7+960 km AND CH 8+380 km ',** (hereinafter called "the Contract").

Furthermore, we understand that, according to the Conditions of the Contract, a performance guarantee is required.

At the request of the Contractor, we …… *[name of Agency]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of ……*[amount in figures]* (…….) *[amount in words],* upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation(s) under the Contract, without your needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the …….. day of …….2023. *[28 days beyond the time for Completion]* and any demand for payment under it must be received by us at this office on or before that date.

Name, Signature and the Seal of the Agency:
Name of the Organization ……...
Designation ……
Date: ……
Witness:
Name …… NIC No ……..……..……..……Signature
……..
Name …… NIC No ……..……..……..……Signature
……..……..……..

FORM OF AGREEMENT

This Agreement made on the ……[*day*] of. ……[*Month*] 2023, between the Road Development Authority established by the Road Development Authority Act No. 73 of 1981, situated at "Maganeguma Mahamedura", 216, Denzil Kobbekaduwa mawatha, Battaramulla, (hereinafter called and referred to as " the Employer"), of the one part, and…….[name and address of Contractor])(hereinafter called and referred to as "the Contractor"), of the other part:

Whereas the Employer desires that the Contractor execute '**CONSTRUCTION OF RAJAMAWATHA EXTENTION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300 km), INCLUDING TWO BRIDGES AT CH 7+960 km AND CH 8+380 km ',** under Contract No: **RDA/DC/UVA/FD/GOSL/2023/02** (hereinafter called and referred to as "the Works") and the Employer has accepted the Bid by the Contractor for the execution and completion of such Works and remedying of any defects therein.

The Employer and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract.

2. In consideration of the payments to be made by the Employer to the Contractor as indicated in this Agreement, the Contractor hereby covenants with the Employer to execute and complete the Works and remedy any defects therein in conformity in all respects with the provisions of the Contract.

3. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and remedying any defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

In Witness whereof the parties hereto have caused this Agreement to be executed on the day and year aforementioned in accordance with laws of Sri Lanka.

……	……
Name: ……	Chairman Road Development Authority
Authorised Signatory of Contractor	…….. Board Member, RDA
Common Seal	On behalf of the Employer
In the presence of Witness:	Common Seal In the presence of Witness:
……	……
Name ……	Name ……
NIC No. ……	NIC No. ……
Address ……	Address ……

FORM OF ADVANCE PAYMENT SECURITY

……..……..
[Name and address of Agency, and Address of Issuing Branch or Office]

Beneficiary: Director General , Road Development Authority (hereinafter called and referred to as "the Employer") 1st floor, "Maganeguma Mahamedura", 216, Denzil Kobekaduwa Mawatha, Battaramulla.

Date: ……

ADVANCE PAYMENT GUARANTEE No.:……..

We have been informed that ……... *[name of Contractor]* (hereinafter called, "the Contractor") has entered into Contract No: **RDA/DC/UVA/FD/GOSL/2023/02** *dated* ……2023, with you, for the '**CONSTRUCTION OF RAJAMAWATHA EXTENTION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300 km), INCLUDING TWO BRIDGES AT CH 7+960 km AND CH 8+380 km ',** (hereinafter called "the Contract").

Furthermore, we understand that, according to the Conditions of the Contract, an advance payment in the sum ……..*[amount in figures]* (……..) *[amount in words]* is to be made against an advance payment guarantee.

At the request of the Contractor, we …… *[name of issuing Agency]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of ……*[amount in figures]* (……) *[amount in words]*, upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation in repayment of the advance payment under the Contract.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Contractor.

This guarantee shall expire on ……..*[insert the date, 28 days beyond the Time for Completion]*

Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

Name, Signature and the Seal of the Agency:
Designation …….
Name of the Organization ……...
Date: …….
Witness:
Name …… NIC No ……..……..……..……Signature……..……..…
Name …… NIC No ……..……..……..……Signature ……..……

FORM OF RETENTION MONEY GUARANTEE

(Issuing Agency's Name and Address of Issuing Branch or Office

Beneficiary: Director General, Road Development Authority, 1st Floor, Maganeguma Mahamedura",216, Denzil Kobekaduwa Mawatha, Battaramulla.
Date: ----------

RETENTION MONEY GUARANTEE No.:----------

We have been informed that ----------(name of Contractor) (hereinafter called "the Contractor") had entered into Contract No: **RDA/DC/UVA/FD/GOSL/2023/02** dated ……2023, with you, for the execution of '**CONSTRUCTION OF RAJAMAWATHA EXTENTION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300 km), INCLUDING TWO BRIDGES AT CH 7+960 km AND CH 8+380 km ',** (hereinafter called "the Contract")

Furthermore, we understand that, according to the Conditions of Contract, when the works have been taken over and the first half of the Retention Money has been certified for payment, payment of the second half of the Retention Money may be made against a Retention Money guarantee.

At the request of the Contractor, we ----------(name of agency) hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of ---------- (amount in figures)----------
----------(amount in words) upon receipt by us of your first demand in writing accompanied by a written statement stating that the Contractor is in breach of its obligation under the Contract because the Contractor has not attended to the defects in accordance with the Contract.

The guarantee shall expire, at the latest, ---------- (insert 28 days after the end of the Defects Notification Period). Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

Name, Signature and the Seal of the Agency:
Name of the Organization ……...
Designation …….
Date: …….
Witness:
Name …… NIC No ……..……..……..……Signature ……..……..……
Name …… NIC No ……..……..……..……Signature ……..……..……

VOLUME - 2

- Invitation For Bids

- Section 2 Bidding Data
- Section 4 Contract Data
- Section 6 Specifications
- Section 7 Form of Bid
- Section 8 Bill of Quantities
- Section 9 Schedules
- Section 11 Standard Forms (Bid)
- Section 10 Drawings

GOVERNMENT OF THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF TRANSPORT AND HIGHWAYS
ROAD DEVELOPMENT AUTHORITY
INVITATION FOR BIDS

1. The Chairman, Ministry Procurement Committee, on behalf of the Road Development Authority (RDA), invites sealed bids from eligible and qualified bidders for the ***project*** described below:-

Contract No.	Contract Name	Engineer's Estimate w/o contingencies (Rs. Mn)	CIDA Grade	Bid Security (Rs. Mn)	Contract Period (Calendar days)
RDA/DC/UVA/FD/ GOSL/2023/02	CONSTRUCTION OF RAJAMAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300km), INCLUDING TWO BRIDGES AT CH 07+960km AND CH 08+380km	498.3	**C1 or above**	7.0	546

2. The work consists of construction of road and two bridges at CH:07+960 and CH: 08+380 km on Rajamawatha Extension Road from Ketawala to Maspanna in Badulla District.

   The above work includes subbase, base, shoulder, surfacing, drainage, structures, incidental construction of road section and substructure, superstructure and approach roads of bridges.

3. Bidding will be conducted through the National Competitive Bidding Procedure.

4. To be eligible for contract award, the successful bidder shall be currently registered with the Construction Industry Development Authority (CIDA) in grade given in the above table in **Bridges and Highways** specialty.

5. Interested bidders may obtain further information from the following offices and inspect the bidding documents via www.rda.gov.lk from **10/04/2023**
   a. Provincial Director (Uva), Road Development Authority, No. 40, Dharmapala Mawatha, Bandarawela.
      T P 057-2222170 & Fax: 057-2222170
   b. Director (Construction), Road Development Authority, 3rd Floor, "Maganeguma Mahamedura", 216, Denzil Kobbekaduwa Mawatha, Battaramulla. T P :011-2864388 Fax: 011-2861821

6. The Pre-Bid meeting will be held at **10:00 hrs**. on **19/04/2023** at the office of the **Provincial Director (Uva), Road Development Authority, No. 40, Dharmapala Mawatha, Bandarawela** and a site visit will be arranged thereafter if necessary.

7. A complete set of Bidding Document in English language shall be purchased by the interested bidders via email on submission of a written application and valid cash deposit slip of non – refundable tender fee (contract number and name of the contractor should be indicated on the cash deposit slip) to Director Construction, RDA via email from **10/04/2023** until **02/05/2023** during 09:00 hrs to 15:00 hrs for above contract. The email address is **construction.rda@gmail.com**

   Non-refundable tender fee of Rs.**69, 000.00** (with VAT) for the bidding document can be paid by depositing cash to the following bank account.
   Account Name : Director General – RDA
   Account Number : 0000001943
   Bank Name : Bank of Ceylon - Corporate Branch

   Original/valid cash deposit slips should be submitted with the Bids at the submission of bids and it will be checked. The bids without the original/ valid cash deposit slip will be rejected.
   As per the Public Contract Act No. 3 of 1987, only the Agents and Successful winners of tenders shall be registered in Department of Registrar of Companies.

8. Bid shall be accompanied by a Bid- Security for an amount given in the above table. Bid- Security shall be valid up to **25/10/2023.**

9. Bids shall be delivered in **duplicate** to the **Chairman, Ministry Procurement Committee, Ministry of Transport and Highways, Procurement Division, 7th Floor, "Maganeguma Mahamedura", Denzil Kobbekaduwa Mawatha, Battaramulla** on or before **14:00 hrs** on **03/05/2023** Late bids will be rejected. Bids will be opened soon after the closing, in the presence of the bidders' or their representatives who choose to attend.

10. Bid shall be valid up to **27/09/2023**

The Chairman,
Ministry Procurement Committee
Ministry of Transport & Highways,
Procurement Division
7th Floor, "Maganeguma Mahamedura", Denzil Kobekaduwa Mawatha, Battaramulla.

SECTION - 2

BIDDING DATA

This Section shall be read in conjunction with Section 1- 'Instruction to Bidders', and is intended to provide specific information in relation to corresponding clauses in Section 1. Wherever there is a discrepancy, the provisions of Section-2-.Bidding Data shall supersede those provided in the Section 1 – Instructions to Bidders.

The Clause numbers given in this Section correspond to the Clauses with the same numbers in the Section 1 – 'Instruction to Bidders'.

Whenever a Clause number appears in this Section, it means the information in the corresponding Clause in Section 1 is supplemented and/or modified according to the information in the Clause in Section 2.

If a Clause number does not appear in this Section, it means the Clause with the corresponding number in Section 1, remains unchanged.

BIDDING DATA

Instructions to Bidders Clause Reference

1.1 **Employer's Name and Address**

Employer is the Director General, Road Development Authority established by the Road Development Authority Act No. 73 of 1981.

Address of the Employer is
Director General
Road Development Authority
1st Floor, "Maganeguma Mahamedura" 216, Denzil Kobbekaduwa Mawatha, Battaramulla.
Telephone: 0112862795 Fax: 0112872272
E-mail:

Scope of Works

'CONSTRUCTION OF RAJAMAWATHA EXTENTION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300 km), INCLUDING TWO BRIDGES AT CH 7+960 km AND CH 8+380 km '

The work consists of construction of road section and two bridges at CH:07+960 and CH: 08+380 km on Rajamawatha Extension Road from Ketawala to Maspanna.

The road construction includes subbase, base, shoulder, surfacing, drainage, structures and incidental construction.

The two-bridge construction includes construction of substructure and superstructure (with 9.5 m and 13.5m PSC concrete beams respectively) and construction of approaches.

1.2 **Time for Completion**

The Time for Completion of the whole of the Works shall be **546 Days** from the Commencement Date.

2.1 **Source of funds**

Budget allocation under Flood damage rehabilitation for Road Development Authority. The source of funds is Government of Sri Lanka (GOSL)

3 **Add a new sub-Clause 3.3**

Clause 3.3

A misrepresentation or omission of facts in order to influence the procurement process shall make the Bid non-responsive and if detected after the award the bidder could be subjected to legal prosecution.

4.1 **Qualification Information**

The following information shall be provided in Section – 9 – Schedules;

- CIDA registration
  Registration number ……
  Grade ……
  Specialty ……
  Expiry date …….
- If not VAT registered, self declaration on VAT registration
- VAT registration number ……..
- If a Joint Venture, the agreement

- Construction Programme with critical path and cash flow forecast.
- Legal status of the bidder (sole proprietor, Partnership, Company etc.)
- Authentication signatory (written Power of Attorney)
- Total monetary value of construction work performed for each of the last five years.
- Experience in works of a similar nature and size for last ten years.
- Availability of Construction equipment.
- Availability of Staff
- Work plan and methods
- Information on current work in hand

4.2(a) The bidders shall have a valid registration in Grade **C1 or above** in **Bridges and Highways** Specialty, on the date of closing of bids.

4.2(b) Average annual volume of construction work performed during last five years shall be at least **Rs. 608.0 million.**

Annual Average Construction Turnover (AACT) is calculated as follows,

$$AACT = \frac{\sum ACTn}{5}$$ where, n= 1st ……5th year (last five years)

ACTn - Annual Construction Turnover of nth year (from the audited financial report)

4.2(c) The Bidder should have experience as prime contractor in the construction of at least one work of a nature and complexity similar to the Works, the value of which should be at least **Rs. 426.0 million** during the last ten years and at least one bridge of pre-tensioning deck along with beam launching and road construction experience. (To comply with this requirement, works cited should be at least 70 percent complete).

4.2(d) **Essential equipment**

Proposals for the timely acquisition (own, lease, hire, etc.) of the following essential equipment shall be ,

Machinery	**Capacity**
1. Dump Truck	4-10 Ton
2. Excavator	120 Hp
3. wheel Loader	1.5 Cum or above
4. Generator Set	10-100 KVA
5 Mobile Crane	20-25 MT
6. Crawler Cranes	100-150 MT
7. Backhoe Loader	50 – 100 Hp/1.0Cum
8 Breakers	
9. Asphalt Pavers	10MT
10. Pneumatic tired roller	8 – 10 Ton
12.Concrete mixture	400 ltr
13. Air compressors	250 CFM
14. Cargo truck with Crane	10 Ton
15. Beam Launchers	
16. Vibrating roller	10Ton
17. Motor Grader	120-140 HP

4.2 (e)

The Project Manager shall have following qualification & experience,

Four Years B.Sc Engineering (Civil) Degree from a University in Sri Lanka or equivalent Civil Engineering Qualification recognized by the UGC and Institution of Engineers, Sri Lanka (IESL). OR Passed Part I, II and III examinations of the Institution of Engineers, Sri Lanka(IESL) OR B.Tech Degree in Civil Engineering from the Open University of Sri Lanka. The person shall have Corporate membership (Charted Engineer) of the Institution of Engineers, Sri Lanka (IESL) or any other recognized institution by the Institution of Engineers, Sri Lanka (IESL) with 5 years experience in post charter in Bridge and Highway Construction and shall have ability to lead and direct multi-disciplinary teams and experience in proper deployment and efficient management of human and other resources.

4.2(f) Liquid assets and / or credit facilities required

The minimum amount of liquid assets available shall be Rs **102.0 million**.

The minimum amount of liquid assets available is calculated as follows.

$$X = (A - L) - 0.1\ W + C$$

Where,

X = Minimum amount of liquid assets available,
A = Current assets as given in the latest audited financial statements,
L = Current liabilities as given in the latest audited financial statements,
W = Outstanding contractual commitments as supported by an affidavit as per Form No. 07,
C = Project specific revolving line of credit given by a bank as per given Form

Note : Available Working Capital of bidder should be equal or greater than 50% of minimum amount of the Liquid Asset (i.e. Rs. 51.0 million). Line of Credit shall be provided only to satisfy the balance amount of the required amount of the Liquid Asset.

Non - Performing Contracts

4.2 (h)

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
Non-performance* in a contract has not been occurred as a result of Contractor's default	must meet requirement by itself or as partner of JV	not applicable	must meet requirement by itself or as partner of JV	not applicable	Schedule No. 09 (a) & 09 (b)

* All RDA projects (foreign & local funded) shall be considered for assessment of Non-performing Contracts (single entity contractor / any JV / any each partner of the JV, nominated sub contractor) based on the following criteria.

1. Any bidder who submits bid to this contract shall be disqualified for the award of the contract, if Notice to Correct (NC) has been issued as per Clause 15.1 of SBD 2 Condition of Contracts on the poor performance of the Contractor or similar notice as per the relevant Conditions of Contract (COC) and is imposed before 28 days prior to date of bid opening, unless the Engineer certifies that Contractor has corrected the contents of the Notice to Correct. This certificate shall be accompanied with the bid; or

   If any Contract has been terminated due to the Contractor's default within last five years prior to 05/04/2023, he shall be disqualified for the award of contract.

Add a new sub clause 4.2 (i)

Pending Litigation and Arbitration

4.2 (i)

Criteria	Compliance Requirements				Documents
Requirement	Single Entity	Joint Venture			Submission Requirements
		All Partners Combined	Each Partner	One Partner	
All pending litigation and arbitration, if any, shall be treated as resolved against the Bidder and so shall in total not represent more than **fifty (50%)** percent of the Bidder's net worth calculated as the difference between total assets and total liabilities.	must meet requirement by itself or as partner to past or existing Joint Venture	not applicable	must meet requirement by itself or as partner to past or existing Joint Venture	not applicable	Schedule No. 10

10.1 **Clarification of Bidding Documents**

Employer's address for clarification of bidding documents is.

Director (Construction),
RDA, 3rd Floor, "Maganeguma Mahamedura", Denzil Kobbekaduwa Mawatha, Battaramulla
Phone: 011 – 2864388
Fax No. 011 – 2861821.

14.3 **Add following to this clause**

All taxes except VAT shall be incorporated to the rates.

14.4 **Adjustment for change in cost**

The Contract is subjected to price adjustments.

16.1 **Period of Bid validity:**

The Bid shall be valid up to **27/09/2023**.

17.1 **Amount of Bid security:**

The amount of Bid Security is Sri Lanka Rs. **7.0** ***Mn.***

17.2 **Validity of Bid Security**

The Bid Security shall be valid up to **25/10/2023**.
The form of Bid Security shall be strictly in the format given in the Bidding Document.

Any unconditional guarantee issued by a bank registered bank in the Central Bank of Sri Lanka or CGF or Insurance company except ABC Insurance Company (Pvt) Ltd is acceptable.

18. **Alternative Proposals by Bidders**

Delete entire Clause and substitute with the following:-
"Bidders are not allowed to submit alternate proposals"

19.1 **Pre – Bid meeting**

Pre-bid meeting will be held on **19/04/2023** at Provincial Director (Uva), Road Development Authority, No. 40, Dharmapala Mawatha, Bandarawela at 10:00 hrs. The site visit shall be arranged thereafter with RDA representative, if necessary.

20.4 **Add new Sub Clause 20.4**

All pages of the Bidding documents shall be signed by the bidder and his seal affixed.

21.2 **Submission of Bid**

21.2(a) Employer's address for the purpose of bid submission is ;

Chairman,
Ministry Procurement Committee,
Ministry of Transport and Highways,
Procurement Division
7th floor, "Maganeguma Mahamedura"
216, Denzil Kobbekaduwa Mawatha,
Battaramulla

21.2(b) **Name and Identification number of Contract**

The name of the Contract '**CONSTRUCTION OF RAJAMAWATHA EXTENTION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300 km), INCLUDING TWO BRIDGES AT CH 7+960 km AND CH 8+380 km** ' Contract Number is ***RDA/DC/UVA/FD/GOSL/2023/02***

22.1 **Deadline for submission of Bids**

The deadline for submission of bids is **14:00 hrs on 03/05/2023.**

23.1 Any bid received after the deadline for submission of bid will be returned unopened to the bidder.

25.1 **Bid Opening**

The Bids shall be opened immediately after the deadline for submission of Bids, mentioned in sub-clause 21.2 & 22.1

30.6 Add new sub clause 30.6

To ensure that the bids made not unrealistic, following criteria will be adopted,

a) If the bid value is 11% to 19% less than the engineer's estimate, the performance bond will be increased by 5%.

b) If the bid value is 20% to 29% less than the engineer's estimate, the performance bond will be increased by 10%.

C)If the bid value is 30% or higher percentage less than the engineer's estimate, the bid will be rejected.

30.7 **Add new sub clause 30.7**

Considering the role of the State Owned Enterprises (SOE) in these industries, when such SOE submits a bid for a contract then such SOE will be given 5% preference over all other contractors. This will be considered only when the Financial Evaluation and not in Technical Evaluation.

32.3 Add new sub Clause 32.3

After evaluation of Bids in accordance with the procedures described under Clauses 28, 29, 30 and 31, the Employer will inform to all the bidders in writing the selection of the successful bidder and the intention of contract award to such bidder. The unsuccessful bidders if they so wish, within one week of such notice may make representation to the Procurement Appeal Board at the address given below. Such representation shall be self-contained to enable the Appeal Board to arrive at a conclusion and a cash deposit to an amount given below shall be made. The Appeal Board may request the bidder who had made representation to submit further evidence during investigations. The cash deposit will be forfeited unless the Employer has changed the original contract award decision in favour of the bidder who has made such representation.

Address: The Secretary
Ministry of Transport & Highways,
8th floor, "Maganeguma Mahamedura",
216, Denzil Kobekaduwa Mawatha,
Battaramulla.

Cash Deposit: Rupees 25,000/=

34.0 Authority for Signing the Agreement

Add RDA Circular RDA/DPR-AD-01/06 dated 15th June 2020 regarding empowered officers for signing the contract agreement

35.1 Amount of Performance Security

The format of the security shall be strictly in accordance with the format given in Section 5.
The amount of Performance Security is 5% of the Initial Contract Price, subject to sub clause 3.1 (v) of Public Finance Circular No. 03/2020 (i) dated 11.01.2021 issued by Ministry of Finance.
The Performance Security shall be valid until 28 Days beyond the time for completion.
Any unconditional bank guarantee issued by registered bank in the Central bank of Sri Lanka or CGF is acceptable.

SECTION - 4

CONTRACT DATA

This Section shall be read in conjunction with Section 3- 'Conditions of Contract', and is intended to provide specific information in relation to corresponding clauses in Section 3. Wherever there is a discrepancy, the provisions in Section 4 – Contract Data shall supersede those provided in the Section 3 – Conditions of Contract.

The Clause numbers given in this Section correspond to the Clauses with the same numbers in the Section 3 – 'Conditions of Contract'.

Whenever a Clause number appears in this Section, it means the information in the corresponding Clause in Section 3 is supplemented and/or modified according to the information in the Clause in Section 4.

If a Clause number does not appear in this Section, it means the Clause with the corresponding number in Section 3, remains unchanged.

CONTRACT DATA

COC Clause Number/s	
1.1.2.2	Employer's Name : Director General , Road Development Authority Employer's Address : 1st Floor, "Maganeguna Mahamedura", 216, Denzil Kobbekaduwa Mawatha, Battaramulla
1.1.2.4	**The Engineer** : The Engineer will be notified later.
1.1.3.3	Time for Completion is **546 Days**
1.1.3.7	Add following, The Defects Notification Period is one Year.
1.3 (b)	Employer's Address Road Development Authority, 1st Floor,"Maganeguma Mahamedura", 216, Denzil Kobbekaduwa Mawatha, Battaramulla.
2.1	Engineer's Address :will be notified later
3.1	The Start Date shall be 14 Days from the receipt of the Letter of Acceptance The Engineer shall obtain the specific approval of the Employer before taking action under the following Sub – Clauses of these Conditions. I. Clause 13. 3 - Variation Procedure II. Clause 4.4 - Subcontractors III. Clause 5.0 - Nominated Subcontractors IV. Clause 8.4 - Extension of Time for Completion V. Clause 8.8 - Suspension of Work VI. Clause 8.11 – Prolonged Suspension VII. Clause 10 - Employer's Taking Over VIII. Clause 11.3 – Extension of Defects Notification Period IX. Clause 11.8 - Performance Certificate X. Clause 13.6 - Adjustments in Changes in Legislation XI. Clause 16.4 - Payment on Termination Notwithstanding any obligations set out elsewhere in this Contract to obtain approval from the Employer, if, in the opinion of the Engineer, an emergency occurs affecting the safety of life or of the Works or of adjoining property, he may, without relieving the Contractor of any of his duties or responsibilities under the Contract, instruct the Contractor to execute all such work or to do such things as may, in the opinion of the Engineer, be necessary to abate or reduce the risk. The Contractor shall forthwith comply, despite the absence of approval of the Employer, with any such instruction of the Engineer. The Engineer shall determine an addition to the Initial Contract Price, in respect of such instruction, in accordance with Clause 13 and shall notify the Contractor accordingly, with a copy to the Employer.

4.2	**Performance Security** Amount of Performance Security is 5% of the Initial Contract Price, subject to sub clause 3.1 (v) of Public Finance Circular No. 03/2020 (i) dated 11.01.2021 issued by Ministry of Finance. The acceptable format of the Performance Security is given in this Bidding Document. **Any unconditional bank guarantee issued by registered bank in the Central bank of Sri Lanka or CGF is acceptable**. **Change the Heading from 'Quality Assurance' to 'Quality Control'**
4.17	**Replace the text of the Sub-Clause 4.17 with the following text**: **4.17(a) Identifying Defects** The Engineer shall check the Contractor's work and notify the Contractor of any Defects that are found and shall specify a time within which the defects are to be rectified. Such checking shall not affect the Contractor's responsibilities. The Engineer may instruct the Contractor to search for a Defect and to uncover and test any work that the Engineer considers may have a Defect. **4.17(b) Tests** If the Engineer instructs the Contractor to carry out a test which is not specified in the Specification or Bills of Quantities in sufficient details to enable the Contractor to have priced or allowed for the same in the Bid and the test shows that the workmanship or Material is defective then the Contractor shall pay for the tests and samples. If the test shows that the workmanship and Materials is in accordance with the Contract and if the Contractor suffers delay and /or incurs Cost from complying with these instructions or as a result of delay for which the Employer is responsible, the Contractor shall give notice to the Engineer and shall be entitled subject to Sub-Clause 19 (Contractor's Claims) to: (a) an extension of time for any such delay, if completion is or will be delayed, under Sub-Clause 8.4 (Extension of Time for Completion): and (b) payment of any such Cost plus reasonable profit, which shall be included in the Contract Price. After receiving this notice, the Engineer shall proceed in accordance with Sub-Clause 3.4 (Determinations) to agree or determine these matters. The Contractor shall promptly forward to the Engineer duly certified reports of the tests. When the specified tests have been passed, the Engineer shall endorse the Contractor's test certificate, or issue a certificate to him, to that effect. If the Engineer has not attended the tests, he shall be deemed to have accepted the readings as accurate. **4.17(c) Correction of Defects** **4.17(c-1)** The Engineer shall give notice to the Contractor of any Defects before the end of the Defects Notification Period, which begins at completion, and is defined in the Contract Data. **4.17(c-2)** Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Engineer's notice.

4.17(c-3)

On completion of the Defects Notification Period and correction of Defects in accordance with Sub-Clause 4.17(c-2) or 4.17(d), and on certification of the final payment, the Engineer shall issue the Final Payment Certificate to the Contractor

4.17(d) **Uncorrected Defects**

If the Contractor has not corrected a Defect within the time specified in the Engineer's notice, the Engineer will assess the cost of having the Defect corrected, and the Contractor will pay this amount.

8.7 **Liquidated Damages**

The Liquidated Damages for the whole of the works shall be Rs**. 304,000.00** per Day.

The maximum amount of Liquidated Damages for the whole of the works shall be 10% (ten percent) of the Initial Contract Price.

12.2(b)

The method of Measurement shall be as per the Contract

13.3

Variation Procedure

Replaced with

Variation Exceeding 25 percent

If on the issue of the Taking Over Certificate for the whole of the Works it is found that there is a reduction or increase of more than 25% in the Quantity of any unit priced items in the original Bill of Quantities for which the total cost based on the rate for that item in the Bill of Quantities is more than 5% of the " effective Contract Price"(which for the purpose of this sub- clause shall be the contract price, excluding the provisional sums and allowances for day works, if any, and the adjustment of price under sub clauses 13.6 and 13.7 at statement at completion) then,

a. The excess quantity of particular item shall be paid as describes in following table

Excess quantity	Method of payment
up to 25%	Original Bill of Quantity rate
Between more than 25% and less than 50%	90% of Original Bill of Quantity rate
more than 50%	83% of Original Bill of Quantity rate

b. Quantity reduction of particular item shall be paid as described below

If the final quantity of work done in particular item is 75% of the original Bill of Quantities or less shall be paid at the rate shown in the Bill of Quantities. In addition a payment of 17% of the difference between 75% of the estimated amount for that item and the final amount for that item shall be made to the Contractor.

13.4(b)

Percentage for adjustment of Provisional Sums

1. For the works executed by Utility Authorities - 10%
2. For the works directly executed by the Contractor – 20%
3. For supplying and services-10%

13.7

Price Adjustment

The contract is subjected to price adjustment

Input	Input Name	Percentage
M3	Cement	15.32
L3	Unskilled Labour	9.85
L2	Semi-skilled Labour	9.04
P2	Heavy Equipment	8.53
M8	Sand	7.57
M7	Metal	7.34
M13	Reinforcement	6.49
P3	Fuel	6.40
L1	Skilled Labour	5.96
M21	Form Work Timber	5.58
M45	Earth	4.23
M30C	Bitumen	2.38
P1	Small Equipment	1.31
		90.00

Non-adjustable items shall be Bill no. 01 (Preliminaries & Generals), Bill no. 05 (Day Works), and all PS & LS items.

14.2

Advance Payment

A total Advance Payment of **20%** of the Initial Contract Price net of Contingencies and Provisional Sums would be made in two equal instalments on submission of an advance payment guarantee. The second instalment would be paid only after establishing that the first instalment of the advance payment has been used exclusively for mobilization of this project and submission and approval of detailed construction programme with network analysis and resource scheduling. The advance payment guarantee shall only be from a Bank registered in the Central Bank of Sri Lanka or CGF. **First part of the advance payment would only be paid after signing of a formal contract agreement.**

14.3(c)	Percentage of retention Limit of Retention Money	10% 5% of the Initial Contract Price
14.5	Minimum amount of Interim Payment Certificates	Rs 17.0 Mn.

15.2(h)	Add following **Termination by Employer** If the delay is more than the period, for which the Maximum Delay Damage is allowed to be applied, the Employer may consider this situation as Contractor's fundamental breach of the Contract, and the Employer may consider Termination of the Contract. The Delay is determined by updating the approved program with actual progress, after saving the approved program as a Baseline.	
18.2	Third Party Insurance	This amount of third party insurance per occurrence is Rupees 5,000,000. 00

SECTION - 6

SPECIFICATIONS

SPECIFICATION

Standard Specifications

The Standard Specifications comprise 'Standard Specifications for Construction and Maintenance of Roads and Bridges' issued under the authority of the Director General of the Road Development Authority and published by the Institute of Construction Training and Development.
The ICTAD Publication No. of this publication is SCA/5 Second Edition –June 2009

Bidders who are not in possession of this publication can purchase it from the CIDA.

PARTICULAR SPECIFICATIONS

PREAMBLE

==========

These Particular Specifications should be read in conjunction with the Standard Specifications for Construction and Maintenance of Roads and Bridges, ICTAD Publication No SCA/5Second Edition –June 2009, which are applicable in all cases not covered herein.

The Particular Specifications for some sections of the works are comprehensive and cover the full extent of the works in these sections. In other sections they apply in conjunction with the Standard Specifications. Finally in some sections not covered in the Particular Specifications, the Standard Specifications shall apply in full.

Where there is an ambiguity or discrepancy between the Particular Specifications and the Standard Specifications, the Particular Specifications shall prevail.

PRELIMINARIES & GENERAL

P(001) Mobilization & Demobilization

The Contractor shall submit to the Engineer within 14 days from the date of Letter of Acceptance his mobilization and demobilization plan for equipment, plant and machinery required for the Project. Plan shall include the location of plant, machinery and equipment and mode of transport. Engineer shall approve the mobilization and demobilization plan and payment shall be based on schedule of mobilization.

Payment

Payment shall be made according to the schedule submitted by bidder and within the lump sum amount agreed in the Bill of Quantities.

Item No	Description	Pay Unit
P (001)	Allow for mobilization & demobilization	L.S.

P(002) Provide Office for the Engineer

The Contractor shall provide furnished buildings area of 75 sqm for the use of the Engineer according to the Contract. The buildings shall be to the satisfaction of the Engineer.

The Contractor shall submit for the Engineer's approval for general layout plan of the facilities, showing their position, the access and internal roads, fences and gates and proposed waste water/sewerage disposal system before any of this work starts.

The Contractor shall be responsible for earthworks and site grading required for the site facilities and parking areas including boundary fence, gate and watchman's hut. In addition, any access to the site facilities by means of roads from a public road shall be provided and maintained by the Contractor.

The site shall be graded and properly drained so that there are no depressions where water will collect.

All wastewater shall be disposed underground and as approved by the Engineer. The Contractor shall perform percolation tests at the location of leach field, and the size of the leach field or pit will be subject to the results of these tests and the approval of the Engineer.

The septic tanks of size approved by the Engineer shall be of reinforced concrete or glass fiber equipped with proper inlet and outlet baffles and sealed access batch. The size shall be sufficient to operate at least three years without solids overflowing into the leach field. The leach field or pits shall penetrate through the catch layer if there is one. The space below the distribution pipes shall be backfilled with a pervious material and compacted prior to installing the distribution pipes.

The design of the leach field or pits shall take into consideration only the area of the side walls of the trench or pit below the level of the inlet pipes. The area of the bottom of the trench or pit may not be used for percolation calculations as it will be continuously saturated. The Contractor shall submit full details of the proposed system for the approval of the Engineer.

No permanent work shall be allowed to start on Site until the offices for the Engineer are completed and equipped as specified and fully operational.

Upon completion of the Contract, Engineer's offices shall be become property of the Contractor. The Contractor is requested to submit with his bid, Literature & Specifications of the facilities in sufficient details to enable their quality to be assessed.

Canopies shall be provided using an approved type of Construction to shade the roofs and external walls and windows of the facilities during the day.

Covered carports shall be provided at the office areas to accommodate 2 cars/cabs in each area.

Payment

Payment shall be made at the unit price as contained in the BOQ

Item No.	Description	Pay Unit
P(002)	Provide office for the Engineer during the Construction period.	month

P(003) Maintenance of Office for the Engineer

Description
The Contractor shall maintain in good decorative and working order all the buildings and the contents thereof supplied under the Contract. The Contractor shall be responsible for supplying all power, water and telephone services and all the facilities and shall meet all costs for these services and settlement of all bills for these services.
The Contractor shall maintain all facilities for the duration of the Contract, such maintenance shall include but not be limited to:-

keeping buildings in good repair and decorative order, and free from pests, insects etc;
cleaning offices and laboratory daily;
maintaining the grounds around buildings;
supplying kitchen-ware and crockery and cleaning materials;
supplying toilet and cleaning equipment and materials;
providing power, water, telephone services, fax and e-mail facilities;
servicing and repairing all fittings and equipment installed, eg: air-conditioners, fans, etc;

Measurement and Payment

a. Measurement

Maintenance of each facility shall be measured as the number of months during which the maintenance for each facility is satisfactorily provided. Maintenance shall not be measured during any period occurring between the expiration of the contract period and the date the works are certified as complete.

Measurement will be made for maintenance performed after the completion of the works, during the time the facilities are required by the Engineer's staff for post-construction contract completion activities.

b. Payment

Payment for maintenance for each facility shall include all labour, materials and equipment required for satisfactory maintenance of the facilities and shall include all other costs including but not limited to supply of electricity, water and telephone facilities, cleaning, guarding, disposal of rubbish, repairing equipment and all other work required to ensure the facilities and equipment provided are in good operational order.

Pay Item	Description	Pay Unit
P (003)	Maintain Office for the Engineer	Month

P(004) Provide Furniture & Equipment for the Engineer's Office

The Contractor shall provide & maintain the office equipment and furniture for use of Engineer. At the completion of Contract all furniture and office equipment shall become the property of the RDA

Payment
Payment shall be made from the pay item in the Bill of Quantities

Item No	Description	Pay Unit
P (004)	Provide office furniture & Equipment for the Engineer's office	PS

P (005) Provide Stationary for the Engineer's Office

The Contractor shall provide stationary for the engineer as required and duly requisition by the engineer. Stationary includes office consumable items such as paper, paper printing material and general office requisites. Payment for the stationary shall be the actual net price of stationary provided and equipment provided. Payment for invoiced cost with 10% administrative charge shall be the full payment for stationary provided and shall be made from the provisional sum item in the bill of quantities.

Item No.	Description	Pay Unit
P (005)	Provide stationary for the Engineer's Office	PS

1.01 **LAND AVAILABLE**

The land available to the Contractor free of charge shall be the land occupied by the permanent works or the existing road right of way, whichever is greater in width.

1.02 **DAMAGE TO LAND AND CROPS**

Where land is made available to the Contractor free of charge, the Contractor shall under no circumstances interfere with this land whether for Permanent or Temporary works until the evaluation of all compensation has taken place and permission to proceed has been received from the Engineer. Care shall be taken during the Works to ensure that no unnecessary damage is caused to the land or crops and that all reasonable precautions are taken to prevent soil erosion and mosquito breeding. On completion of the work, the land shall be left in a tidy condition as directed by the Engineer.

1.03 **GRAVES, TOMBS, RELIGIOUS OR TRADITIONAL MONUMENTS**

Areas which contain graves, tombs and religious or traditional monuments within the Site shall be cleared by the Contractor in accordance with the written instructions of the Engineer.

1.04 **CONTRACTOR'S HOUSING, STORES AND WORKSHOP AREAS**

The location and layout of housing, stores and workshop areas together with their use and detailed dimensions shall be approved by the Engineer. The Contractor shall not erect any structures on the Site without the approval of the Engineer.

On the commencement of the Contract the Contractor shall fence off all areas designated for housing, plant-yard, workshops, offices and the like. By the end of the Period of Defects Notification Period or at such earlier time as the Engineer may instruct or approve, the Contractor shall clear all structures, plant and rubble from these areas and leave them in a condition acceptable to the Engineer.

1.05 FIRST AID FACILITIES

The first aid, welfare and safety standards to be provided and observed shall be at least equal to those laid down by the Ministry of Health/Labour for Industrial sites of similar size and remoteness and approved by the Engineer.

The Contractor shall, within 24 hours of the occurrence of any accident at or about the Site or in connection with the execution of the Works, report such accident to the Engineer and to the Competent Authority where required by Law. At least one person permanently on the Site shall have been trained in first aid and the person so designated shall have been made known to the Engineer in writing and to all employees by the posting of his name and designation in a prominent position on the Site.

1.06 **SECURITY SERVICES FOR ENGINEER**

The Contractor shall be responsible for all matters of security concerning the vehicles and housing, offices for the Engineer. The costs in connection with this clause shall be deemed to be included in the Contractor's tendered rates.

1.07 **WATER SUPPLY**

The Contractor shall make his own arrangements and at his own costs for the provision from approved sources of adequate clear water for use in construction of the Works or otherwise. Quantities of water withdrawn from the approved sources shall be such that the requirements of the local population in respect of water for irrigation, drinking purposes, etc., are not interfered with. The Contractor shall have obtained permission from the appropriate Authorities in each case for the abstraction of water from any natural source, before the Engineer approves the use of such source.

1.08 **SERVICES**

The Contractor shall make his own arrangements for the supply of electricity for power and light and of any other services required in order to carry out the Works and he shall make his own arrangements, subject to the approval of the Engineer, for the disposal of sewage and all waste materials during the execution of the Works. All such services shall be at the Contractor's own expense.

1.09 PROTECTION OF MAINS AND SERVICES

The Contractor shall protect and support at his own costs during the construction of the Works, all pipes, mains, cables, overhead lines and other apparatus, which might be endangered by his operations.

In the event of any pipes, mains or cables being exposed at any time, the Contractor shall immediately notify the Authority or proprietor concerned and shall not cover the exposed pipe, main or cable until it has been examined and approved by the appropriate Authority or proprietor.

Before commencing any section of the Works the Contractor shall at his own expense obtain full information with regard to the position and depth of all pipes, mains and cables.

The Contractor is responsible for making arrangements with the Public Authorities and other duly constituted bodies for the phasing into his programme of works, of all the work which needs to be done by them or their contractors concurrently with the Works. If in the execution of the Works, any damage to any service or apparatus or any interruption of or delay to the provision of any service is caused, the Contractor shall bear and pay the cost reasonably incurred by the Authority or body concerned in making good such damage and shall make full compensation to the Authority or other body for any loss sustained by reason of such interruption or delay.

In the case of damage caused to water mains, pipes or fittings less than 2 inches in diameter the Contractor shall repair the damage himself at his own expense without delay. The Contractor shall be responsible for any damage caused to the permanent works or to adjacent property by water flooding due to damage caused by him to water mains, pipes or fittings.

1.10 QUARRIES AND BORROW PITS

The Contractor shall be responsible for opening up any quarry or borrow pit and shall organize his methods of operation so that only material of a type and quality approved by the Engineer shall be selected for use in the Works. The Contractor shall provide, erect, operate and maintain all plant necessary for their proper operation, together with any access roads, temporary bridges or the like necessary for the supply to the Works of the aforementioned and pay all charges incurred, including the rights for entering the land and extracting the material, or for any other compensation.
No claim shall be allowed for delays or for any other reason in this respect.

1.11 OTHER WORKS

During the course of the Contract the Employer may cause other works such as the installation or removal or resetting of services to be carried out, on through or adjacent to the Site.
The Contractor shall at all times comply with the requirements of the relevant Clauses of the Conditions of Contract in respect of these and any other Works not included in the Contract and shall allow reasonable access as approved by the Engineer on and through the Site of the Works to any other contractor or workmen who may be working on or near the Site for this reason at no extra cost.

1.12 POSSESSION OF THE SITE

Possession of the site will be in accordance with the General Conditions of Contract. Possession will be granted in accordance with the Contractor's Programme referred to in the Conditions of Contract and the Specifications and approved by the Engineer.

1.13 BOREHOLE INFORMATION

Information regarding the position and depth of boreholes and the results obtained are shown on the drawings and Contractor shall be deemed to have considered this information and checked its accuracy during the Tender Period, and to have satisfied himself of the characteristics of the materials and the suitability of the plant and the methods of working on which he has based his rates.

1.14 WEATHER CONDITIONS

The Contractor shall not be entitled to extra payment by reason of the occurrence or effect of high winds, excessive rainfall, temperature, humidity or any other meteorological phenomena.

1.15 PROGRAMME

In addition to the requirements of the Conditions of Contract the Contractor shall furnish to the Engineer within one calendar month from the commencement date a detailed programme of the order in which he proposes to carry out the Works. The programme shall include time and progress charts so that actual progress on each operation can be shown against anticipated progress. Due allowance should be made for the seasonal rains and also in accordance with the relevant clauses in this specifications.

The Contractor shall keep the progress of the Works under continuous review. When necessary the programme shall be updated at regular intervals as required by the Engineer.

1.16 CONTRACT DOCUMENTS AND DRAWINGS

The Contractor shall be issued Contract Documents and Drawings. When necessary the Contractor shall also be supplied with two copies of any further drawings, which may be issued in accordance with the Contract.

1.17 PRESERVATION OF SURVEY MARKERS

The Contractor shall locate and where possible preserve or else relocate all survey markers established for the execution of the Works. Where such survey markers will be disturbed, the Contractor shall accurately reference these to permanent concrete markers before such work is commenced.

Where it is likely that any survey marker which is the property of the Survey Department will be disturbed, the Contractor shall inform the appropriate Survey Authorities at least 14 days before the marker is endangered and ensure that the Survey Authorities take appropriate action.

1.18 DIMENSIONS AND LEVELS

The Contractor on the Site shall verify all Dimensions and levels shown on the Drawings or mentioned in documents forming part of or issued under the Contract and he shall immediately inform the Engineer of any apparent errors or discrepancies in such dimensions or levels.

1.19 NIGHT WORKING

The Contractor may be permitted to carry out work during the night and shall submit full details of the methods of working and lighting, control of traffic and any other information, which the Engineer may request. No night working shall be carried out without the Engineer's approval, and the Engineer has the right to withhold or withdraw approval if, in his opinion, such work presents undue hazard or disturbance to the public, or is in any other way unsatisfactory.

The Contractor's intentions on night working shall be made known to the Employer on the programme of Works supplied with his tender.

1.20 AMENITY AND ACCESS

The Contractor shall ensure that, in carrying out the Works, he causes no damage by plant, workmen, flooding, subsidence or otherwise to any property. He shall take all precautions to the satisfaction of the Engineer to ensure that such hazards are avoided and public amenity maintained, and he shall be responsible for any damage that may occur.

The Contractor shall be responsible for providing and maintaining access to and along the Site for his own purposes, including any temporary river or swamp crossings he may require.

1.21 WORKS DURING DEFECTS NOTIFICATION PERIOD

After the Commencement of the Defects Notification Period, which shall normally, the Contractor shall do nothing which might endanger the safety of the public and he shall complete any outstanding works and undertake the correction of all defects as instructed by the Engineer or any other duly authorized person or

Authority. Throughout the Defects Notification Period the Contractor shall notify the Engineer of the work or operations he intends to carry out and he shall obey any instructions which the Engineer may give as to the times and manner of working so that any inconvenience to the public is kept to a minimum.

1.22 CLEARING AND TRIMMING OF SITE ON COMPLETION

On completion of the Works the Contractor shall leave the Site in a tidy condition to the satisfaction of the Engineer. Particular attention shall be paid to the final levelling, grading, making good of erosion gulleys and routings, landscaping and drainage of the Site, the borrow areas and any other places adjacent to the Site interfered with by the Contractor during the Construction or the Defects Notification Period.

1.23 SPILLAGES

The Contractor shall be responsible throughout the Contract and Defects Notification Period for any spillage of fuels, bitumen, hydraulics, oils, and other lubricants or materials caused by his activities on the Works and any such spillage shall be removed and any damage repaired to the satisfaction of the Engineer at the Contractor's expense.

1.24 APPROVAL OF SUPPLIERS OF MATERIALS AND GOODS

Before entering into any agreement for the supply of any materials or goods, the Contractor shall obtain the Engineer's approval in writing of the supplier from whom he proposes to obtain such materials or goods. Should the Engineer at any time be dissatisfied with such materials or goods or with the method or operations carried out by such sub-contractor's work or place of business, the Engineer shall be empowered to cancel his previously given approval of such sub-contractor/supplier. The Contractor shall then obtain such said materials or goods from other supplier as may be approved by the Engineer and shall bear any additional cost thereof.

1.25 COPIES OF ORDERS

The Contractor and sub-contractors shall provide the Engineer with copies of all orders, which they may place for the supply of materials or goods required in connection with the Works.

1.26 SAMPLES

In addition to any special provisions herein for the sampling and testing of materials, the Contractor shall submit to the Engineer as he may require, samples of all materials and goods, which he proposes to use or employ in or for the Works. Such samples, if approved, will be retained by the Engineer, and no materials or goods of which samples have been submitted shall be used on the Permanent Works unless and until such samples have been approved in writing by the Engineer. Notwithstanding the Engineer's approval as provided for herein the Contractor shall be solely responsible for the quality of all materials and goods supplied.

The cost of supplying all such samples and of conveying the same to such place of inspection or testing as the Engineer may designate within the country of origin and of complying with the requirements of this clause shall be deemed to be included in the rates and prices in the Contract.

1.27 TEST CERTIFICATES

Should the Engineer so require, the Contractor shall obtain Certificates of Tests from the suppliers of any Goods and shall send such Certificates to the Engineer. Such Certificates shall certify that the Goods concerned have been tested in accordance with the requirements of the Specification and shall give the results of all the tests carried out. The Contractor shall provide adequate means of identifying the Goods delivered to the Site with the corresponding Certificates.

The test certificates shall not release the Contractor of any of his obligations under the Contract in connection with the specifications of the relevant Goods when incorporated to the Permanent Works, nor of the necessity for further testing as required in the Specifications or directed by the Engineer.

1.28 WORKS TO BE IN THE DRY

Unless otherwise specified all the works are to be carried out in the dry and they shall be kept free from water coming from whatsoever source to the satisfaction of the Engineer.

1.29 PAYMENT FOR COMPLYING WITH ITEMS 1.01 TO 1.28

There will be no separate payment for complying with the Items 1.01 to 1.28 of this section, and the cost of complying with all the requirements stated herein shall be deemed to be included in the Contractor's rates in the remainder Bills of the Bills of Quantities.

1.20 AS BUILT DRAWINGS

120.1 Description

The work shall consists of preparation of As Built Drawings necessary for performance of the completion of the work covered by the Contract, the Contractor shall supply them by the dates stated in the Contract Data.

The Contractor shall retain, at his sole expense, a qualified engineer for appropriate on site construction inspections to ensure that all improvements as set forth required, pursuant to RDA standards and specification, and as-built shall be provided. The contractor shall certify, in writing, to the Engineer that the improvements were done in compliance with the approved plan or agreement pursuant to RDA Standards & Specifications and as-built shall be provided.

Field managed record drawings should be provided to the Engineer with indicating additions and deletions for approval before preparation of the final as-built Drawings.

The following requirements shall be applied to each as-built drawing developed for the project and a hard copy together with an electronic CAD drawing file in digital format on CD shall submit for the Engineer.

120.2 Construction Requirement

The following items shall be required for all "As-Built Drawings.

(a) All as-built for projects are required to be on A1 or similar size of construction drawings and shall bear the name and address, of the person who preparing the drawings and the date the as-built data is added to the original via the revision block. Electronic Auto CAD drawing files, based on the GPS coordinate, are also required (if the construction drawings are prepared based on GPS coordinates). Surveyor's/Engineer's statement (with embossed or wet seal and with an original signature on each sheet) shall verify that as-built drawings reflect the true conditions in the field.

(b) Contractor's statement (with an original signature on each sheet) shall verify that all construction specifications and product qualities have been met or exceeded.

(c) "AS BUILT DRAWINGS" of "RECORD DRAWING" shall be clearly labelled on each sheet.

(d) If the details of under-ground service lines (Water, Sewerage, ducts &etc) are available needs to be included to the as-built drawings on the approval of Engineer

(e) The location and elevation of the benchmark referenced will be shown on the drawing. If the reference benchmark is within the project, then a complete description of its location will be provided to assist in future locating.

(f) Survey data, relative to the GPS coordinate grid, on right-of-way monuments installed or encountered within the project

(g) Note any changes to the alignment either vertically or horizontally of curb & gutter sidewalk, pavers or any other surface improvement.

120.3 Measurement & Payments

No payment shall pay for the preparation of As built drawings. If the Contractor does not supply the As Built Drawings by the dates stated in the contract data, or they do not receive the Engineer's approval, the Engineer shall withhold the release of Final payment of the Contract.

SECTION - 7

FORM OF BID

FORM OF BID

‘CONSTRUCTION OF RAJAMAWATHA EXTENTION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300 km), INCLUDING TWO BRIDGES AT CH 7+960 km AND CH 8+380 km ’Under Contract No: RDA/DC/UVA/FD/GOSL/2023/02

To: Director General, Road Development Authority.

Gentlemen:

1. Having examined the Standard Bidding Document – Procurement of Works – Major Contracts [ICTAD/SBD/02 – Second Edition, January 2007 with **addendum issued in October 2009 by ICTAD**], Specifications, Drawings, Bills of Quantities and Addenda for the execution of the above – named Works, we, the undersigned, offer to execute and complete such Works and remedy any defect therein in conformity with the aforesaid Conditions of Contract, Specifications, Drawings, Bills of Quantities and Addenda for the sum of Sri Lankan rupees *……… …… …… ……… ………… …… ……… ………… ………………………. ………… …………………………… ……………… …………………… ………… …………….…… …………… ….. ……… ………… ………… ………… ………………… (Rs.…… ………………) (the bid price shall include physical & Price Contingencies and provisional sums but excluding VAT)or such other sums as may be ascertained in accordance with the above documents.

2. We acknowledge that the Contract Data forms part of our Bid.

3. We undertake, if our Bid is accepted, to commence the Works as soon as is reasonably possible after the receipt of the Engineer’s notice to commence, and to complete the whole of the Works comprised in the Contract within the time stated in the Contract data.

4. We agree to abide by this Bid until the date specified in ITB Clause 16……………. and it shall remain bidding upon us and may be accepted at any time before that date.

5. Unless and until a formal Agreement is prepared and executed this Bid, together with your written acceptance thereof, shall constitute a binding Contract between us.#

6. We understand that you are not bound to accept the lowest or any bid you may receive.

7. We certify / confirm that we comply with the eligibility requirements as per ITB Clause 3 of the bidding documents.

Dated this ………………………………..day of …………………………………….. 2023 in the capacity of ………………………………………….. Duly authorized to sign bids for and on behalf of …………………… …………………… …… ……… ……………………… ……………………………..

Signature ………………………………

Address ……………………………………………………………………………………………

Witness : 1 Name.. Signature ……………………………

2 Name …………………………… Signature ……………………………

*** The amount inserted here should not include the VAT component**

 # For the joint venture bid, add following to item 5.0:

if this bid is a joint venture bid we undertake the responsibility to enter into a joint venture agreement among the joint venture partners. We are also well aware that in the event we fail to enter into a joint venture agreement the contract formed between us is null and void and our bid bond will be forfeited by you.

SECTION - 8

BILL OF QUANTITIES

BILL OF QUANTITIES
PREAMBLE

1. The Bill of Quantities shall be read in conjunction with all other sections of the bidding documents.

2. General directions and descriptions of work or materials given elsewhere in the bidding Documents are not necessarily repeated in the Bills of Quantities. For the full meaning of each Item, reference should be made to the applicable passages in the bidding documents.

3. The prices and rates entered by the contractor in the Bill of Quantities shall be deemed to cover the complete and finished works in the final position as required in the bidding documents, including, inter alia, all costs and expenses which may be required in and for the construction and maintenance of the works, together with all risks, liabilities, contingencies, insurance, sampling, testing, providing all necessary assistance to the Engineer and in general all obligations imposed or implied by the contract.

4. Without affecting the generality of the foregoing provisions the prices and rates entered by the contractor in the Bills of Quantities shall also include, inter alia, all costs and expenses involved with or arising from the following:

   i. The provision, storage, transport, handling, use, distribution and maintenance of all materials, plant, equipment, machinery and tools, including all costs, charges, dues demurrage or other outlays involved in carriage and importation.

   ii. The provision and maintenance of all staff and labour and their payment, accommodation, transport, fares and other requirements.

   iii. Setting out, including the location, construction and preservation of survey markers, measurement and supervision.

   iv. The provision, storage, transport, use, handling, distribution and maintenance of all consumable stores fuel, water and electricity including the requirements of the Engineer's Representative and his staff.

   v. The location, test proving, opening, operation, reinstatement of al quarries and borrow pits, as well as compensation and mining royalties costs associated with quarries and borrow pits or any other land the contractor may require additional to that provided free for the execution of the permanent works.

   vi. Sampling, the transport of samples, testing, the carrying out of trial sections of earthworks, or payment and the checking of all information given by the Engineer.

   vii. Injury caused to the Works under Construction, Plant, Materials and consumable stores by weather.

   viii. Repairs to the Works either prior to or during the Period of maintenance.

   ix. Maintenance work as detailed in the Specifications and the Conditions of Contract and the maintenance of public amenities.

   x. Co-ordination with other Contractors or Authorities carrying out work either in connection with or adjacent to the Works.

   xi. The supply of manufactures test certificates

   xii. The protection of mains and services, and cost of repairs in case of damage caused by the Contractor.

   xiii. Pumping and de-watering; the protection of excavation faces.

xiv. The provision and maintenance of temporary divisions in order that through traffic flow shall remain unobstructed through the contract period and in general the provision of all temporary works required in connection with the works.

xv. Insurance, custom duties, taxes (without VAT), levies, first aid, welfare and safety requirements and all other overheads and costs, protection of existing bridge in case of stage construction and profit.

5. A price or rate shall be entered against each Item in the Bills of Quantities whether quantities are stated or not. Item against which no price or rate is entered shall be deemed to be covered by the other prices or rates entered by the Contractor in the Bills of Quantities. The unit price or rate entered against any Item shall take precedence over any miscalculation in the total sum against that Item. Where separate items have not been provided in the Bills of Quantities for work shall be deemed to have been included in the other prices and rates.

6. The Quantities given in the Bills of quantities are estimated only and are given to provide a basis for the tender. No guarantee is given for their accuracy and payments to Contractor will be based on the prices and rates quoted in the bills applied to measured quantities for work done.

7. The items in the Bills of Quantities are the general application to the whole of the works at any location on site or any part of the works as indicated in the bid documents or instructed by the Engineer's representative.

8. Tenders which group several items together in the Bill of Quantities under one price will not be accepted.

9. Item mentioned "Provisional" in the Bill of Quantities are not to be executed unless ordered by the Engineer. They may be expended wholly or in part or not at all as directed by the Engineer.

10. The Units of measurement described in the Bills of Quantities are Metric Units. Abbreviations in the Bill of Quantities are as follows:

hrs	-	Hours	cu.deci.m	-	Cubic Decimeter
km	-	Kilometre	km-mth	-	KilometreMonths
m	-	Linear Metre	mnth	-	Month
m^2 or sqm	-	Square Metre	ltr	-	Litre
m^3 or cum	-	Cubic Metre	kg	-	Kilograms
Nos.	-	Numbers	MT	-	Metric Tonne
L.S.	-	Lump Sum	Veh-wk	-	Vehicle Week
P.S.	-	Provisional Sum			

DAY WORKS

1. The rates entered in the Schedule for Bill of Quantities shall form day works items for pricing extra work ordered to be done in accordance with the Contract.

2. The rates shall include all overheads and profit and all other costs of whatever nature necessary for and incidental to the performance of extra work whenever ordered and these rates required anywhere on the Site for the operation of plant the provision of labour or the provision of materials and shall be deemed to include inter alia:

Plant	Operation, maintenance, repairs, fuel, oils grease, hydraulic fluids, taxes, duties operator's wages and overtime, travelling time, transport supervision, administration costs related to the use of such plant.
Labour	Wages, overtime, bonuses, travelling time, hand tools, accommodation, fringe benefits, transport and supervision.
Materials	Provision, transport, handling, wastage and storage.

In the case of Plant and labour, only time spent working shall be paid for.

For Day works required outside the Site area (which for these purposes shall mean all areas shown on the plans for permanent works and all areas of temporary works such as Contractor's and Engineer's camps, quarry, borrow pits and their access roads, diversion roads etc.), the following should be chargeable :

Plant	: Actual travel time from original work site to the place of day of work (without labour charge).
Transport	: Travelling time of the places of transport (lorry, low loader etc.)
Labour	: Travel time for the means of transport used.
Materials	: Travelling time for the means of transport used.

The rates shall apply only to such work, as the Engineer shall instruct in writing to be carried out as day works. All items should be priced.

Summary of Bill of Quantity

'CONSTRUCTION OF RAJAMAWATHA EXTENTION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300 km), INCLUDING TWO BRIDGES AT CH 7+960 km AND CH 8+380 km '

CONTRACT NO: RDA/DC/UVA/FD/GOSL/2023/02

Bill No	***Description***			***Amounts / Rs***
1	Preliminaries and General			
2	Construction of Bridge at CH 7+960KM accross Bogahakubura Ela			
3	Construction of Bridge at CH 08+380 KM across Uma Oya at Halabe			
4	Rajamawatha Extension from Ketawala to Maspanna Road (From 7+560KM To 9+300)			
5	Day works			
A	**Sub Total-01**			
B	**Provisional sums**			**1,920,000.00**
C	**Sub Total -02 (A-B)** **Provisional sum deduct form Sub Total -01**			
D	Discount if any	Amount in words		
		.....	Amount in figures	
E	**Sub Total 03 (C-D)**			
F	**Sub Total 04 (E+B) (E+ Provisional Sums)** **Add Provisional sums to sub total 03**			
G	Allow for Physical Contingencies 10% (**F*10%)**			
H	Allow for Price Contingencies 12% **(F*12%)**			
I	**Bid Price (F+G+H)** ***[Form of Bid price]***			
J	VAT (15%*I)			
K	**Bid Price with VAT (I+J)**			

Amount in words: _____

_____

Name of Authorized Officer: _____

_____

Signature: _____

CONSTRUCTION OF RAJAMAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300km), INCLUDING TWO BRIDGES AT CH 07+960km AND CH 08+380km

Bill No.1 Preliminaries & General

Item No.	Pay Item No.	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
		Mobilization and De-Mobilization of Contractor				
1.1		Allow for Mobilization & Demobilization	Item	L.S.	Allow	
		Contract Insurance and Securities				
1.2	119(1)	Allow for the cost of providing Insurances.	Item	L.S.	Allow	
1.3	119(2)	Allow for the cost of providing Securities and Bonds.	Item	L.S.	Allow	
		Traffic Safety & Control				
1.4	103(1)	Allow for safety measures and traffic control	18.00	Month		
		Project sign Boards				
1.5	118 (1)	Making & erecting project name board 1.8 m x 2.0 m as directed by the Engineer	2.00	Nos		
1.6		**Facilities for the Engineer and Staff**				
1.6.1		Office for the Engineer and Staff	18.00	Month		
1.6.2		Maintenance of office	18.00	Month		
1.6.3		Provide furniture for the office	Item	PS	Allow	300,000.00
1.6.4		Provide Stationary for the Office	Item	PS	Allow	120,000.00
1.7		Allow for Environmental Permission as directed by Engineer	Item	PS	Allow	500,000.00
		Bill No. 1 Carried to summary				

BILL NO:2

CONSTRUCTION OF BRIDGE AT 7+960KM ACROSS BOGAHAKUBURA ELA ON RAJAMAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA

Bill No:2.1 Site Clearing & Demolishing.

Item No.	Pay Item No.	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
2.1.1	201(1)	Clearing and Grubbing inclusive of backfilling holes and trenches caused by removal of stumps.	200.00	Sq.m.		
2.1.2	201(2)	Removal of trees, girth greater than or equal to 300 mm and less than 600 mm	3.00	No.		
2.1.3	201(3)	Removal of trees, girth greater than or equal to 600 mm and less than 1200 mm	2.00	No.		
2.1.4	201(4)	Removal of trees, girth greater than or equal to 1200 mm and less than 2000 mm	1.00	No.		
2.1.5	201(5)	Removal of trees, girth greater than 2000 mm.	1.00	No.		
2.1.6	201(10)	Removal of overhanging branches of girth exceeding 300 mm	15.00	No.		
2.1.7	202(1)	Dismantling the Existing brick masonry structures & culvert pipes	18.00	Cu.m		
2.1.8	202(2)	Dismantling and removal of concrete structures.	24.00	Cu.m		
		Bill No. 2.1 Carried to summary				

Bill No:2.2 Earth Work

Item No.	Pay Item No.	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
		Road way Excavation and Preperation of Subgrade in Cut Areas				
2.2.1	301 (11)	Road Way Excavation in unclassified soil.	150.00	Cu.m.		
2.2.2	304 (3)	Trimming ,leveling and compaction of original ground to 100% standard density.	200.00	Sq.m.		
2.2.3	304 (2b)	Embankment construction & back filling Abutment & wing wall using Type 1 material	250.00	Cu.m.		
2.2.4	304 (2a)	Embankment construction & back fillng Abutment & Wing wall using Type 11 material	250.00	Cu.m.		
2.2.5	409(1)	Shoulder Construction using shoulder material and compacted in position.	20.00	Cu.m.		
		Bill No. 2.2 Carried to summary				

Bill No:2.3 Soil Sub Base, Base & Surfacing.

Item No.	Pay Item No.	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
		Sub Base				
2.3.1	401 (1)	Soil sub base compacted in position using approved soil (Type 1).	44.00	Cu.m.		
		Dense Graded Aggregate Base				
2.3.2	405 (1)	Dense Grade Aggregate Base using aggregate 37.5mm	38.50	Cu.m.		
		Prime Coat				
2.3.3	501 (5)	Prime coat with emulsion CSS-1 using 1 ltr/sq.m including blinding with sand at the rate of 250 sq.m./cu.m of sand	222.00	Sq.m.		
		Tack Coat				
2.3.4	502 (2)	Applying tack coat to the surface using emulsion CSS1 at a rate of 0.5 Lt/Sq.m.	537.00	Sq.m.		
		Asphalt Concrete Surfacing				
2.3.5	506(2)	Asphalt Concrete Surfacing Wearing course 50mm	48.00	MT		
		Bill No. 2.3 Carried to summary				

Bill No:2.4 Construction of Bridge.

Item No.	Pay Item No.	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
		2.4. CONSTRUCTION OF BRIDGE				
		2.4.1. FOUNDATION & SUB STRUCTURE				
		Abutment , Wing walls and Pier				
		Excavation & Back filling				
2.4.1.1	302 (5)	Excavation in unsuitable soil and backfilling for Pier, Abutment & Wing walls.	362.00	Cu.m.		
2.4.1.2	302 (2)	Excavation in weathered/soft/decomposed rock	50.00	Cu.m.		
2.4.1.3	302 (4)	Rock requiring blasting	20.00	Cu.m.		
2.4.1.4	302 (11)	Dewatering	Item	LS		
2.4.1.5	302 (10)	Construction of necessary coffer dams, cribs sheeting shoring and bracing and their subsequent removal	Item	LS		
		Concrete for structure:				
2.4.1.6	1001 (3)	Concrete Class C Grade 15 (40 mm) as Screed in Pier, Abutment and Wing Wall foundations.	44.00	Cu.m.		
2.4.1.7	1001(1b)	Concrete Class A Grade 25 (20 mm) as Pocket filling in Pier, Abutment and Wing Wall foundations.	40.00	Cu.m.		
2.4.1.8	1001(1b)	Concrete Class A Grade 30(20 mm) for Foundation Concrete in Abutment & Wing walls	84.00	Cu.m.		
2.4.1.9	1001 (3)	Concrete Class C Grade 15 (40 mm) as Mass Concrete in Abutment & Wing walls	296.00	Cu.m.		
2.4.1.10	1001(1b)	Concrete Class A Grade 30 (20mm) in Capping Beams, Ballest walls, Cutain walls and Pier foundation & Pier.	107.00	Cu.m.		

Item No.	Pay Item No.	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
		Form work				
2.4.1.11	1008(2)	Rough finish form work for foundation of Pier, Abutments & Wing Walls	76.00	Sq.m.		
2.4.1.12	1008(1)	Smooth finish form work for pier, Abutments, Wing Walls,Capping Beams, ballest walls, Curtain walls and bearing pads.	717.00	Sq.m.		
		Reinforcement				
2.4.1.13	1002(1a)	Fabricating & laying Tor steel reinforcement for Pier, Abutment Wing walls, Capping Beams, ballest walls, Curtain walls and bearing pads.	8.215	MT		
2.4.1.14	1002(1b)	Fabricating & laying Mild steel reinforcement.	0.657	MT		
		Weep Holes				
2.4.1.15	706(1)	Forming weep holes using type 400, PVC pipes of int. dia. not less than 110 mm.	360.00	L.M		
		Drainage & Backfilling				
2.4.1.16	705(1)	Backfill using Aggregate 50-200mm for dry stone lining behind Abutment & Wing wall.	160.00	Cu.m.		
2.4.1.17	705(2)	75mm thick, Filter medium using 37.5 mm aggregate behind Abutment & Wing wall.	17.00	Cu.m.		
2.4.1.18	705 (3)	600x300mm Clay puddled laid behind Abutment and Wing walls	7.00	Sq.m.		

Item No.	Pay Item No.	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
		2.4.2 SUPER STRUCTURE				
		Concrete for structures				
2.4.2.1	1001(1b)	Class A Concrete of Grade 25(20mm) in approach slab.	23.00	Cu.m.		
2.4.2.2	1001(1)	Class A Concrete of Grade 40(20mm) in Bridge Deck	189.00	Cu.m.		
2.4.2.3	1001(1b)	Class A Concrete of Grade 25(20mm) in Foot Walks	25.00	Cu.m.		
		Beams				
2.4.2.4	1003(1)	Supplying of 9.5 m long P.S.C. concrete beams	38.00	Nos.		
2.4.2.5	1003(2)	Launching of 9.5 m long P.S.C. concrete beams	38.00	Nos.		
		Form work				
2.4.2.6	1008(1b)	Smooth finish form work for Deck & Foot walks.	158.00	Sq.m.		
2.4.2.7	1008(1b)	Smooth finish form work for Approch Slab.	13.00	Sq.m.		
		Reinforcements				
2.4.2.8	1002(1a)	Fabricating & laying Tor steel reinforcement For Deck, Aproch Slab and Foot walk.	5.000	MT		
2.4.2.9	1002(1b)	Fabricating & laying Mild steel reinforcement	0.400	MT		
		Railings				
2.4.2.10	1018(1)	Standard precast reinforced concrete railings & uprights in class-A,grade.25(20) concrete . (Type drawing T/B/102/B of RDA)	64.00	L.M		
2.4.2.11	1019(1)	Construction of end pilasters type iv with foundation in class A concrete of grade 25(20) (Type drawing T/B/106 - Rev 1)	4.00	Nos.		
		Concrete Kerbs				
2.4.2.12	807(1a)	Standard precast bridge kerbs(new). Type drawing T/B/106 of RDA)	64.00	L.m		
2.4.2.13	807(4)	Constructing 150x50 mm thick insitu Lower kerbs in class B grade 20 (14) concrete for bridge.	64.00	L.m		

Item No.	Pay Item No.	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
		Expansion joints				
2.4.2.14	1009(1)	M.S. angle iron & hard rubber expansion joints (Type drawing T/B/107-Rev-1 of RDA)	31.50	L.m		
		Bridge bearings				
2.4.2.15	1010(2)	75x12mm. Hard rubber bearing pads supplied & laid over capping beam and for approch slab	42.00	L.m		
		Miscellaneous				
2.4.2.16	1012 (1)	Supplying & fixing 200 mm long , 20mm dia.Stanless steel dowels in capping beam at fixed end.	42.00	Nos.		
2.4.2.17	1011 (1)	Supplying & fixing 200 mm long , 25mm dia.MS steel dowels in Corbel wall for Approch slab fix end.	35.00	Nos.		
2.4.2.18	1011B(1)	Supplying & fixing M.S. Dowels, spliced and dove tailed with wedge at one end,20mm dia. And 1.0 m long,1.20 m C/C Stagered on foundations	105.00	Nos.		
2.4.2.19	1020(1a)	Supplying & fixing 110mm dia. PVC pipes as rain water outlets through deck as per drawing.	44.00	L.m.		
2.4.2.20	1020(1b)	Supplying & fixing 50mm dia. PVC pipes as rain water outlets through duct as per drawing.	20.00	L.m.		
2.4.2.21	1013 (1)	Bituminous sealing material supplied and laid under beam ends to prevent grout leak to capping beam.	31.50	L.m		
2.4.2.22	1014 (1)	Bituminous sealing material supplied and laid under beam ends to prevent grout leak to approch slab.	62.00	L.m		
2.4.2.23	1403(7)	Painting with enamel Two coat to Hand rails,End pilasters of bridge and guard stones	350.00	Sq.m		
2.4.2.24	1017(1)	100mm Thick Cover Slab (500x450x100mm sized) for Service Duct in Class B grade 25 (20) Concrete inclusive of light reinforcement.	38.40	Sq.m		
2.4.2.25	1016(1)	Forming of service duct in the deck , 340mm depth and 350mm width	64.00	L.m		

Item No.	Pay Item No.	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
2.4.2.26	808 (5)	Casting and Fixing standard type guard stone in 225 mm thick cement concrete 1:3:6 (20 mm)	12.00	Nos.		
2.4.2.27	802(1)	Turfing on Embankment slope and in other area as necessary	50.00	Sq.m.		
2.4.2.28	804(1)	Grouted rip rap filled with 1:3 cement mortar as per drawing	120.00	Cu.m.		
2.4.2.29		Construction of 2 Nos. reinforced concrete staircase to access underneath of the bridge	Item	PS	Allow	500,000.00
		Bill No. 2.4 Carried to summary				

BILL NO:3

CONSTRUCTION OF BRIDGE AT CH 08+380 KM ACROSS UMA OYA AT HALABE ON RAJAMAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA

Bill No: 3.1 Site Clearing & Demolishing.

Item No.	Pay Item No.	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
3.1.1	201(1)	Clearing and Grubbing inclusive of backfilling holes and trenches caused by removal of stumps.	360.00	Sq.m.		
3.1.2	201(2)	Removal of trees, girth greater than or equal to 300 mm and less than 600 mm	3.00	No.		
3.1.3	201(3)	Removal of trees, girth greater than or equal to 600 mm and less than 1200 mm	2.00	No.		
3.1.4	201(4)	Removal of trees, girth greater than or equal to 1200 mm and less than 2000 mm	1.00	No.		
3.1.5	201(5)	Removal of trees, girth greater than 2000 mm.	1.00	No.		
3.1.6	201(10)	Removal of overhanging branches of girth exceeding 300 mm	10.00	No.		
3.1.7	202(1)	Dismantling the Existing brick masonry structures & culvert pipes	18.00	Cu.m		
3.1.8	202(2)	Dismantling and removal of concrete structures.	30.00	Cu.m		
		Bill No. 3.1 Carried to summary				

Bill No:3.2 Earth Work

Item No.	Pay Item No.	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
		Road way Excavation and Preperation of Subgrade in Cut Areas				
3.2.1	301 (11)	Road Way Excavation in unclassified soil.	220.00	Cu.m.		
3.2.2	304 (3)	Trimming ,leveling and compaction of original ground to 100% standard density.	360.00	Sq.m.		
3.2.3	304 (2b)	Embankment construction & back filling Abutment & wing wall using Type 1 material	320.00	Cu.m.		
3.2.4	304 (2a)	Embankment construction & back fillng Abutment & Wing wall using Type 11 material	320.00	Cu.m.		
3.2.5	409(1)	Shoulder Construction using shoulder material and compacted in position.	20.00	Cu.m.		
		Bill No. 3.2 Carried to summary				

Bill No:3.3 Soil Sub Base, Base & Surfacing.

Item No.	Pay Item No.	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
		Sub Base				
3.3.1	401 (1)	Soil sub base compacted in position using approved soil (Type 1).	42.00	Cu.m.		
		Dense Graded Aggregate Base				
3.3.2	405 (1)	Dense Grade Aggregate Base using aggregate 37.5mm	35.00	Cu.m.		
		Prime Coat				
3.3.3	501 (5)	Prime coat with emulsion CSS-1 using 1 ltr/sq.m including blinding with sand at the rate of 250 sq.m/cu.m of sand	444.00	Sq.m.		
		Tack Coat				
3.3.4	502 (2)	Applying tack coat to the surface using emulsion CSS1 at a rate of 0.5 Lt/Sq.m.	1,179.00	Sq.m.		
		Asphalt Concrete Surfacing				
3.3.5	506(2)	Asphalt Concrete Surfacing Wearing course 50mm	114.00	MT		
		Bill No. 3.3 Carried to summary				

Bill No:3.4 Construction of Bridge.

Item No.	Pay Item No.	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
		3.4 CONSTRUCTION OF BRIDGE				
		3.4.1 FOUNDATION & SUB STRUCTURE				
		Abutment, Wing walls and Pier				
		Excavation & Back filling				
3.4.1.1	302 (5)	Excavation in unsuitable soil and backfilling for Pier, Abutment & Wing walls.	1,102.00	Cu.m.		
3.4.1.2	302 (4)	Rock requiring blasting	120.00	Cu.m.		
3.4.1.3	302 (11)	Dewatering	Item	LS	Allow	
3.4.1.4	302 (10)	Construction of necessary coffer dams, cribs sheeting shoring and bracing and their subsequent removal	Item	LS	Allow	
		Concrete for structure:				
3.4.1.5	1001 (3)	Concrete Class C Grade 15 (40 mm) as Screed in Pier, Abutment and Wing Wall foundations.	21.00	Cu.m.		
3.4.1.6	1001(1b)	Concrete Class A Grade 30 (20 mm) as Pocket filling in Pier, Abutment and Wing Wall foundations.	50.00	Cu.m.		
3.4.1.7	1001(1b)	Concrete Class A Grade 30(20 mm) for Foundation Concrete in Abutment & Wing walls	138.00	Cu.m.		
3.4.1.8	1001 (3)	Concrete Class C Grade 15 (40 mm) as Mass Concrete in Abutment & Wing walls	818.00	Cu.m.		
3.4.1.9	1001(1b)	Concrete Class A Grade 30 (20mm) in Capping Beams, Ballest walls & Cutain walls.	54.00	Cu.m.		
3.4.1.10	1001(1b)	Concrete Class A Grade 30 (20mm) in Pier foundation	128.00	Cu.m.		
3.4.1.11	1001 (3)	Concrete Class C Grade 15 (40 mm) in Pier Stem	805.00	Cu.m.		

Item No.	Pay Item No.	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
		Form work				
3.4.1.12	1008(2)	Rough finish form work for foundation of Pier, Abutments & Wing Walls	151.00	Sq.m.		
3.4.1.13	1008(1)	Smooth finish form work for pier, Abutments, Wing Walls,Capping Beams, ballest walls, Curtain walls, bearing pads and others.	2,449.00	Sq.m.		
		Reinforcement				
3.4.1.14	1002(1a)	Fabricating & laying Tor steel reinforcement for Pier, Abutment Wing walls, Capping Beams, ballest walls, Curtain walls, bearing pads and others.	14.365	MT		
3.4.1.15	1002(1b)	Fabricating & laying Mild steel reinforcement.	1.149	MT		
		Weep Holes				
3.4.1.16	706(1)	Forming weep holes using type 400, PVC pipes of int. dia. not less than 110 mm.	384.00	L.M		
		Drainage & Backfilling				
3.4.1.17	705(1)	Backfill using Aggregate 50-200mm for dry stone lining behind Abutment & Wing wall.	192.00	Cu.m.		
3.4.1.18	705(2)	75mm thick, Filter medium using 37.5 mm aggregate behind Abutment & Wing wall.	21.00	Cu.m.		
3.4.1.19	705 (3)	600x 300mm Clay puddled laid behind Abutment and Wing walls	9.00	Sq.m.		

Item No.	Pay Item No.	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
		3.4.2 SUPER STRUCTURE				
		Concrete for structures				
3.4.2.1	1001(1b)	Class A concrete of grade 30(20mm) in approach slab.	23.00	Cu.m.		
3.4.2.2	1001(1)	Class A Concrete of Grade 40(20mm) in Bridge Deck	239.00	Cu.m.		
3.4.2.3	1001(1b)	Class A Concrete of Grade 30(20mm) in Foot Walks	50.00	Cu.m.		
		Beams				
3.4.2.4	1003(1)	Supplying of 13.5 m long P.S.C. concrete beams	100.00	Nos.		
3.4.2.5	1003(2)	Launching of 13.5 m long P.S.C. concrete beams	100.00	Nos.		
		Form work				
3.4.2.6	1008(1b)	Smooth finish form work for Deck & Foot walks.	226.00	Sq.m.		
3.4.2.7	1008(1b)	Smooth finish form work for Approch Slab and Others.	13.00	Sq.m.		
		Reinforcements				
3.4.2.8	1002(1a)	Fabricating & laying Tor steel reinforcement For Deck, Aproch Slab and Foot walk and Others.	9.000	MT		
3.4.2.9	1002(1b)	Fabricating & laying Mild steel reinforcement	0.400	MT		
		Railings				
3.4.2.10	1018(1)	Standard precast reinforced concrete railings & uprights in class-A,grade.25(20) concrete . (Type drawing T/B/102/B of RDA)	144.00	L.M		
3.4.2.11	1019(1)	Construction of end pilasters type iv with foundation in class A concrete of grade 25(20) (Type drawing T/B/106 - Rev 1)	4.00	Nos.		
		Concrete Kerbs				
3.4.2.12	807(1a)	Standard precast bridge kerbs(new). Type drawing T/B/106 of RDA)	144.00	L.m		
3.4.2.13	807(4)	Constructing 150x50 mm thick insitu Lower kerbs in class B grade 20 (14) concrete for bridge.	144.00	L.m		

Item No.	Pay Item No.	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
		Expansion joints				
3.4.2.14	1009(1)	M.S. angle iron & hard rubber expansion joints (Type drawing T/B/107 Rev-1 of RDA)	63.00	L.m		
		Bridge bearings				
3.4.2.15	1010(2)	75x12mm. Hard rubber bearing pads supplied & laid over capping beam and for approch slab	105.00	L.m		
		Miscellaneous				
3.4.2.16	1012 (1)	Supplying & fixing 200 mm long , 20mm dia.Stanless steel dowels in capping beam at fixed end.	95.00	Nos.		
3.4.2.17	1011 (1)	Supplying & fixing 200 mm long , 25mm dia.MS steel dowels in Corbel wall for Approch slab fix end.	35.00	Nos.		
3.4.2.18	1011B(1)	Supplying & fixing M.S. Dowels, spliced and dove tailed with wedge at one end,20mm dia. and 1.0 m long,1.20 m C/C Stagered on foundations	192.00	Nos.		
3.4.2.19	1020(1a)	Supplying & fixing 110mm dia. PVC pipes as rain water outlets through deck as per drawing.	40.00	Nos.		
3.4.2.20	1020(1b)	Supplying & fixing 50mm dia. PVC pipes as rain water outlets through duct as per drawing.	40.00	Nos.		
3.4.2.21	1013 (1)	Bituminous sealing material supplied and laid under beam ends to prevent grout leak to capping beam.	63.00	L.m		
3.4.2.22	1014 (1)	Bituminous sealing material supplied and laid under beam ends to prevent grout leak to approch slab.	62.00	L.m		
3.4.2.23	1403(7)	Painting with enamel Two coat to Hand rails,End pilasters of bridge, guard stones	425.00	Sq.m		
3.4.2.24	1015(1)	Supply and placing 200mm dia Displacers of polythene tubes filled with light materials.	1,400.00	L.m		
3.4.2.25	1017(1)	100mm Thick Cover Slab (500x450x100mm sized) for Service Duct in Class B grade 25 (20) Concrete inclusive of light reinforcement.	84.00	Sq.m		
3.4.2.26	1016(1)	Forming of service duct in the deck , 230mm depth and 500mm width	140.00	L.m		

Item No.	Pay Item No.	Description	Quantity	Unit	Rate (Rs)	Amount (Rs)
3.4.2.27	808 (5)	Casting and Fixing standard type guard stone in 225 mm thick cement concrete 1:3:6 (20 mm)	12.00	Nos.		
3.4.2.28	802(1)	Turfing on Embankment slope and in other area as necessary	50.00	Sq.m.		
3.4.2.29	804(1)	Grouted rip rap filled with 1:3 cement mortar as per drawing	120.00	Cu.m.		
3.4.2.30		Construction of 2 Nos. reinforced concrete staircase to access underneath of the bridge	Item	PS	Allow	500,000.00
		Bill No. 3.4 Carried to summary				

BILL NO:4

CONSTRUCTION OF RAJAMAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300km)

BILL NO : 4.1 SITE CLEARANCE

Item No.	Pay Item No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
4.1.1		**CLEARING AND GRUBBING**				
4.1.1.1	201(1)	Clearing and Grubbing inclusive of backfilling holes and trenches caused by removal of stumps.	11,700.00	Sq.m.		
4.1.1.2	201(2)	Removal of trees, girth greater than or equal to 300 and less than 600 mm	25	No.		
4.1.1.3	201(3)	Removal of trees, girth greater than or equal to 600 and less than 1200 mm	13	No.		
4.1.1.4	201(4)	Removal of trees, girth greater than or equal to 1200 and less than 2000 mm	11	No.		
4.1.1.5	201(10)	Removal of overhanging branches of girth exceeding 300 mm	50	No.		
4.1.2		**REMOVAL OF STRUCTURES AND OBSTRUCTION**				
4.1.2.1	202(2)	Dismantle & remove concrete structures	25.00	Cu.m		
SITE CLEARING - TOTAL CARRIED TO GRAND SUMMARY						

BILL NO:4

CONSTRUCTION OF RAJAMAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300km)

BILL NO : 4.2 EARTH WORKS

Item No.	Pay Item No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
4.2.1		**ROADWAY EXCAVATION**				
4.2.1.1	301(1)	Roadway Excavation, soil suitable for construction works.	1,460.00	Cu.m.		
4.2.1.2	301(11)	Roadway Excavation, unsuitable soil for construction works	2,929.92	Cu.m.		
4.2.1.3	301(7)	Excavation in weathered/decomposed rock	884.80	Cu.m.		
4.2.1.4	301(8)	Roadway Excavation, in hard rock(not chemical blasting)	308.00	Cu.m.		
4.2.1.5	301(14)	Roadway excavation in marshy materials/ soil	972.00	Cu.m.		
4.2.2		**EMBANKMENT CONSTRUCTION**				
4.2.2.1	304(1)a	Embankment construction using material (Type II) from roadway excavation compacted in position	1,222.00	Cu.m.		
4.2.2.2	304(2)b	Embankment construction using borrow material (type 1) and compacted in position	868.00	Cu.m.		
4.2.2.3	304(2)a	Embankment construction using borrow material (type II) and compacted in position	250.00	Cu.m.		
4.2.2.4	304(3)	Trimming leveling and compaction of original ground	2,080.00	Sq.m.		
4.2.3		**SOFT GROUND IMPROVEMENT**				
4.2.3.1	304(6)	Ground improvement Compacted 150mm - 225mm rubble with 40mm metal	1,296.00	Cu.m.		
4.2.3.2	307(9)	Geo -textile	1,296.00	Sq.m.		
EARTHWORKS - TOTAL CARRIED TO SUMMARY						

BILL NO:4

CONSTRUCTION OF RAJAMAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300km)

BILL NO : 4.3 SUB - BASES, BASES AND SHOULDERS

Item No.	Pay Item No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
4.3.1		**SUB BASE**				
4.3.1.1	401(1)	Provide and place Sub base as compacted in position Type I	2,973.80	Cu.m.		
4.3.1.2	401(1)	Provide and place Sub base (Capping Layer) as compacted in position Type II	2,699.41	Cu.m.		
4.3.2		**DENSE GRADED AGGREGATE BASE**				
4.3.2.1	405(1)	Provide and place 37.5 mm dense graded aggregate base as compacted in position	2,592.00	Cu.m.		
4.3.3		**SHOULDERS**				
4.3.3.1	409(1)	Earthen shoulder as compacted in position	340.00	Cu.m.		
SUB - BASES, BASES AND SHOULDERS TOTAL CARRIED TO MAIN SUMMARY						

BILL NO:4

CONSTRUCTION OF RAJAMAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300km)

BILL NO : 4.4 SURFACINGS

Item No.	Pay Item No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
4.4.1		**PRIME COAT**				
4.4.1.1	501(5)	Bituminous Prime coat using MC 30 at 1 ltr/sq.m)	12,960.00	Sq.m.		
4.4.2		**TACK COAT**				
4.4.2.1	502(2)	Tack coat using emulsion CSS1 at rate of 0.5 Lt/Sq.m.	12,960.00	Sq.m.		
4.4.3		**ASPHALT CONCRETING SURFACING**				
4.4.3.1	506(1)	Asphalt concrete surfacing Wearing Course 50mm thick	12,960.00	Sq.m.		
SURFACINGS TOTAL CARRIED TO MAIN SUMMARY						

BILL NO:4

CONSTRUCTION OF RAJAMAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300km)

BILL NO :4.5 DRAINAGE

Item No.	Pay Item No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
		ROADSIDE AND LEAD AWAY SURFACE DRAINS				
4.5.1		**EXCAVATION AND BACKFILL**				
4.5.1.1	301A(5)	Excavation for lining of drains in unsuitable soil	132.00	Cu.m.		
4.5.2		**CONCRETING**				
4.5.2.1	701 (2)	Lining of drains with in-situ concrete (Class B Grade 25/19)	342.00	Cu.m.		
4.5.2.2	1001 (3)	Class C concrete Grade 15 (37.5 mm) as screed for the foundation	75.00	Cu.m.		
4.5.3		**PLACING COVER SLAB**				
4.5.3.1	701 (6)b	100 mm thick ,Class B Grade25(20) Precast concrete cover slab including reinforcement & formwork	28.00	Sq.m.		
4.5.4		**REINFORCEMENT**				
4.5.4.1	1002(1) a	Steel Reinforcement (Tor Steel)	9.00	Tonnes		
4.5.5		**FORM WORK**				
4.5.5.1	1008(1)	Formwork, Smooth finish	382.00	Sq.m.		
4.5.5.2	1008(2)	Formwork, Rough finish	1,476.00	Sq.m.		
4.5.6		**WEEP HOLES**				
4.5.6.1	706(1)	Forming weep holes in Line drains walls using P.V.C. pipes of int. dia. not grater than 50 mm complete with dripledge and surround finished smooth.	100.00	L.m.		
DRAINAGE CONSTRUCTIONS TOTAL CARRIED TO MAIN SUMMARY						

BILL NO:4

CONSTRUCTION OF RAJAMAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300km)

BILL NO : 4.6 STRUCTURES CONSTRUCTION

Item No.	Pay Item No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
		STRUCTURES CONSTRUCTION				
4.6.1		**EXCAVATION AND BACKFILL FOR STRUCTURES**				
4.6.1.1	302 (5)	Excavation in unsuitable soil and backfilling for Structure	158.00	Cu.m.		
4.6.1.2	301 A (5)	Channel excavation, unsuitable soil	155.00	Cu.m.		
4.6.2		**CONCRETING**				
4.6.2.1	1001 (3)	Class C Concrete Grade 15 (37.5 mm) as screed for the foundation	56.00	Cu.m.		
4.6.2.2	1001(1)	Class A Concrete Grade 30(20) in Box structure	50.00	Cu.m.		
4.6.2.3	1001(1b)	Concrete Class A Grade 25(20 mm) Base Concrete for retaining wall	158.00	Cu.m.		
4.6.2.4	1001 (3)	Concrete Class C Grade 15 (40 mm) as Mass Concrete in retaining wall	640.00	Cu.m.		

Item No.	Pay Item No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
4.6.3		**REINFORCEMENT**				
4.6.3.1	1002(1) a	Steel Reinforcement (Tor Steel)	8.00	MT		
4.6.4		**FORM WORK**				
4.6.4.1	1008(1)	Formwork, Smooth finish	160.00	Sq.m.		
4.6.4.2	1008(2)	Formwork, Rough finish	940.00	Sq.m.		
4.6.5		**WEEP HOLES**				
4.6.5.1	706(1)	Forming weep holes using type 400, PVC pipes of int. dia. not less than 110 mm.	100.00	L.m.		
4.6.6		**GABION STRUCTURE**				
4.6.6.1	805(1)	Supply and placing PVC coated Gabbions boxes including rubble filling	819.00	Cu.m.		
4.6.6.2	307(9)	Geo Textile Layer	954.00	Sq.m.		
4.6.6.3	304(6)	Compacted rubble base 150mm-225mm rubble with 40mm metal at bottom of gabion walls	286.00	Cu.m.		
4.6.7		**RETAINING WALL STRUCTURE**				
4.6.7.1	705(1)	Backfill using Aggregate 50-200mm for dry stone lining behind retaining wall	373.00	Cu.m.		
4.6.7.2	705(2)	75mm thick, Filter medium using 37.5 mm aggregate behind retaining wall	55.00	Cu.m.		
4.6.7.3	705 (3)	Clay puddled laid behind retaining wall	35.00	Cu.m.		
STRUCTURES CONSTRUCTIONS TOTAL CARRIED TO MAIN SUMMARY						

BILL NO:4

CONSTRUCTION OF RAJAMAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300km)

BILL NO :4.7 'INCIDENTAL CONSTRUCTIONS

Item No.	Pay Item No	Description	Quantity	Unit	Rate (Rs.)	Amount (Rs.)
4.7.1		**TOP SOILLING AND GRASSING**				
4.7.1.1	802(1)	Turfing on Embankment slope and in other area as necessary	2,700.00	Sq.m.		
4.7.2		**ROAD MARKING PAINT (3 mm thick)**				
4.7.2.1	810(1) a	Road line marking 100mm width, using thermoplastic material (White, Yellow)	406.00	Sq.m.		
4.7.3		**ROAD SIGNS**				
4.7.3.1	811(1)	Reflective road signs single pole, sign area up to 0.5 m^2	30.00	No.		
4.7.3.2	811(2)	Reflective road signs double pole, sign area up to 2.0 m^2	8.00	No.		
INCIDENTAL CONSTRUCTIONS TOTAL CARRIED TO MAIN SUMMARY						

BILL NO:5

CONSTRUCTION OF RAJAMAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300km), INCLUDING TWO BRIDGES AT CH 07+960km AND CH 08+380km

BILL NO:5 SHEDULE OF DAY WORK RATES

5.1 / LABOUR DAY WORKS

All Quantities are Provisional

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs)
1	Surveyor	Hrs	60		
2	Survey Assistant (Skilled)	Hrs	60		
3	Laboratory Technician (Skilled)	Hrs	60		
4	Cad Operator	Hrs	60		
5	Draughtman	Hrs	60		
6	Operator, Light Equipment	Hrs	70		
7	Driver, Heavy Duty Vehicles	Hrs	70		
8	Driver, Light Duty Vehicles	Hrs	70		
9	Mechanic	Hrs	40		
10	Welder	Hrs	40		
11	Electrician	Hrs	40		
12	Mason	Hrs	45		
13	Semi- skilled Labour	Hrs	45		
14	Unskilled Labour	Hrs	60		
				Labour Day Works Carried to summary	

BILL NO:5

CONSTRUCTION OF RAJAMAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300km), INCLUDING TWO BRIDGES AT CH 07+960km AND CH 08+380km

BILL NO:5 SHEDULE OF DAY WORK RATES

5.2 / MATERIAL DAY WORKS

All Quantities are Provisional

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs)
1	Aggregate base, dense graded (37.5 mm)	cu.m	8		
2	Aggregate, 12 mm	cu.m	3		
3	Aggregate, 19 mm	cu.m	2		
4	Aggregate, 37.5 mm	cu.m	3		
5	Asphalt concrete, cold mix	mt	2		
6	Asphalt concrete, hot mix (Surfacing Material)	mt	2		
7	Bitumen emulsions, (CRS 1, CRS 2, CSS 1)	ltr	35		
8	Bitumen prime coat, cutback MC 30	ltr	35		
9	Cement, ordinary Portland	nr	15		
10	Concrete pipe, reinforced 600 mm diameter, 2.4m length	nr	1		
11	Concrete, Grade 15/20	cu.m	2		
12	Concrete, Grade 20/20	cu.m	2		
13	Concrete, Grade 25/20	cu.m	2		
14	Paint, emulsion	ltr	4		
15	Paint, enamel	ltr	4		
16	Lime	kg	20		
17	Reinforcement, high-yield steel, Grade 460/425	kg	30		
18	Reinforcement, mild steel, Grade 250	kg	30		
19	Rubble, 150 - 225 mm	cu.m	2		
20	River Sand	cu.m	4		
21	Auto diesel	ltr	50		
22	Petrol	ltr	45		
23	kerosene Oil	ltr	10		
				Material Day works Carried to Summary :	

BILL NO:5

CONSTRUCTION OF RAJAMAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300km), INCLUDING TWO BRIDGES AT CH 07+960km AND CH 08+380km

BILL NO:5 SHEDULE OF DAY WORK RATES

5.3 / EQUIPMENT DAY WORKS

All Quantities are Provisional

Item No.	Description	Unit	Quantity	Rate (Rs.)	Amount (Rs)
1	Lorry, 5 to 10 tonnes	Km	100		
2	Water Bowser, up to 6,000 litres with Spray Bar	hr	6		
3	Farm Tractor & Broom over 2m width	hr	6		
4	Backhoe, wheeled, 4 WD	hr	7		
5	Motor grader, up to 100 HP (65 HP)	hr	6		
6	Hand roller, vibratory, 1/2 - 1 tonne	hr	15		
7	Plate compactor, vibratory, over 90 kg	hr	10		
8	Rammer, mechanical, over 60 kg	hr	10		
9	Water pump with hoses, clear water 4 inch	hr	6		
10	Concrete mixer, 200 ltr (10/7)	hr	6		
11	Welding set, electric, 300 - 400 amp	hr	6		
12	Porker Vibrator, petrol driven	hr	10		
	Equipment Day works carried to Summary				

SECTION 9

SCHEDULES

Schedule 1- General Information

For Joint Venture partners, each partner shall furnish information separately

ITB Clause Reference	Description	Information To be filled by Bidder	Remarks
3.1	**CIDA Registration**		**Provide certified copies and label as attachment to Clause 3.1**
	Registration Number		
	Grade		
	Specialty		
	Expiry Date		
	Number		
	Expiry Date		
4.1(a)	**Legal Status**		**Provide certified copies of registration**
	Written power of attorney to the signatory to the bid (bids signed by other than the authorized person, shall be rejected)	Provide original or certified copy of the power of attorney attested by a Notary and label as attachment to Clause 4.1(a)	
	If a Joint Venture, names and addresses of Joint Venture partners	1…….	Provide draft copy of Joint Venture agreement
		2…….	
		3……..	
	If a Joint Venture, name of the Lead Partner		
	For Joint Ventures, each JV partner shall furnish legal status separately		
	Name (lead partner)		Provide certified copies and label as attachment to Clause 4.1(a)
	Legal status		
	Place of registration		
	Principal place of business		
	Written power of attorney of the signatory to the Bid	Provide original or certified copy of the power of attorney attested by a Notary and label as attachment to Clause 5.1	
	VAT Registration No.		
	Name (Partner 2)		Provide certified copies and label as attachment to Clause 4.1(a)
	Legal status		
	Place of registration		
	Principal place of business		
	Written power of attorney of the signatory to the Bid	Provide original or certified copy of the power of attorney attested by a Notary and label as attachment to Clause 5.1	

	VAT Registration No.		
	Name (Partner 3)		Provide certified copies and label as attachment to Clause 4.1(a)
	Legal status		
	Place of registration		
	Principal place of business		
	Written power of attorney of the signatory to the Bid	Provide original or certified copy of the power of attorney attested by a Notary and label as attachment to Clause 5.1	
	VAT Registration No.		

Schedule 2 – Annual Turnover Information
For Joint Ventures each partner shall submit the information separately

Year	Turnover	Remarks
1		Attach audited reports and label as attachment to Clause 4.2
2		
3		
4		
5		

Schedule 3 – Adequacy of Working Capital

Source of Credit Line	Amount	Remarks
		Provide documentary evidence and label as attachment to Clause 4.2
Total		

Schedule 4 - Financial Data (As per Latest Audited Financial Statement)		2021/2022 or latest
1	Current Assets	
2	Current Liabilities	
3	Working Capital(1-2)	
4	Works in hand	
5	Line of credit**	
6	Available Liquid Asset {3-(0.1)x4+5}*	

* This amount shall be not less than the amount given in clause 4.2 of ITB.

** Line of credit if provided shall strictly be as per Form No. 07 provided.

*** ***Bidder available working capital should be equal to the 50% of minimum amount of liquid assets.(i.e Rs 51.0 Mn) Line of credit shall be provided only to satisfy balance amount of liquid assets***

Schedule 5 – Construction Experience in last five years

For JVs each JV partner shall furnish information separately

Year	**Employer**	**Description of Works**	**Amount**	**Contractors Responsibility (%)**

Schedule 6 – Major Items of Construction Equipment Proposed

Type	**Capacity**	**Own, Lease or hire**

Schedule 7 – Construction Management Staff		
A: Key Professional		
Name	Position	Task
B: Support Staff		
Name	Position	Task

Schedule 8 – Time Schedule for Key Staff

			Months(in the form of a Bar Chart)																		
Name	**Position**	**Activities**	1	2	3	4	5	6	7	8	9	10	11	12							**Number of Months**

Full Time:- _____-- Part Time:……

Schedule No. 09 (a)

Non-Performance Contracts – Notice to Correct Issued

[The following table shall be filled in for the bidder and for each partner of a Joint Venture]

Date: _____
Contract No.: _____
Bidder's Legal Name:
Page _____ of

1. History of Non Performing Contracts – Notice to Correct Issued

Non-Performing Contracts			
Choose one of the following ☐ Notice to Correct on the poor performance or similar notice as per the relevant COC, which is inforced prior to **05/04/2023** had not been issued as specified in Section II, Bidding Data, sub clause 4.2 (h) ☐ Notice to Correct on the poor performance or similar notice as per the relevant COC, which is inforced prior to **05/04/2023** has been issued as specified in Section II, Bidding Data, sub clause 4.2 (h)			
Year	**Non Performed Portion of Contract**	**Contract Identification**	**Total Contract Amount (LKR)**
[insert year]	*[insert amount and percentage]*	Contract Identification: *[indicate complete contract name, number, and any other identification]* Name of Employer: *[insert full name]* Address of Employer: *[insert street/city/country]* Reason(s) for Notice to Correct: *[indicate main reason(s), attach copy of Notice to Correct]* Whether Remedies taken: (Yes/No) (If yes, attach Engineer's certificate) *Current Status of Contract: (indicate completed/ongoing/ referred to dispute resolution mechanism etc)*	*[insert amount]*

……
Signature of the Bidder

The foregoing non performing contracts listed in schedule no. 09 (a) having been duly read over and explained by me to the Affirmant and he having understood the contents of same, signed before me at …….. [*Place*], on this …….. 2023 [*date*]

……..
Attorney at Law

Note – if does not provide all non performing contracts shall be treated as non - responsive according to the clause 3.3 of ITB

Schedule No. 09 (b)
Non-Performance Contracts – Terminated

[The following table shall be filled in for the bidder and for each partner of a Joint Venture]

Date: _____
Contract No.: _____
Bidder's Legal Name:
Bidder's Party Legal Name:

1. History of Non Performing Contracts – Terminated Contracts

Non-Performing Contracts			
Choose one of the following ☐ Termination of contracts due to the Contractor's default did not occur within last **five (5) years prior to 05/04/2023** specified in Section II, Bidding Data, sub clause 4.2 (h) ☐ Termination of Contracts due to the Contractor's default occurred within last **five (5) years prior to 05/04/2023** specified in Section II, Bidding Data, sub clause 4.2 (h)			
Year	**Non Performed Portion of Contract (Rs)**	**Contract Identification**	**Total Contract Amount (LKR)**
[insert year]	*[insert amount and percentage]*	Contract Identification: *[indicate complete contract name, number, and any other identification]* Name of Employer: *[insert full name]* Address of Employer: *[insert street/city/country]* Reason(s) for non-performance/termination: *[indicate main reason(s), attach relevant details]* *Current Status of Contract: (indicate completed/ongoing/ referred to dispute resolution*	*[insert amount]*

…….
Signature of the Bidder

The foregoing non performing contracts listed in schedule no. 09 (b) having been duly read over and explained by me to the Affirmant and he having understood the contents of same, signed before me at …….. [*Place*], on this …….. 2023 [*date*]

……..
Attorney at Law

Note – if does not provide all non performing contracts shall be treated as non - responsive according to the clause 3.3 of ITB

Schedule No. 10
Pending Litigation and Arbitration

Each Bidder must fill out this form if so required under Criterion 4.2 (i) of Section 2, Bidding Data to describe any pending litigation or arbitration formally commenced against it.

In case of a Joint Venture, each Joint Venture Partner must fill out this form separately and provide the Joint Venture Partner's name below:

Joint Venture Partner: _____

Pending Litigation and Arbitration				
Choose one of the following ☐ **No Pending Litigation and Arbitration in accordance with section II, Bidding Data, sub clause 4.2 (i)** ☐ **Below is a description of all pending litigation and arbitration in accordance with section II, Bidding Data, sub clause 4.2 (i)**				
Year of Dispute	**Amount of Dispute**	**Outcome as percentage of Net worth**	**Contract Identification**	**Total Contract Amount**
			Contract Identification (*insert contract name, number and any other identification*) Name of Employer (*insert full name*) Address of Employer (*insert street, city, town*) Matter in dispute (*indicate main issues in dispute*) Status of dispute (*indicate if it is being treated by the adjudicator, under arbitration or being dealt with by the judiciary*)	

……
Signature of the Bidder

The foregoing details in the schedule no. 10 having been duly read over and explained by me to the Affirmant and he having understood the contents of same, signed before me at …….. [*Place*], on this …….. 2023 [*date*]

……..
Attorney at Law

Note – if does not provide all pending litigation arbitration shall be treated as non responsive according to the clause 3.3 of ITB

Schedule 11 – work Programme																		
	(1st , 2nd etc. are months from the Start Date)																	
Construction Activity	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	11th	12th						

SECTION – 11

STANDARD FORMS (BID)

FORM NO. 06: Form of Bid Security
FORM NO. 07: Form for the Affidavit for the Current Contractual Commitments
FORM NO. 08: For Letter from the Bank for Granting of A Revolving Line of Credit

FORM OF BID SECURITY

[this Guarantee form shall be filled in accordance with the instructions indicated in brackets]
……*[insert issuing agency's name, and address of issuing branch or office]*

Beneficiary: Director General, Road Development Authority, "MagaNeguma Mahamedura" 216, Denzil Kobbekaduwa mawatha, Battaramulla, Sri Lanka.

Date: ……*[insert (by issuing agency) date]*

BID GUARANTEE No.: ……*[insert (by issuing agency) number]*

We have been informed that ……*insert (by issuing agency) name of the Bidder]* (hereinafter called "the Bidder") has submitted to you its bid dated ……. *[insert (by issuing agency) date]* (hereinafter called "the Bid") for the execution of '**CONSTRUCTION OF RAJAMAWATHA EXTENTION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300 km), INCLUDING TWO BRIDGES AT CH 7+960 km AND CH 8+380 km '** under Contract No: **RDA/DC/UVA/FD/GOSL/2023/02**

Furthermore, we understand that, according to your conditions, Bids must be supported by a Bid Guarantee.

At the request of the Bidder, we ……*[insert name of issuing agency]* hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of ……*[insert amount in figures]* ……..*[insert amount in words]* upon receipt by us of your first demand in writing accompanied by a written statement stating that Bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

i. has withdrawn its Bid during the period of bid validity specified; or
ii. does not accept the correction of errors in accordance with the Instruction to Bidders (hereinafter "the ITB") of the IFB or
iii. having been notified of the acceptance of its Bid by the Employer during the period of bid validity,
    (i) fails or refuses to execute the Contract Form, if required, or
    (ii) fails or refuses to furnish the Performance Security, in accordance with the ITB.

This Guarantee shall expire:
(a) if the Bidder is the successful bidder, upon our receipt of copies of the Contract signed by the Bidder and of the Performance Security issued to you by the Bidder; or
(b) if the Bidder is not successful bidder, upon the earlier of the successful bidder furnishing the performance security, otherwise it will remain in force up to ……..*(insert date*)

Consequently, any demand for payment under this Guarantee must be received by us at the office on or before that date.

Signature and the Seal of the Guarantor:
Name of the Organization ……...
Date: …….
Witness: ……...

Note: Any bid security which has deviated from this bid Security format shall be considered as non responsive

FORM FOR THE AFFIDAVIT FOR THE CURRENT CONTRACTUAL COMMITMENTS

Director General,
Road Development Authority

In accordance with the Clause 4.2 of the Instructions to Bidders, I (We) declare that the outstanding Contract Commitments of ……. *(Name of the Bidder (s)* is as follows. I (We) further declare that all the outstanding contract commitments are listed below.

Specialty	Name of the Contract	Name of the Client	Initial Contract Amount (Rs.)	Outstanding Work (Rs.)
Highways*				
Bridges*				
Buildings*				
Irrigation*				
#				
Total				

…….
Signature of the Bidder

The foregoing Affidavit having been duly read over and explained by me to the Affirmant and he having understood the contents of same, signed before me at …….. [*Place*], on this …….. 2023 [*date*]

……..
Justice of The Peace

* Add additional rows to include all the current projects if needed

Add additional speciality to include all the current projects

Note – if does not provide all contract commitment shall be treated as non responsive according to the clause 3.3 of ITB

FOR LETTER FROM THE BANK FOR GRANTING OF A REVOLVING LINE OF CREDIT

FROM: ……
……..
……..
……..

TO : Director General,
Road Development Authority (RDA)
"MagaNeguma Mahamedura "
216, Denzil Kobbekaduwa mawatha,
Battaramulla
Sri Lanka

SUB : Letter from the Bank for providing a line of credit in favour of **(1)** …….. in case of award to them of works for the Contract of execute '**CONSTRUCTION OF RAJAMAWATHA EXTENTION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300 km), INCLUDING TWO BRIDGES AT CH 7+960 km AND CH 8+380 km ',** under ***c*ontract No: RDA/DC/UVA/FD/GOSL/2023/02**

Dear Sir,

We (2) ……..bankers of (3) …….hereby agree to grant revolving line of credit for an amount of Sri Lanka Rupees …….. for the purpose of the execution of the Civil Work Contracts under the Contract of execute '**CONSTRUCTION OF RAJAMAWATHA EXTENTION ROAD FROM KETAWALA TO MASPANNA (FROM CH 7+560km TO CH 9+300 km), INCLUDING TWO BRIDGES AT CH 7+960 km AND CH 8+380 km** 'Contract No: **RDA/DC/UVA/FD/GOSL/2023/02** revolving line of credit will be maintained until the works are taken over by the RDA.

Signature and the Seal of the Guarantor:
Name of the Organization ……...
Date: …….
Witness: ……...

Notes

(1) Name of Beneficiary / Bidder

(2) Name of Bank

(3) Name of Beneficiary / Bidder

(4) No conditional line of credit will be accepted and any letter of line of credit, which has deviated from the specimen format, shall be treated as non – responsive.

SECTION – 10

DRAWINGS

GOVERNMENT OF DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

ROAD DEVELOPMENT AUTHORITY

CONSTRUCTION OF BRIDGE ACROSS BOGAHAKUBURA ELA ON HALIELA KETAWALA TO KANDY RAJA MAWATHA.

DETAILED DESIGN DRAWINGS

MARCH 2023

Design Office (Central Province)
Road Development Authority
06B, Samagi Niwasa,Gannoruwa Road
Peradeniya.

LEGEND	
	CENTER LINE
	EDGE OF CARRIAGEWAY
	EDGE OF SHOULDER
	FINISHED GROUND LINE
	EXISTING GROUND LINE
	FLOW DIRECTION
	CONTROL POINTS

SCALE 1: 500

Center Line & TBM Co-ordinates

Station	Northing	Easting
0+000.00	915.6450	1,001.5680
0+010.00	925.5718	1,000.3605
0+020.00	935.5169	999.3460
0+030.00	945.4968	999.7629
0+040.00	955.2718	1,001.8175
0+050.00	964.6306	1,005.3171
0+060.00	973.3220	1,010.2447
0+070.00	981.7779	1,015.5831
0+080.00	990.8741	1,019.2631
0+090.00	999.3554	1,014.6844
0+100.00	1,005.5719	1,006.8515
0+110.00	1,011.7863	999.0168
0+120.00	1,014.1913	989.5831
0+130.00	1,011.7768	979.8809
0+140.00	1,009.3016	970.1921
0+150.00	1,006.8264	960.5032
0+160.00	1,005.3895	950.6368
0+165.42	1,005.5440	945.2230

	Northing	Easting
TBM 1	1000.000	1000.000
TBM 2	21009.167	983.430
TBM 3	31016.776	1021.031
TBM 4	41000.293	1012.796
TBM 5	51006.018	938.992
TBM 6	61007.740	942.502
TBM 7	71018.864	973.522
TBM 8	81008.847	1032.035
TBM 9	9963.129	996.443

CONSTRUCTION OF BRIDGE ACROSS BOGAHAKUBURA ELA ON HALIELA KETAWALA TO KANDY RAJA MAWATHA

LAYOUT PLAN

SCALE -

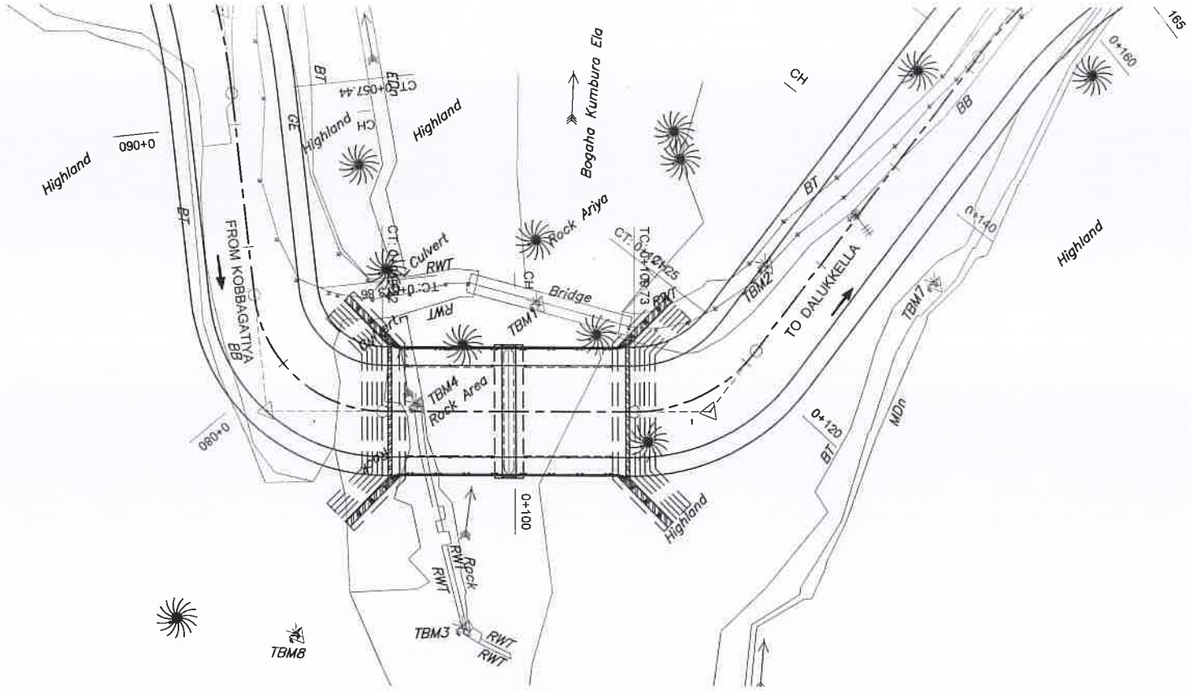
REV	DESCRIPTION	BY	DATE
00	TENDER ISSUE	RDA	16-08-2021

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B,SAMAGI NIWASA,GANNORUWA RD,PERADENIYA
TEL : 812388997 FAX : 0812388997 email : docpkandy@gmail.com

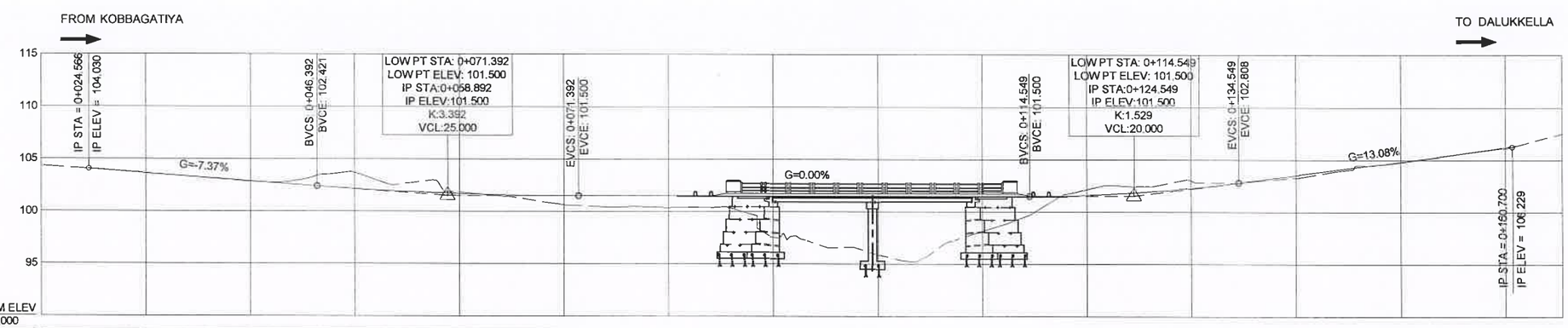
SURVEYED & PLOTTED :	DESIGNED : ATHULA LIYANAGE	DRAWN : H.A.D. PADMIKA	CHECKED : SUDEERA KUMARA ARACHCHI
A.C.E. (DESIGN) : SUDEERA KUMARA ARACHCHI	A.D.D.(DESIGN) L.V.S.WEERAKOON		DATE : 16-08-2021
			DRG No. : DD/D/CP/UVA/B/1265/1(11)

LEGEND	
	CENTER LINE
	EDGE OF CARRIAGEWAY
	EDGE OF SHOULDER
	FINISHED GROUND LINE
	EXISTING GROUND LINE
	FLOW DIRECTION
	CONTROL POINTS



PLAN

SCALE 1: 500



CHAINAGE	Ch0+030	Ch0+040	Ch0+050	Ch0+060	Ch0+070	Ch0+080	Ch0+090	Ch0+100	Ch0+110	Ch0+120	Ch0+130	Ch0+140	Ch0+150	Ch0+160
FINISHED GROUND LEVEL	103.629	102.892	102.174	101.691	101.503	101.500	101.500	101.500	101.500	101.597	102.281	103.521	104.829	106.137
EXSISTING GROUND LEVEL	103.635	102.852	103.712	101.822	100.638	100.373	97.565	95.876	98.163	102.154	103.013	103.275	104.779	106.209
HORIZONTAL GEOMETRY	R=60.45 0+015.16 0+042.43		R=58.42 0+043.83 0+057.44			R=10.50 0+073.86 0+089.22			R=12.50 0+109.73 0+121.25				R=35.97 0+151.29 0+161.53	
VERTICAL GEOMETRY	G=-7.37%		V.C.L.=25.00 K=3.39			G=0.00%			V.C.L.=20.00 K=1.53			G=13.08%		

ELEVATION

SCALE 1: 500

CONSTRUCTION OF BRIDGE ACROSS BOGAHAKUBURA ELA ON HALIELA KETAWALA TO KANDY RAJA MAWATHA

PLAN AND PROFILE

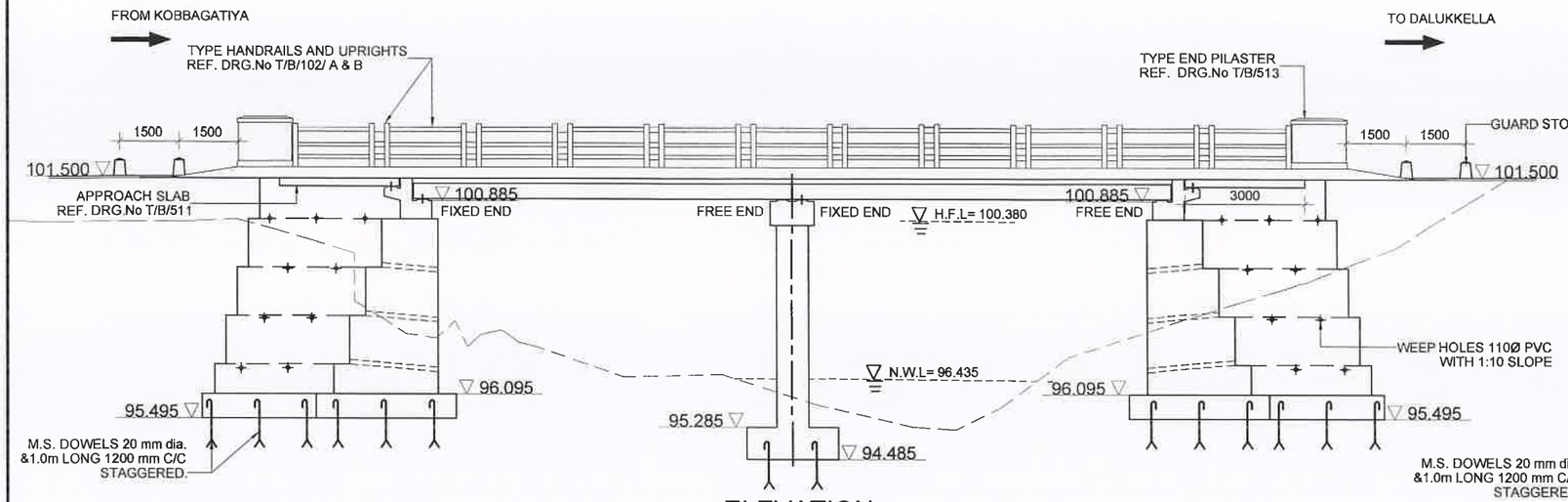
SCALE -

REV	DESCRIPTION	BY.	DATE
00	TENDER ISSUE	RDA	16-08-2021

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

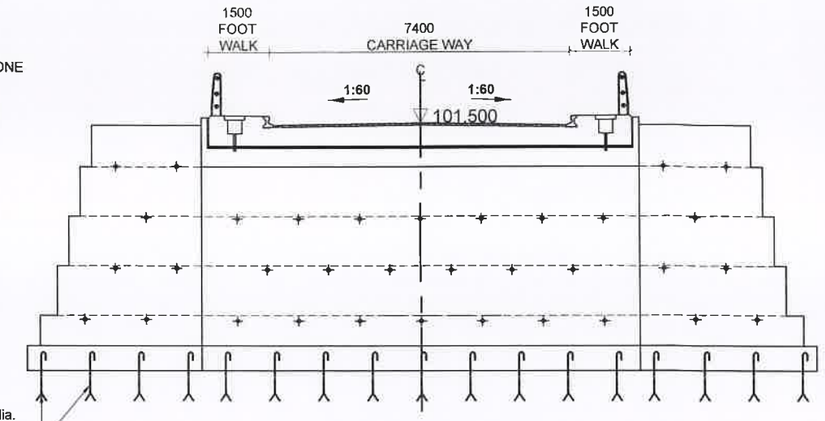
DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B,SAMAGI NIWASA,GANNORUWA RD,PERADENIYA
TEL : 812388997 FAX : 0812388997 email : docpkandy@gmail.com

SURVEYED & PLOTTED :	DESIGNED : ATHULA LIYANAGE	DRAWN : H.A.D. PADMIKA	CHECKED : SUDEERA KUMARA ARACHCHI
A.C.E. (DESIGN) : SUDEERA KUMARA ARACHCHI	A.D.D.(DESIGN) L.V.S.WEERAKOON		DATE : 16-08-2021
			DRG.No. : DD/D/CP/UVA/B/1265/2(11)



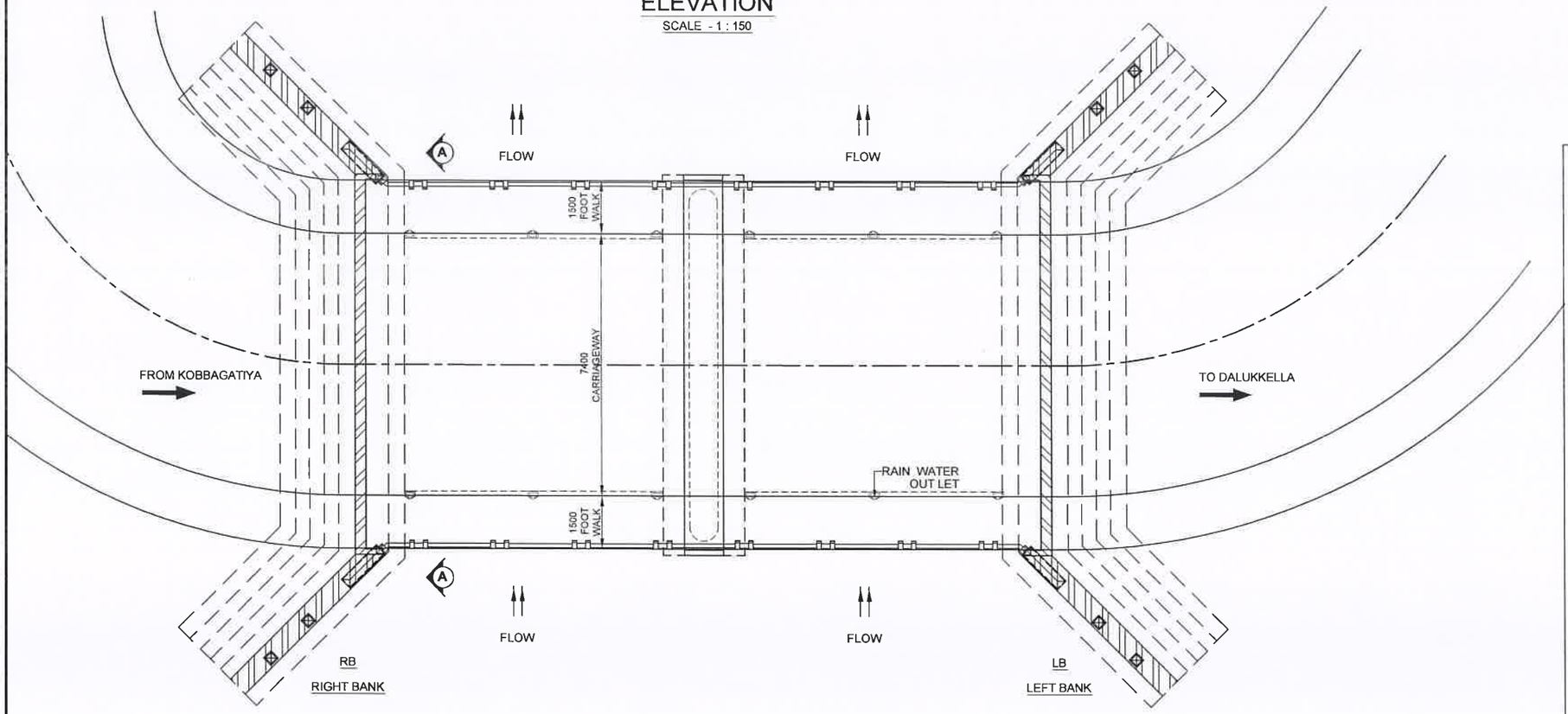
ELEVATION

SCALE - 1 : 150



SECTIONAL ELEVATION A - A

SCALE - 1 : 150



PLAN

SCALE - 1 : 150

NOTE:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
2. DIMENSIONS SHALL NOT BE OBTAIN BY SCALENING.
3. ALL WORKMANSHIP AND MATERIALS ARE TO BE ACCORDANCE WITH THE REQUIREMENT OF THE SPECIFICATION AND BY LAWS OF THE AUTHORITY.
4. WEEP HOLES TO BE PROVIDED AT 1.2 m C/C STAGGERED USING 110 mm DIA.TYPE 600 PVC PIPES.
5. ADDITIONAL WEEP HOLES ARE TO BE PROVIDED IF NECESSARY TO SUIT SITE CONDITION.
6. A CLAY PUDDLE OF 300 X 600 TO BE PROVIDED THROUGH OUT THE LENGTH OF THE ABUTMENTS AND WING WALLS TO DIVERT THE WATER COLLECTING BEHIND.
7. ALL BAR MARKED "T" SHALL BE HIGH YIELD DEFORMED BARS OF YIELD STRENGTH NOT LESS THAN 460 N/mm ² AND ALL MARKED "R" SHALL BE HOT ROLLED MILD STEEL PLAIN BARS OF YIELD STRENGTH NOT LESS THAN 250 N/mm².
8. BARS OF CUT LENGTH LARGER THAN THE SUPPLIED LENGTH TO BE LAPPED WITH LENGTH OF 50 Ø, WHERE Ø IS THE DIAMETER AND LAPPING SHOULD BE STAGGERED.
9. CLEAR CONCRETE COVER FOR REINFORCEMENT SHOULD BE 50 mm UNLESS OTHERWISE SPECIFIED.
10. REINFORCEMENT BARS SHALL BE BENT ACCORDANCE WITH STANDARD SPECIFICATIONS.
11. DOWEL TO BE PROVIDED ONLY IF REQUIRE AS PER SITE CONDITION AND SUBJECTED TO ENGINEER APPROVAL
12. SCREED CONCRETE IS USED ONLY IN ABSENT OF ROCK SURFACE.
13. ALLOWABLE BEARING STRENGTH UNDER THE FOUNDATION SHOULD NOT BE LESS THAN 250kN/m².

GRADES OF CONCRETE

ABUTMENTS & WING WALLS	MASS	RC/PIER
1. SCREED	-GRADE 15(40)	GRADE 15(40)
2. BASE	-GRADE 30(20)	GRADE 30(20)
3. STEM	-GRADE 15(40)	GRADE 30(20)
4. POCKET FILL	-GRADE 30(20)	GRADE 30(20)

OTHER	
1. DECK	-GRADE 40(20)
2. FOOT WALK	-GRADE 30(20)
3. APPROACH SLAB	-GRADE 30(20)

CONSTRUCTION OF BRIDGE ACROSS BOGAHAKUBURA ELA ON HALIELA KETAWALA TO KANDY RAJA MAWATHA

PLAN AND ELEVATION

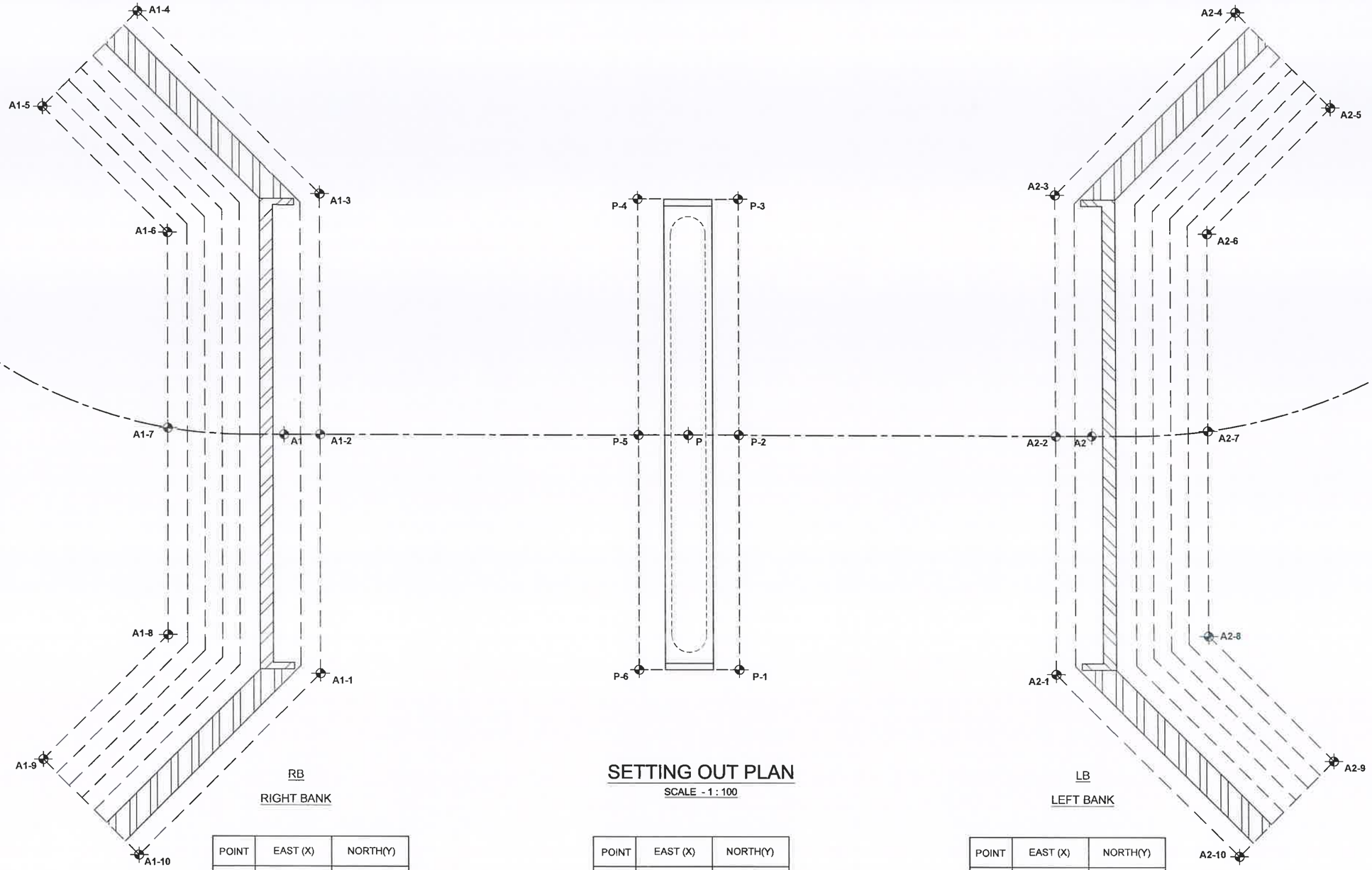
SCALE -

REV	DESCRIPTION	BY	DATE
00	TENDER ISSUE	RDA	16-08-2021

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B,SAMAGI NIWASA,GANNORUWA RD,PERADENIYA
TEL : 812388997 FAX : 0812388997 email : docpkandy@gmail.com

SURVEYED & PLOTTED :	DESIGNED : ATHULA LIYANAGE	DRAWN : H.A.D. PADMIKA	CHECKED : SUDEERA KUMARA ARACHCHI
A.C.E. (DESIGN) : SUDEERA KUMARA ARACHCHI	A.D.D.(DESIGN) L.V.S.WEERAKOON		DATE : 16-08-2021
			DRG.No. : DD/D/CP/UVA/B/1265/3(11)



RB

RIGHT BANK

POINT	EAST (X)	NORTH(Y)
A1	1014.5306	999.4775
A1-1	1017.2808	1004.2779
A1-2	1013.8804	999.9934
A1-3	1010.4725	995.6994
A1-4	1011.1478	989.8294
A1-5	1014.2275	990.1838
A1-6	1013.7636	994.2161
A1-7	1016.5362	997.7095
A1-8	1019.4727	1001.4096
A1-9	1023.5051	1001.8736
A1-10	1023.1507	1004.9532

SETTING OUT PLAN

SCALE - 1 : 100

POINT	EAST (X)	NORTH(Y)
P	1007.2499	1005.2557
P-1	1009.6907	1010.1811
P-2	1006.3491	1005.9706
P-3	1003.0075	1001.7602
P-4	1004.8091	1000.3304
P-5	1008.1507	1004.5408
P-6	1011.4922	1008.7513

LB

LEFT BANK

POINT	EAST (X)	NORTH(Y)
A2	999.9888	1011.0185
A2-1	1004.0392	1014.7870
A2-2	1000.6389	1010.5025
A2-3	997.2310	1006.2085
A2-4	991.3610	1005.5331
A2-5	991.0067	1008.6128
A2-6	995.0390	1009.0768
A2-7	997.8254	1012.5877
A2-8	1000.7481	1016.2703
A2-9	1000.2842	1020.3026
A2-10	1003.3639	1020.6569

CONSTRUCTION OF BRIDGE ACROSS BOGAHAKUBURA ELA ON HALIELA KETAWALA TO KANDY RAJA MAWATHA

DETAIL OF SETTING OUT

SCALE -

REV.	DESCRIPTION	BY.	DATE
00	TENDER ISSUE	RDA	16-08-2021

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B,SAMAGI NIWASA,GANNORUWA RD,PERADENIYA
TEL : 812388997 FAX : 0812388997 email : docpkandy@gmail.com

SURVEYED & PLOTTED :

DESIGNED : ATHULA LIYANAGE

DRAWN : H.A.D. PADMIKA

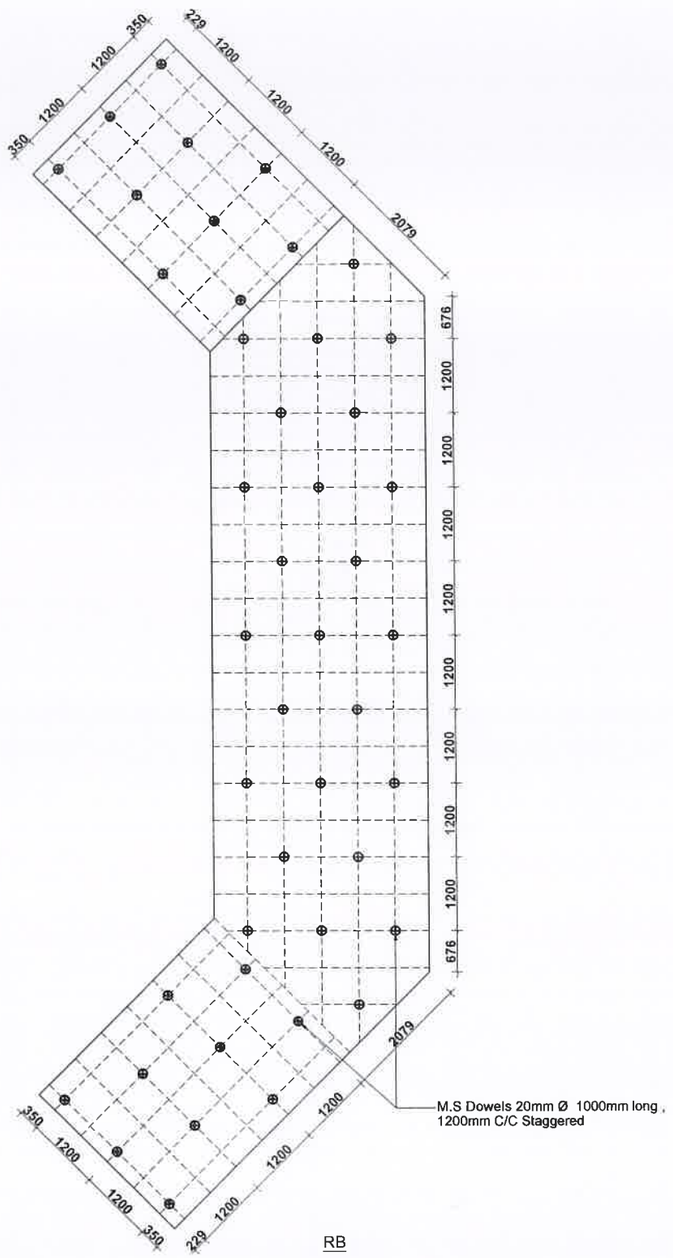
CHECKED : SUDEERA KUMARA ARACHCHI

A.C.E. (DESIGN) : SUDEERA KUMARA ARACHCHI

A.D.D.(DESIGN) L.V.S.WEERAKOON

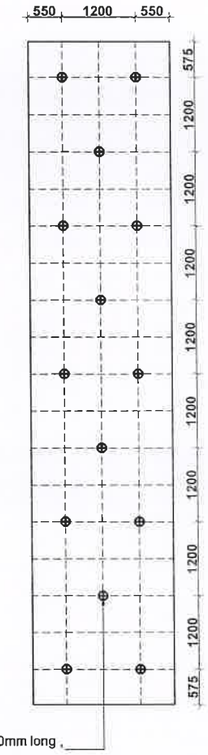
DATE : 16-08-2021

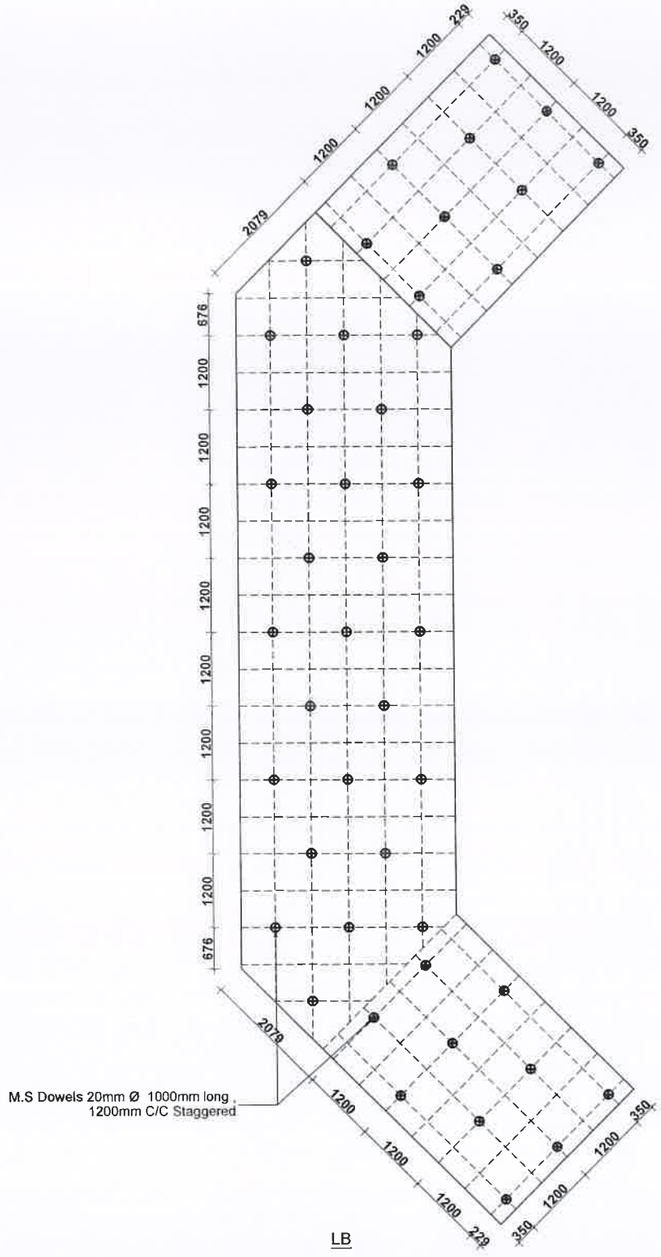
DRG.No. : DD/D/CP/UVA/B/1265/4(11)



RB

RIGHT BANK





LB

LEFT BANK

DETAIL OF DOWEL ARRANGEMENT

SCALE 1:100

CONSTRUCTION OF BRIDGE ACROSS BOGAHAKUBURA ELA ON HALIELA KETAWALA TO KANDY RAJA MAWATHA

DETAIL OF DOWEL ARRANGEMENT

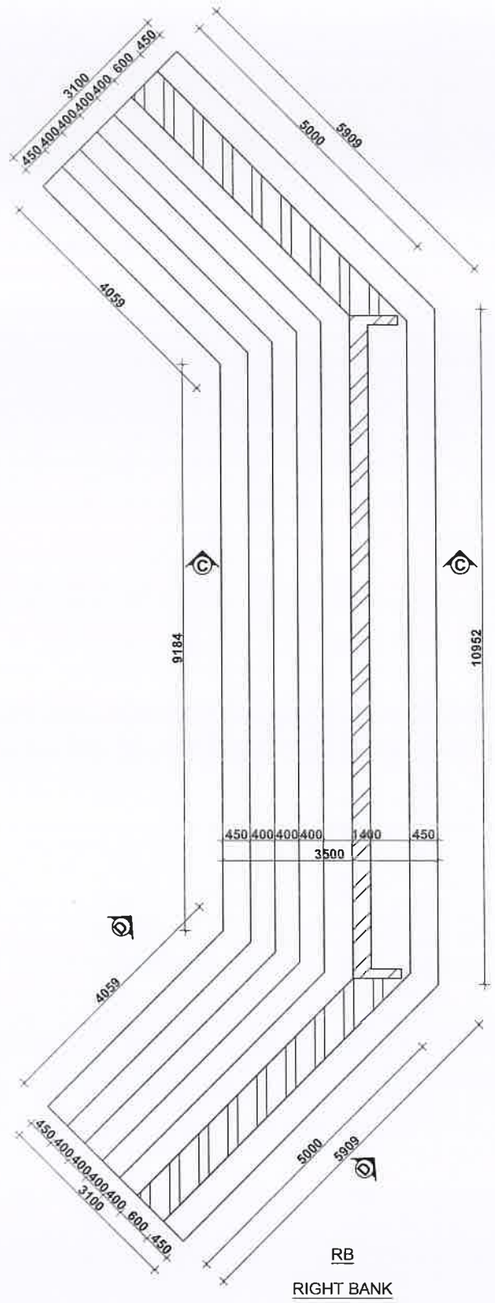
SCALE -

REV	DESCRIPTION	BY	DATE
00	TENDER ISSUE	RDA	16-08-2021

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

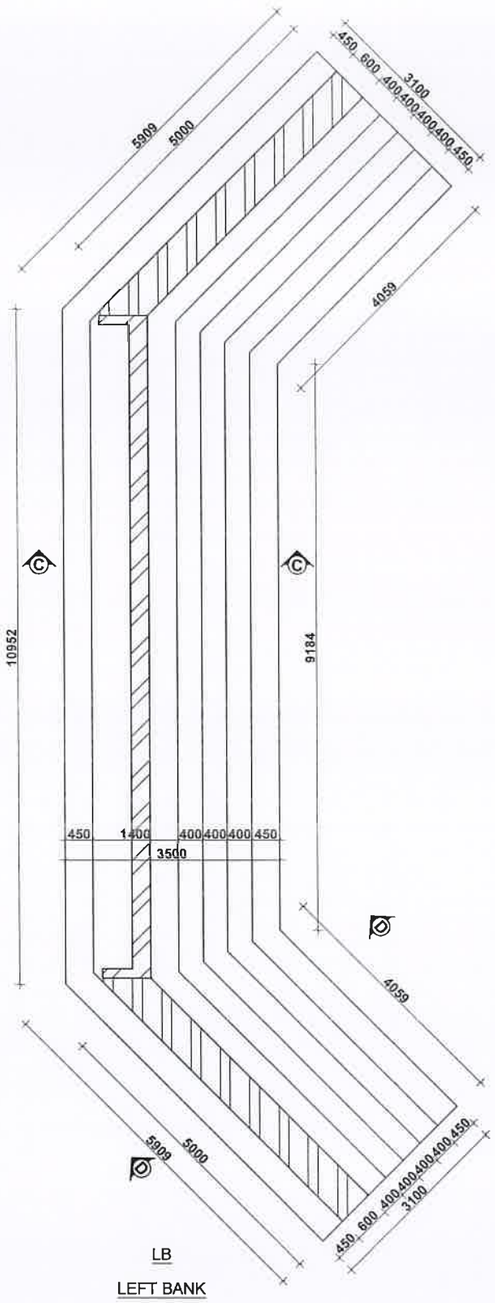
DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B,SAMAGI NIWASA,GANNORUWA RD,PERADENIYA
TEL : 812388997 FAX : 0812388997 email : docpkandy@gmail.com

SURVEYED & PLOTTED :	DESIGNED : ATHULA LIYANAGE	DRAWN : H.A.D. PADMIKA	CHECKED : SUDEERA KUMARA ARACHCHI
A.C.E (DESIGN) : SUDEERA KUMARA ARACHCHI	A.D.D.(DESIGN) L.V.S.WEERAKOON		DATE : 16-08-2021
			DRG.No. : DD/D/CP/UVA/B/1265/5(11)



RB

RIGHT BANK



LB

LEFT BANK

ABUTMENT & WING WALL PLAN

SCALE - 1 : 100

CONSTRUCTION OF BRIDGE ACROSS BOGAHAKUBURA ELA ON HALIELA KETAWALA TO KANDY RAJA MAWATHA

DETAIL OF ABUTMENT AND WING WALL PLAN

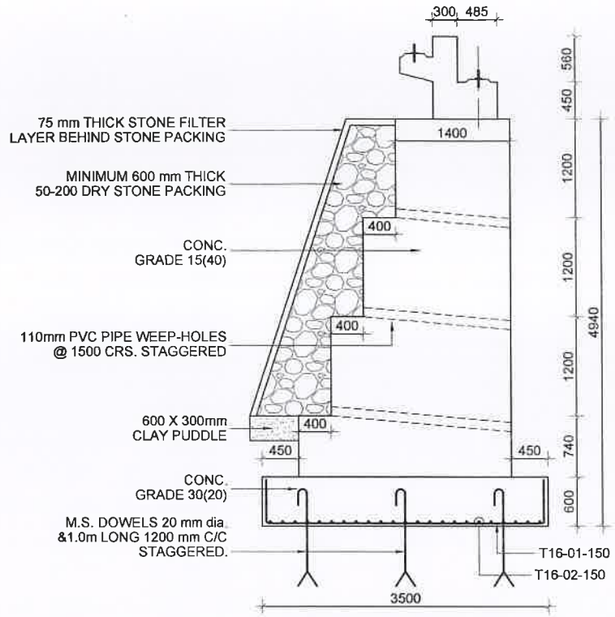
SCALE -

REV	DESCRIPTION	BY	DATE
00	TENDER ISSUE	RDA	16-08-2021

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

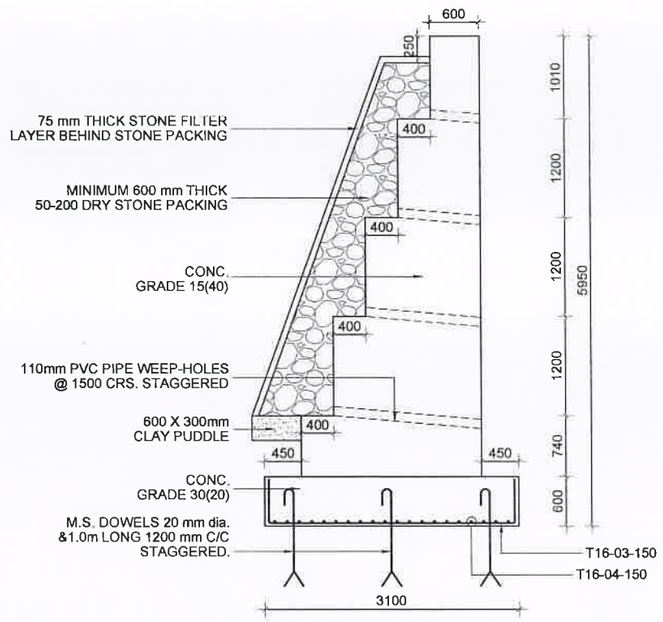
DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B,SAMAGI NIWASA,GANNORUWA RD,PERADENIYA
TEL : 812388997 FAX : 0812388997 email : docpkandy@gmail.com

SURVEYED & PLOTTED :	DESIGNED : ATHULA LIYANAGE	DRAWN : H.A.D. PADMIKA	CHECKED : SUDEERA KUMARA ARACHCHI
A.C.E. (DESIGN) : SUDEERA KUMARA ARACHCHI	A.D.D.(DESIGN) L.V.S.WEERAKOON		DATE : 16-08-2021
			DRG.No. : DD/D/CP/UVA/B/1265/6(11)



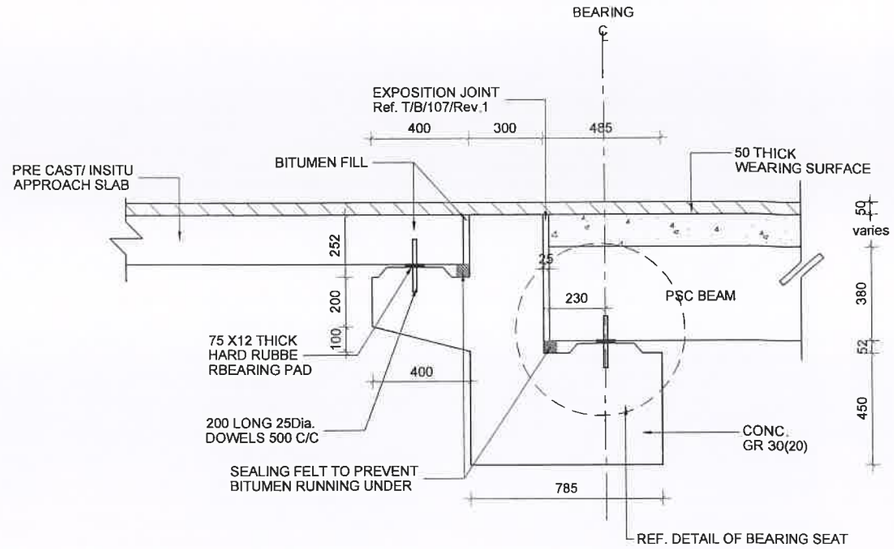
SECTION OF C-C
(KOBBAGATIYA END)

SCALE 1:75

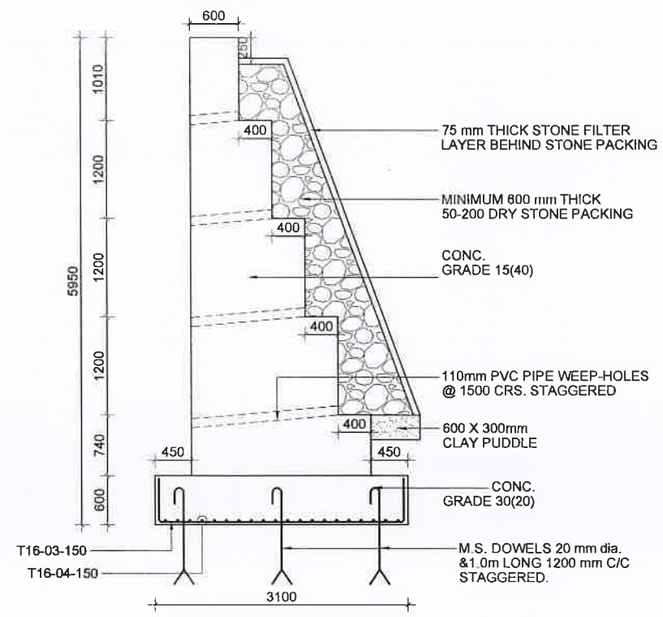


SECTION OF D - D
(KOBBAGATIYA END)

SCALE 1:75

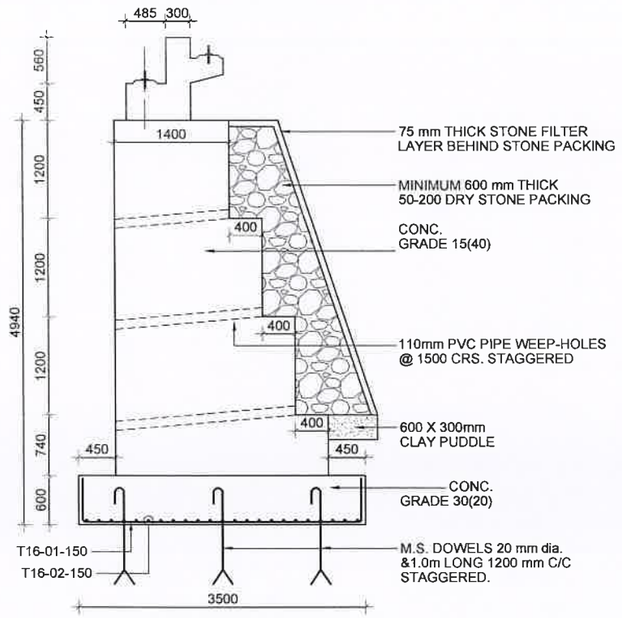


DETAILS OF CAPPING BEAM
SCALE- 1:25



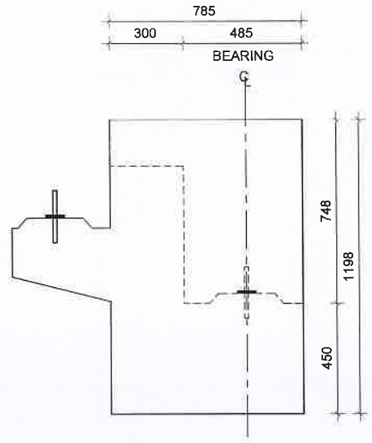
SECTION OF D - D
(DALUKKELLA END)

SCALE 1:75



SECTION OF C-C
(DALUKKELLA END)

SCALE 1:75



DETAILS OF CURTAIN WALL
SCALE- 1:25

CONSTRUCTION OF BRIDGE ACROSS BOGAHAKUBURA ELA ON HALIELA KETAWALA TO KANDY RAJA MAWATHA

DETAIL OF SECTION

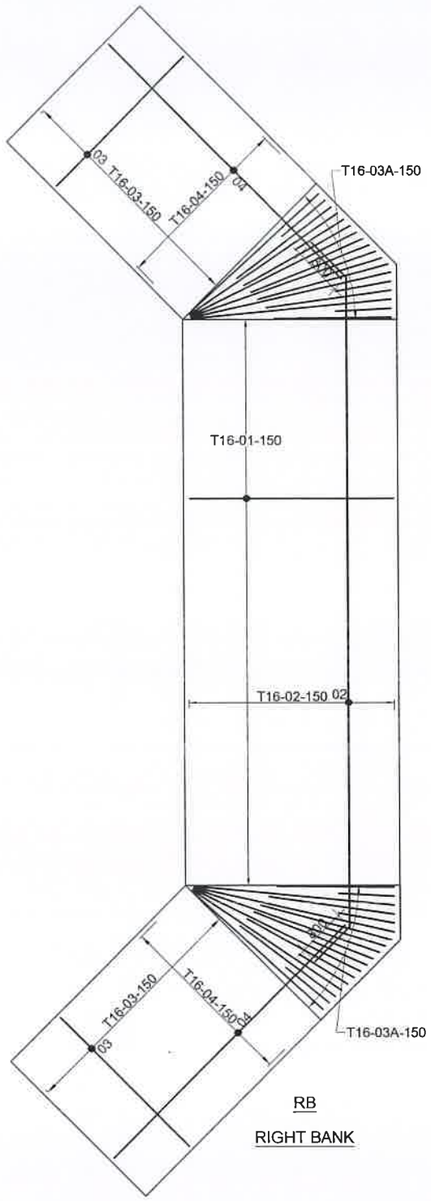
SCALE -

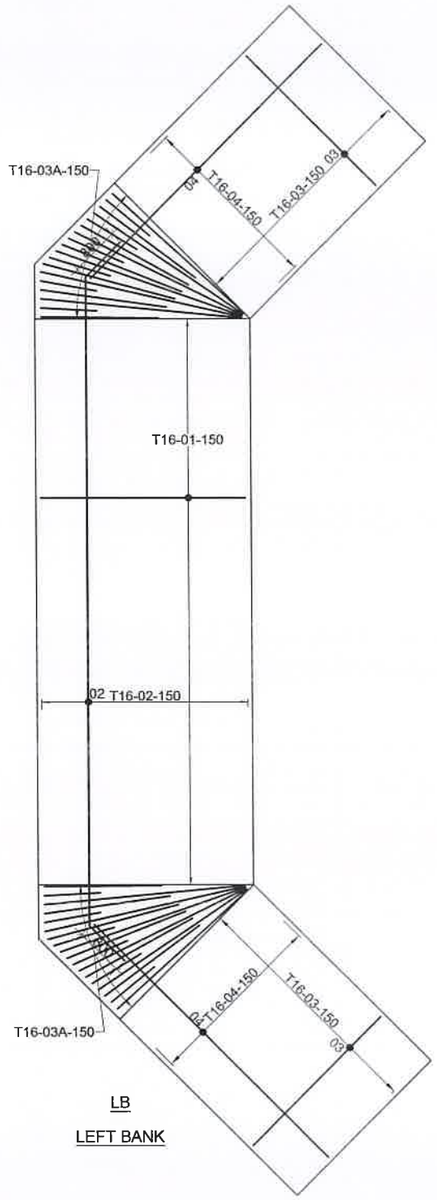
REV.	DESCRIPTION	BY.	DATE
00	TENDER ISSUE	RDA	16-08-2021

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B,SAMAGI NIWASA,GANNORUWA RD,PERADENIYA
TEL : 812388997 FAX : 0812388997 email : docpkandy@gmail.com

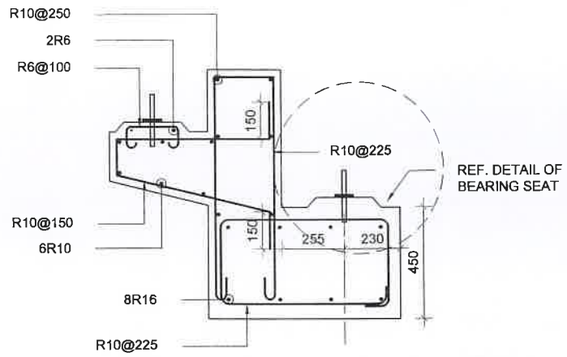
SURVEYED & PLOTTED :	DESIGNED : ATHULA LIYANAGE	DRAWN : H.A.D. PADMIKA	CHECKED : SUDEERA KUMARA ARACHCHI
A.C.E. (DESIGN) : SUDEERA KUMARA ARACHCHI	A.D.D.(DESIGN) L.V.S.WEERAKOON		DATE : 16-08-2021
			DRG.No. : DD/D/CP/UVA/B/1265/7(11)





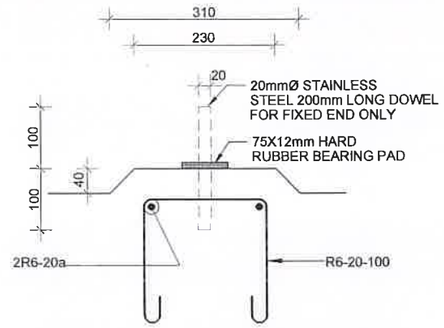
R/F DETAIL OF BASE

SCALE - 1 :100



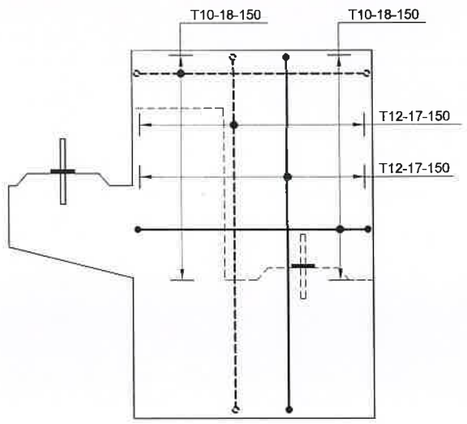
R/F DETAILS OF CAPPING BEAM

SCALE 1:25



DETAIL OF BEARING SEAT

SCALE - 1 : 10



R/F DETAILS OF CURTAIN WALL

SCALE- 1:20

CONSTRUCTION OF BRIDGE ACROSS BOGAHAKUBURA ELA ON HALIELA KETAWALA TO KANDY RAJA MAWATHA

R/F DETAIL OF BASE AND CAPPING BEAM, CURTAIN WALL , BEARING SEAT

SCALE -

REV.	DESCRIPTION	BY.	DATE
00	TENDER ISSUE	RDA	16-08-2021

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B,SAMAGI NIWASA,GANNORUWA RD,PERADENIYA
TEL : 812388997 FAX : 0812388997 email : doopkandy@gmail.com

SURVEYED & PLOTTED :

DESIGNED :
ATHULA LIYANAGE

DRAWN :
H.A.D. PADMIKA

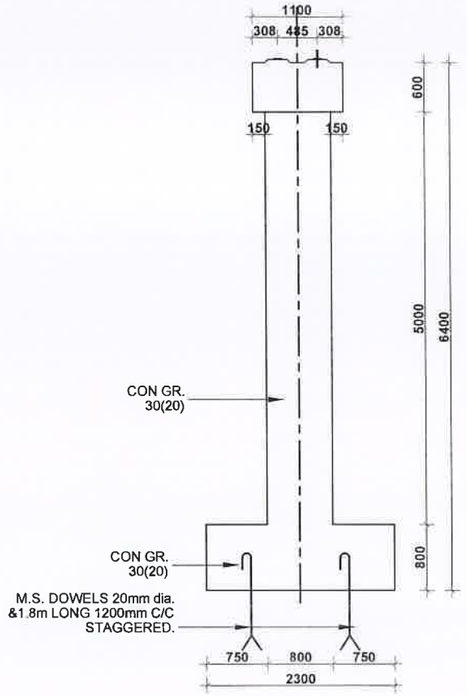
CHECKED :
SUDEERA KUMARA ARACHCHI

A.C.E. (DESIGN) :
SUDEERA KUMARA ARACHCHI

A.D.D.(DESIGN)
L.V.S.WEERAKOON

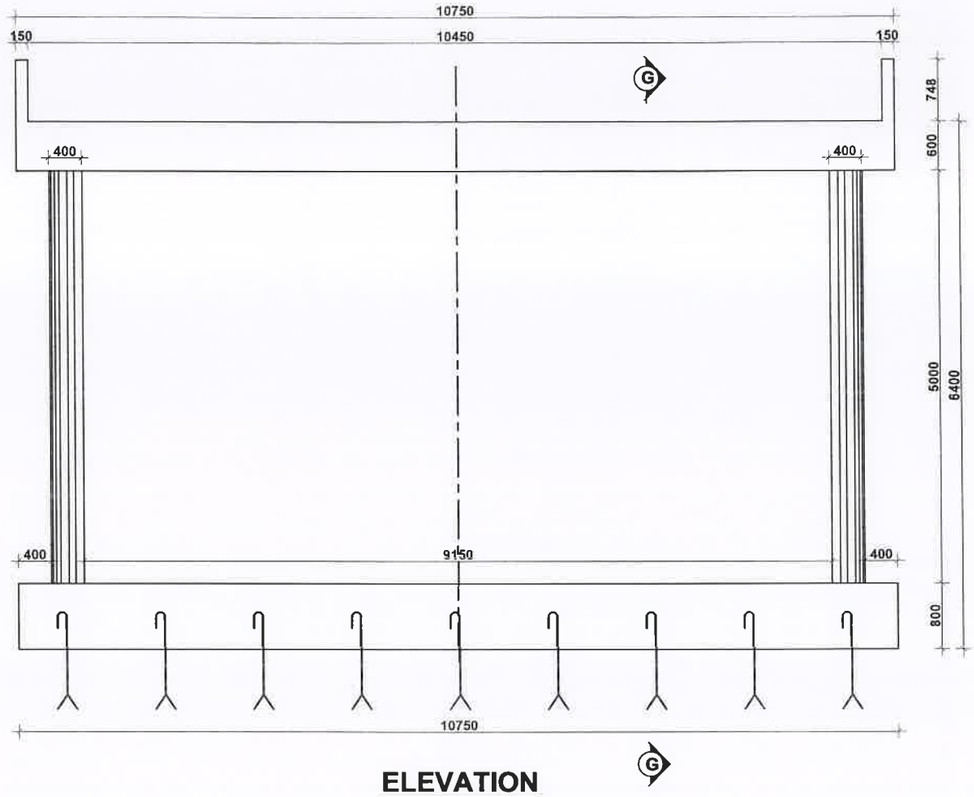
DATE : 16-08-2021

DRG.No. : DD/D/CP/UVA/B/1265/8(11)



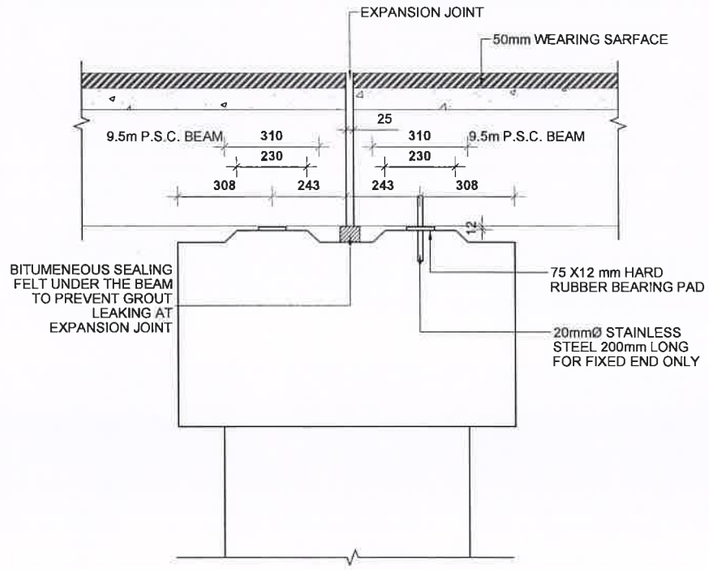
SECTION G - G

SCALE - 1 : 75



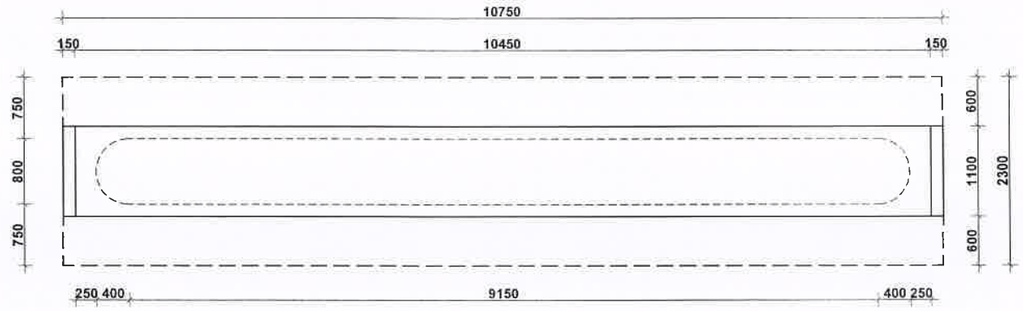
ELEVATION

SCALE - 1 : 75



DETAILS OF PIER CAPPING

SCALE 1:20



PLAN

SCALE - 1 : 75

CONSTRUCTION OF BRIDGE ACROSS BOGAHAKUBURA ELA ON HALIELA KETAWALA TO KANDY RAJA MAWATHA

DETAIL OF PIER

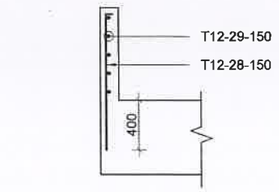
SCALE -

REV	DESCRIPTION	BY.	DATE
00	TENDER ISSUE	RDA	16-08-2021

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

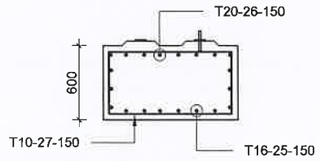
DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B,SAMAGI NIWASA,GANNORUWA RD,PERADENIYA
TEL : 812388997 FAX : 0812388997 email : docpkandy@gmail.com

SURVEYED & PLOTTED :	DESIGNED : ATHULA LIYANAGE	DRAWN : H.A.D. PADMIKA	CHECKED : SUDEERA KUMARA ARACHCHI
A.C.E. (DESIGN) : SUDEERA KUMARA ARACHCHI	A.D.D (DESIGN) L.V.S.WEERAKOON		DATE : 16-08-2021
			DRG.No. : DD/D/CP/UVA/B/1265/9(11)



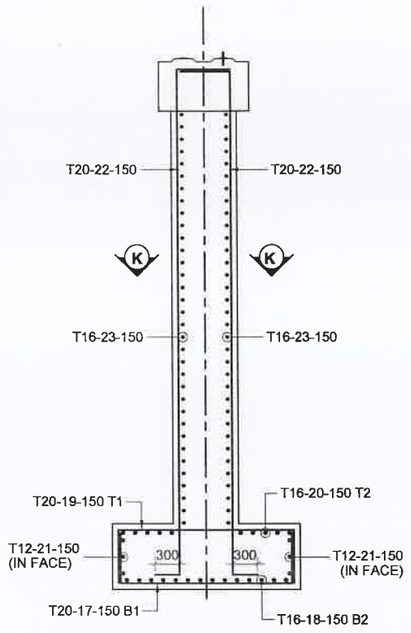
DETAIL OF CURTAIN WALL

SCALE 1:50



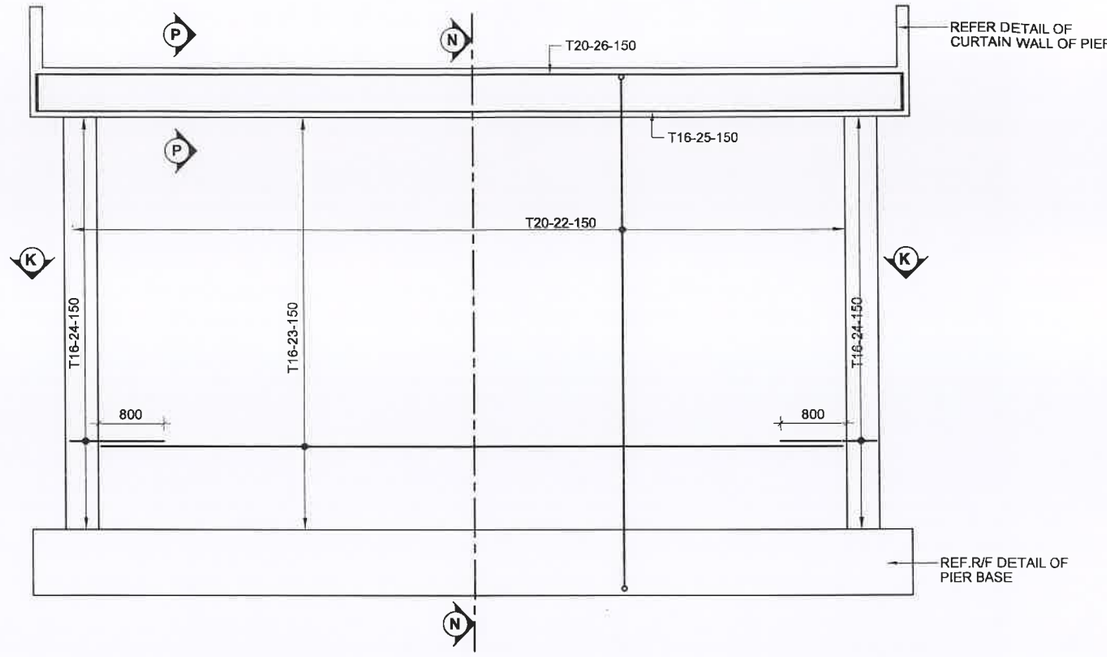
SECTION P - P

SCALE - 1 : 50



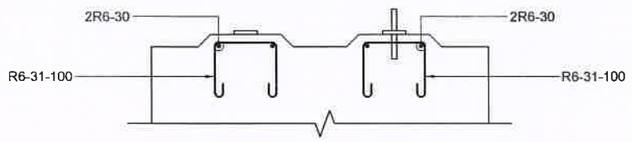
SECTION N - N

SCALE - 1 : 75



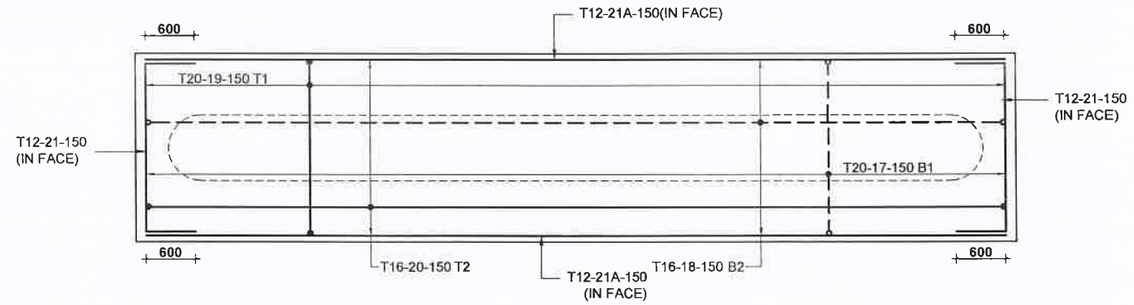
R/F DETAIL OF PIER WALL

SCALE - 1 : 75



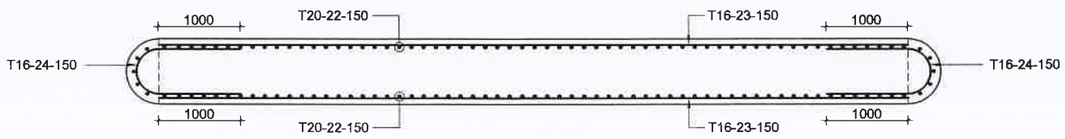
R/F DETAIL OF PIER BEARING SEAT

SCALE - 1 : 20



R/F DETAIL OF PIER BASE

SCALE - 1 : 75



SECTION OF K - K

SCALE 1:75

CONSTRUCTION OF BRIDGE ACROSS BOGAHAKUBURA ELA ON HALIELA KETAWALA TO KANDY RAJA MAWATHA

R/F DETAIL OF PIER

SCALE

REV.	DESCRIPTION	BY.	DATE
00	TENDER ISSUE	RDA	16-08-2021

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B,SAMAGI NIWASA,GANNORUWA RD,PERADENIYA
TEL : 812388997 FAX : 0812388997 email : docpkandy@gmail.com

SURVEYED & PLOTTED :

DESIGNED :
ATHULA LIYANAGE

DRAWN :
H.A.D. PADMIKA

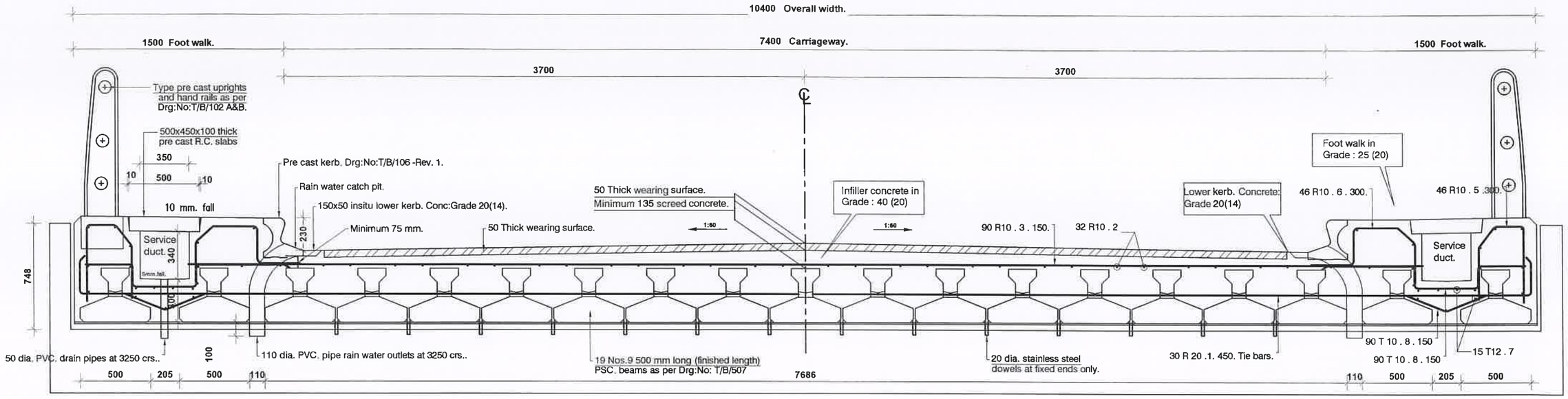
CHECKED :
SUDEERA KUMARA ARACHCHI

A.C.E. (DESIGN) :
SUDEERA KUMARA ARACHCHI

A.D.D.(DESIGN)
L.V.S.WEERAKOON

DATE : 16-08-2021

DRG.No. : DD/D/CP/UVA/B/1265/10(11)

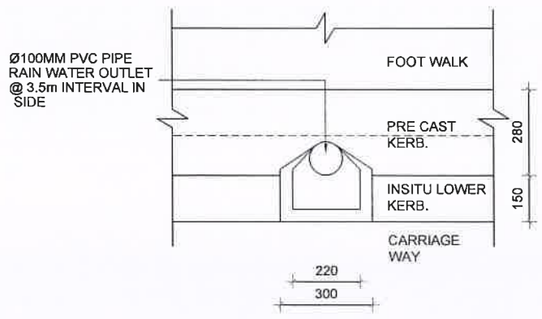


GENERAL DETAILS.

REINFORCEMENT DETAILS.

CROSS SECTION OF 9 500 LONG DECK

1:30



PLAN DETAILS OF RAIN WATER CATCH PIT

SCALE 1:20

CONSTRUCTION OF BRIDGE ACROSS BOGAHAKUBURA ELA ON HALIELA KETAWALA TO KANDY RAJA MAWATHA

DETAIL OF DECK

SCALE -

REV	DESCRIPTION	BY	DATE
00	TENDER ISSUE	RDA	16-08-2021

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B,SAMAGI NIWASA,GANNORUWA RD,PERADENIYA
TEL : 812388997 FAX : 0812388997 email : docpkandy@gmail.com

SURVEYED & PLOTTED :	DESIGNED : ATHULA LIYANAGE	DRAWN : H.A.D. PADMIKA	CHECKED : SUDEERA KUMARA ARACHCHI
A.C.E. (DESIGN) : SUDEERA KUMARA ARACHCHI	A.D.D.(DESIGN) L.V.S.WEERAKOON		DATE : 16-08-2021
			DRG.No. : DD/D/CP/UVA/B/1265/11(11)

GOVERNMENT OF DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

ROAD DEVELOPMENT AUTHORITY

ROAD – RAJAMAWATHA EXTENSION FROM KETAWALA TO MASPANNA ROAD,
LOCATION BRIDGE AT CH 08+380 Km

DETAILED DESIGN DRAWINGS

MARCH 2023

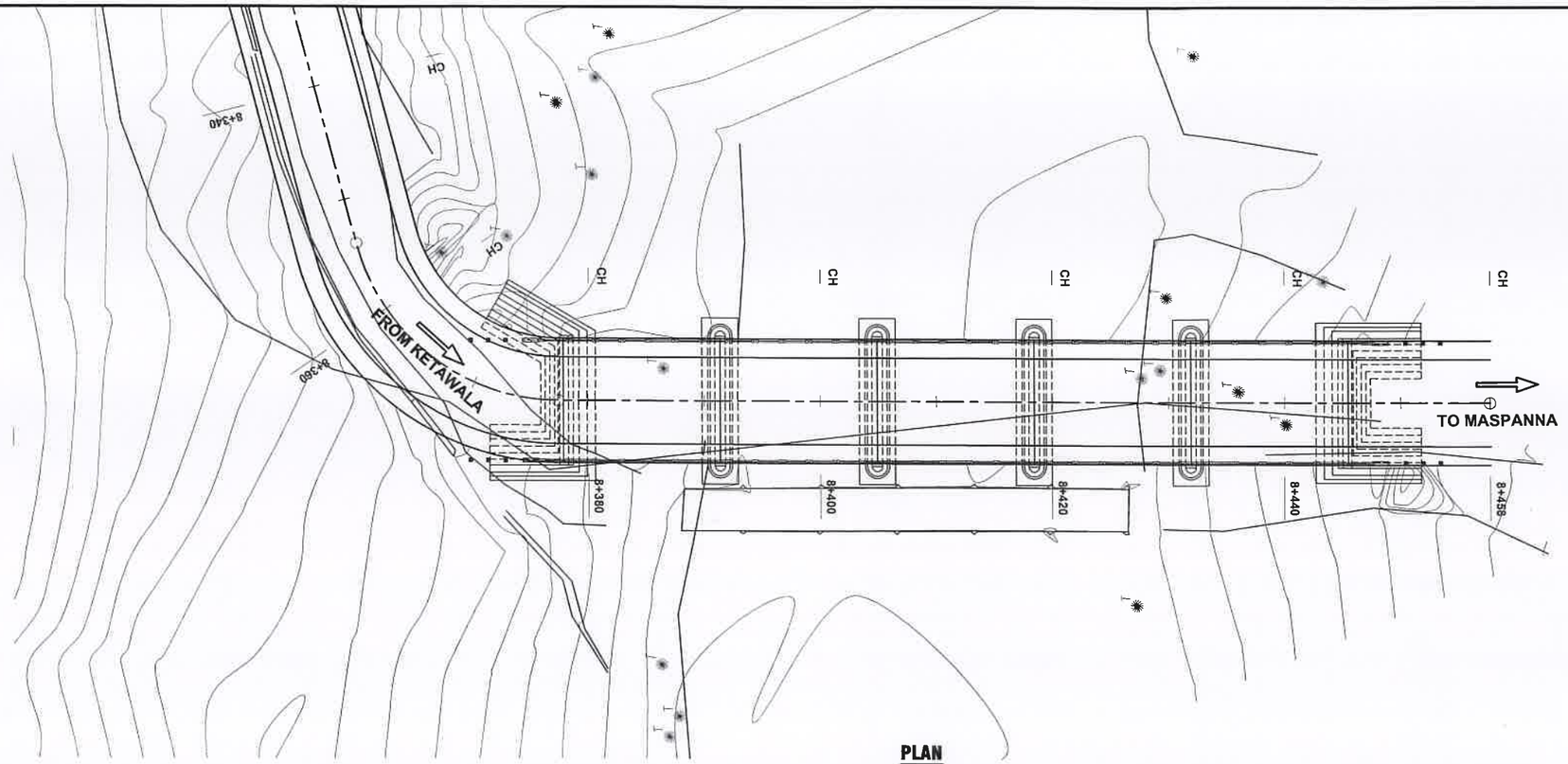
Design Office (Central Province)
Road Development Authority
06B, Samagi Niwasa,Gannoruwa Road
Peradeniya.

LEGEND	
	CENTER LINE
	EDGE OF CARRIAGEWAY
	EXISTING GROUND PROFILE
	FLOW DIRECTION
	CONTROL POINTS
	CONTROL POINTS AND CENTER LINE COORDINATES

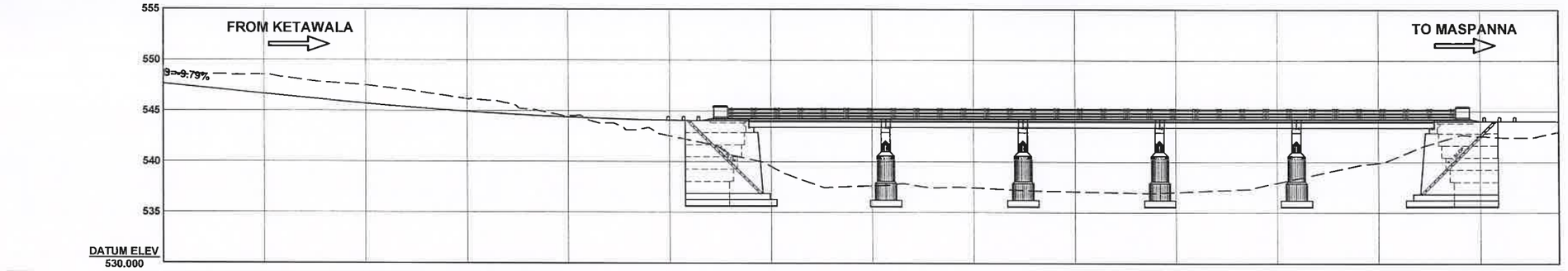
TBM & Setting Out Co-ordinates

TBM No.	Northing(m)	Easting(m)	Elevation(m)
A1	4199898.540	6222857.995	544.016
P1	4199885.250	6222855.461	544.016
P2	4199871.972	6222852.842	544.016
P3	4199858.695	6222850.266	544.016
P4	4199845.417	6222847.691	544.016
A2	4199832.126	6222845.113	544.016

GPS No.	Northing(m)	Easting(m)	Elevation(m)
GPS10	500537.705	521675.481	472.341
GPS11	500567.983	521637.493	472.521
GPS12	500567.184	521599.942	472.319



PLAN
SCALE -1:500



CHAINAGE	8+320	8+330	8+340	8+350	8+360	8+370	8+380	8+390	8+400	8+410	8+420	8+430	8+440	8+450
FINISHED GROUND LEVEL	547.636	546.657	545.689	544.906	544.369	544.075	544.016	544.016	544.016	544.016	544.016	544.016	544.016	544.016
EXSISTING GROUND LEVEL	548.795	548.562	547.490	546.151	544.519	542.528	539.527	537.620	537.448	537.070	537.024	537.942	539.919	537.843
HORIZONTAL GEOMETRY						R=18.00 8+353.84~8+377.41								
VERTICAL GEOMETRY	G=-9.79%					V.C.L.=40.00 K=4.08					G=0.00%			

LONGITUDINAL SECTION
SCALE : HORIZONTAL 1: 500
VERTICAL 1: 100

ROAD-RAJAMAWATHA EXTENSION FROM KETAWALA TO MASPANNA ROAD,
LOCATION BRIDGE AT CH 08+380 km

PLAN AND PROFILE

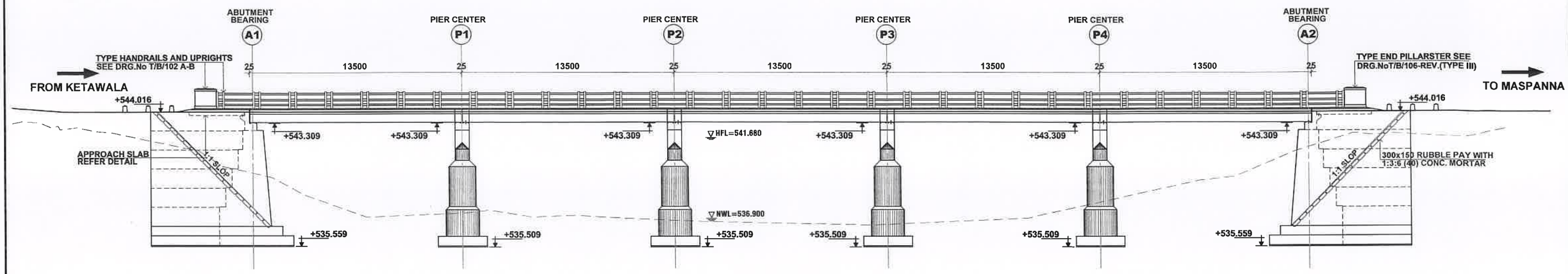
SCALE - 1:50

REV	DESCRIPTION	BY	DATE
00	TENDER ISSUE	RDA	13 03 2023

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

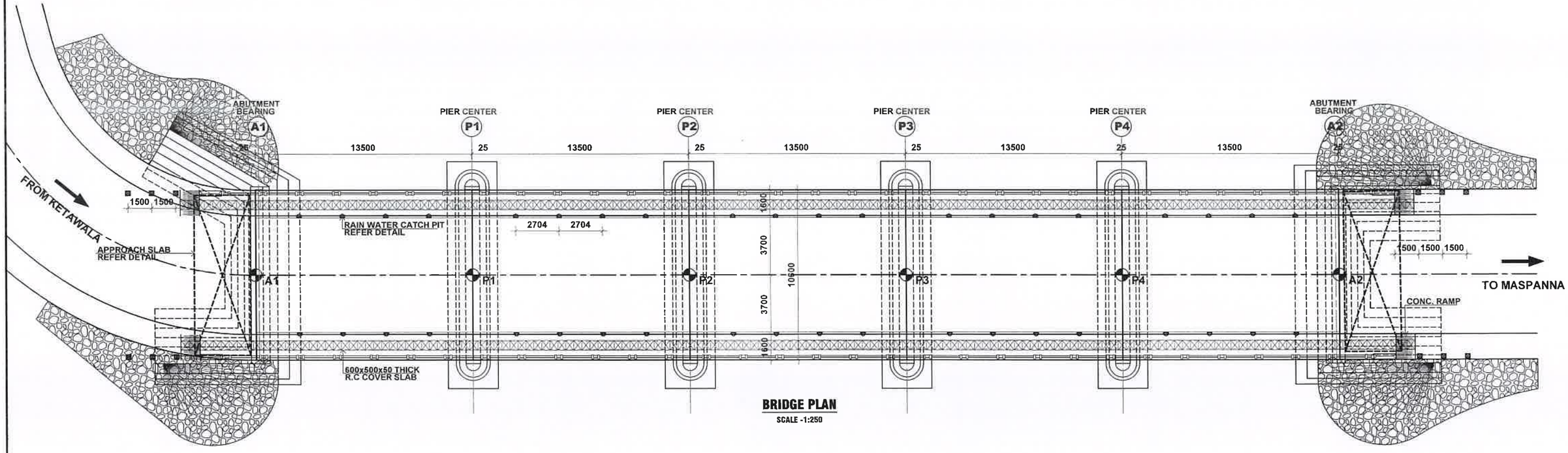
DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B,SAMAGI NIWASA,GANNORUWA RD,PERADENIYA
TEL : 0812388997 FAX : 0812388997 email : docp@rda.gov.lk

SURVEYED & PLOTTED :	DESIGNED : K.P.R.H.RUPASINGHE	DRAWN : JAGATH C RAJAPAKSE	CHECKED : L.G. A. LIYANAGE
C.E. (DESIGN) : S. KUMARA ARACHCHI	A.D.D.(DESIGN) L.V.S.WEERAKOON		DATE : 20-11-2014
			DRG.No. : DD/D/CP/UVA/B/1262/01-11



BRIDGE ELEVATION

SCALE -1:250



BRIDGE PLAN

SCALE -1:250

ROAD-RAJAMAWATHA EXTENSION FROM KETAWALA TO MASPANNA ROAD, LOCATION BRIDGE AT CH 08+380 km

PLAN AND ELEVATION

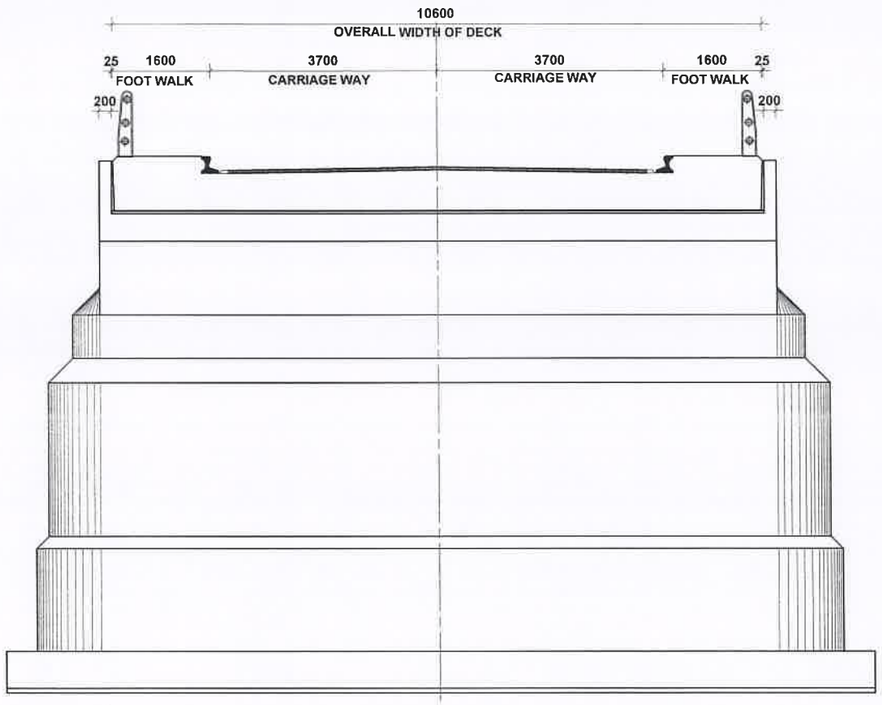
SCALE - 1:50

REV.	DESCRIPTION	BY.	DATE
00	TENDER ISSUE	RDA	13.03.2023

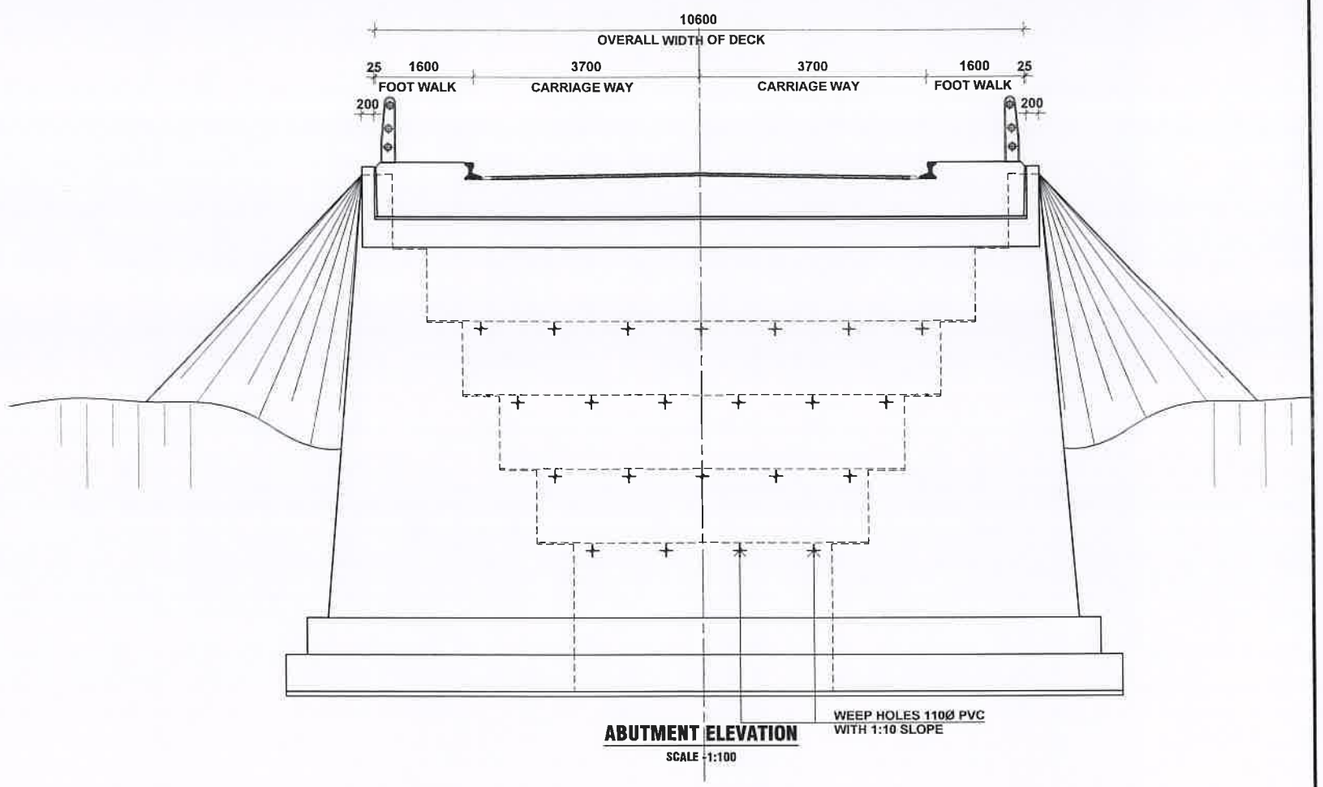
DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B,SAMAGI NIWASA,GANNORUWA RD,PERADENIYA
TEL : 0812388997 FAX : 0812388997 email : docp@rda.gov.lk

SURVEYED & PLOTTED :	DESIGNED : K.P.R.H.RUPASINGHE	DRAWN : JAGATH C RAJAPAKSE F. Rajapakse	CHECKED : L.G. A. LIYANAGE
C.E. (DESIGN) : S. KUMARA ARACHCHI	A.D.D.(DESIGN) L.V.S.WEERAKOON		DATE : 20-11-2014
			DRG.No. : DD/D/CP/UVA/B/1262/02-11



PIER ELEVATION
SCALE -1:100



ABUTMENT ELEVATION
SCALE -1:100

ROAD-RAJAMAWATHA EXTENSION FROM KETAWALA TO MASPANNA ROAD,
LOCATION BRIDGE AT CH 08+380 km

ABUTMENT AND PIER ELEVATION

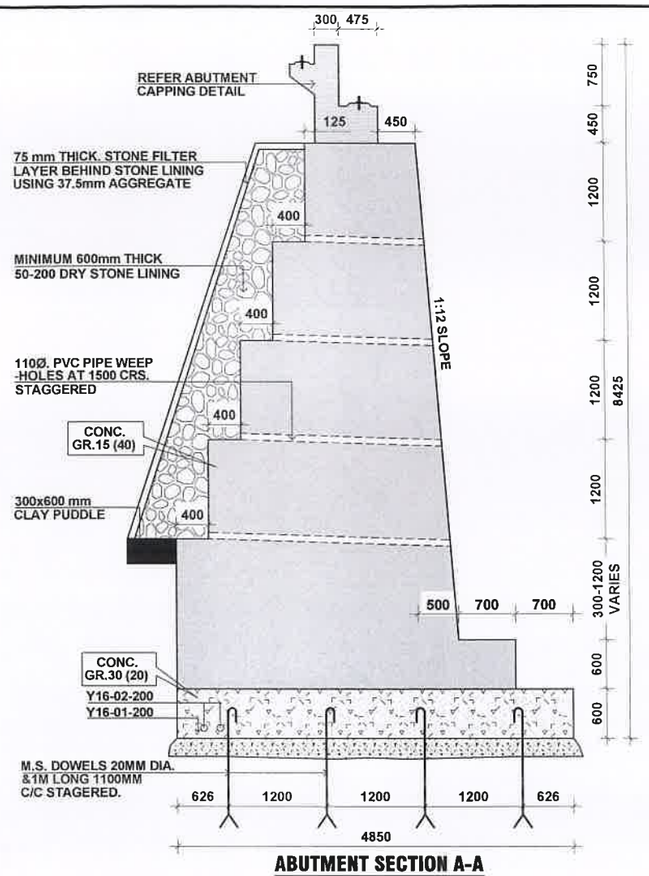
SCALE - 1:50

REV.	DESCRIPTION	BY.	DATE
00	TENDER ISSUE	RDA	13.03.2023

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

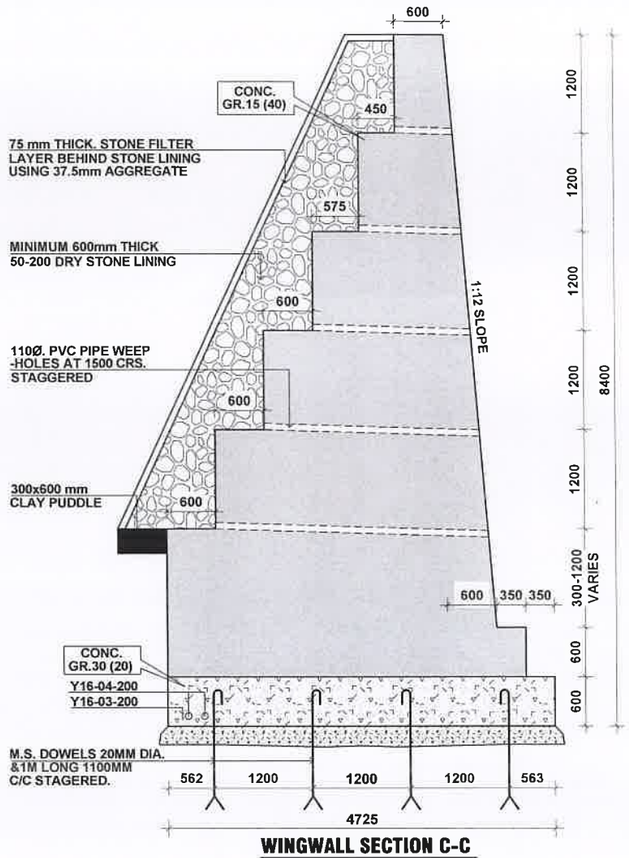
DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B,SAMAGI NIWASA,GANNORUWA RD,PERADENIYA
TEL : 0812388997 FAX : 0812388997 email : docp@rda.gov.lk

SURVEYED & PLOTTED :	DESIGNED : K.P.R.H.RUPASINGHE	DRAWN : JAGATH C RAJAPAKSE	CHECKED : L.G. A. LIYANAGE
C.E. (DESIGN) : S. KUMARA ARACHCHI	A.D.D.(DESIGN) L.V.S.WEERAKOON		DATE : 20-11-2014
			DRG.No. : DD/D/CP/UVA/B/1262/03-11



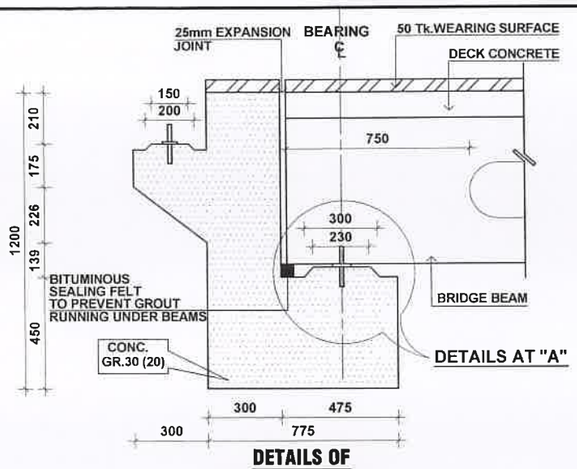
ABUTMENT SECTION A-A

SCALE -1:75



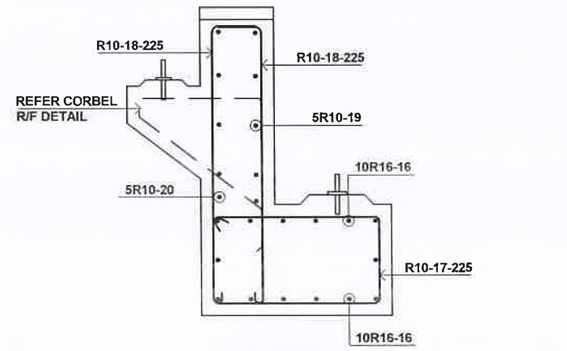
WINGWALL SECTION C-C

SCALE -1:75



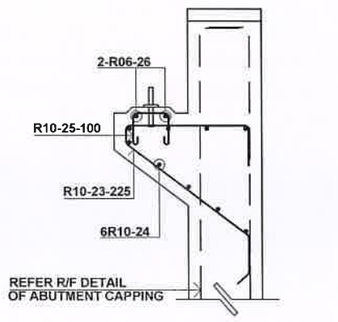
DETAILS OF ABUTMENT CAPPING

SCALE - 1:25



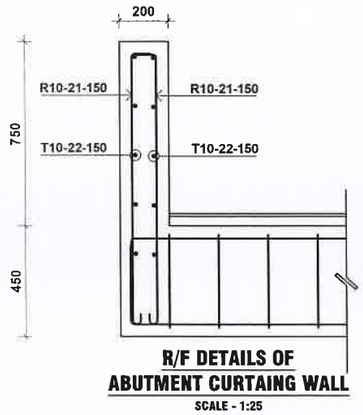
R/F DETAILS OF ABUTMENT CAPPING

SCALE - 1:25



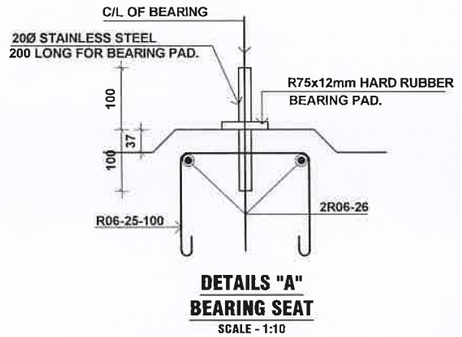
R/F DETAILS OF CORBEL

SCALE - 1:25



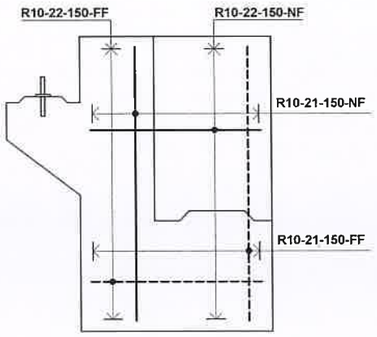
R/F DETAILS OF ABUTMENT CURTAING WALL

SCALE - 1:25



DETAILS "A" BEARING SEAT

SCALE - 1:10



R/F DETAILS OF ABUTMENT CURTAING WALL

SCALE - 1:25

ROAD-RAJAMAWATHA EXTENSION FROM KETAWALA TO MASPANNA ROAD,
LOCATION BRIDGE AT CH 08+380 km

DETAILS OF ABUTMENT, WINGWALL AND CAPPING BEAM

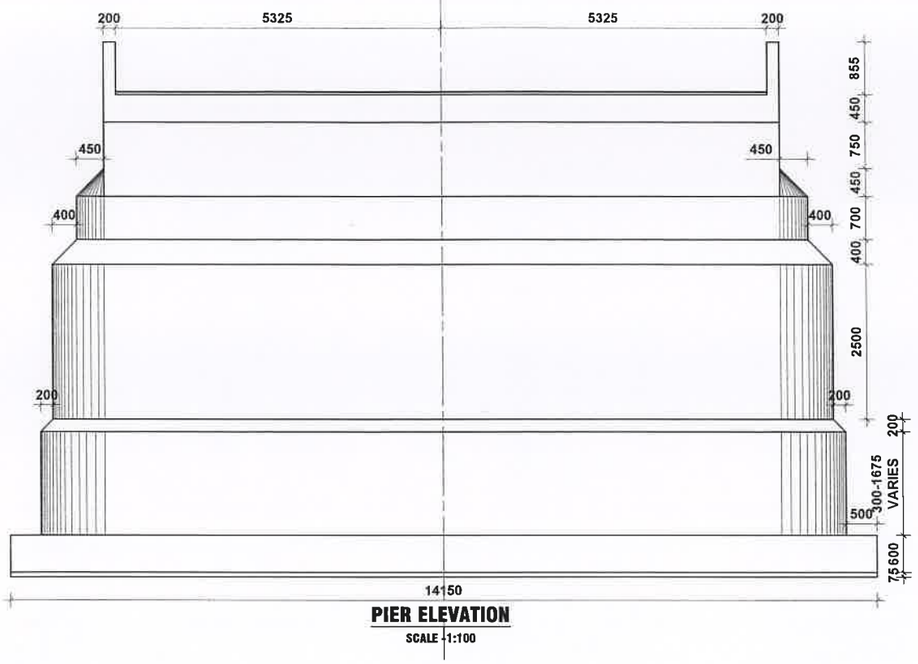
SCALE - 1:50

REV	DESCRIPTION	BY	DATE
00	TENDER ISSUE	RDA	13.03.2023

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

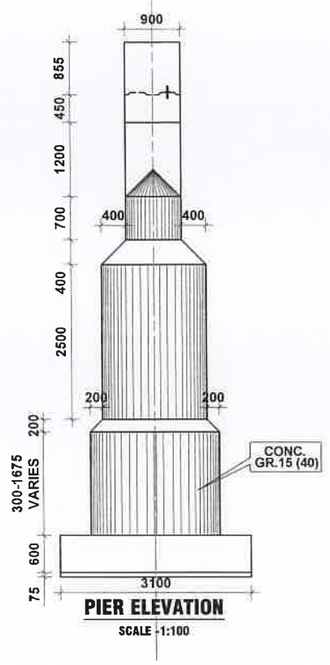
DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B,SAMAGI NIWASA,GANNORUWA RD,PERADENIYA
TEL : 0812388997 FAX : 0812388997 email : docp@rda.gov.lk

SURVEYED & PLOTTED :	DESIGNED : K.P.R.H.RUPASINGHE	DRAWN : JAGATH C RAJAPAKSE	CHECKED : L.G. A. LIYANAGE
C.E. (DESIGN) : S. KUMARA ARACHCHI	A.D.D.(DESIGN) L.V.S.WEERAKOON		DATE : 20-11-2014
			DRG.No. : DD/D/CP/UVA/B/1262/04-11



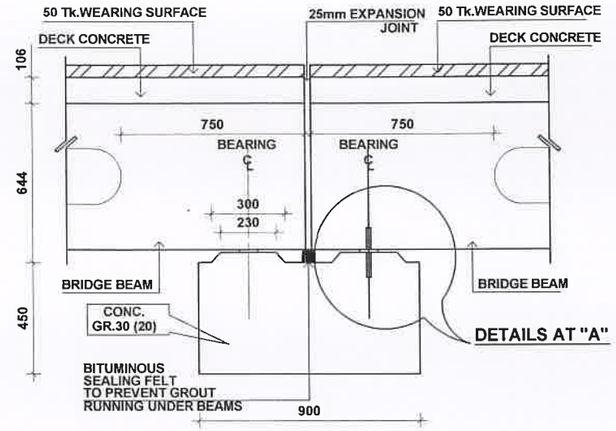
PIER ELEVATION

SCALE -1:100



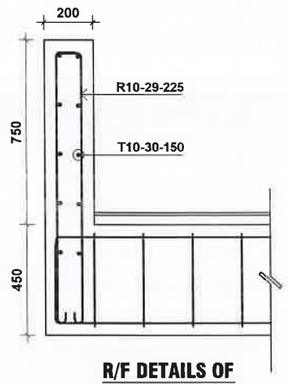
PIER ELEVATION

SCALE -1:100



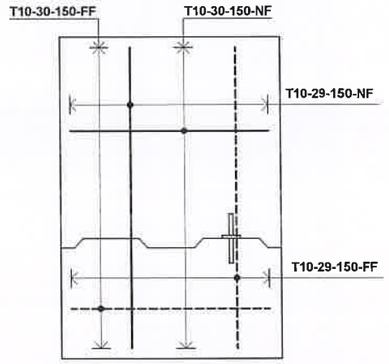
DETAILS OF PIER CAPPING

SCALE - 1:25



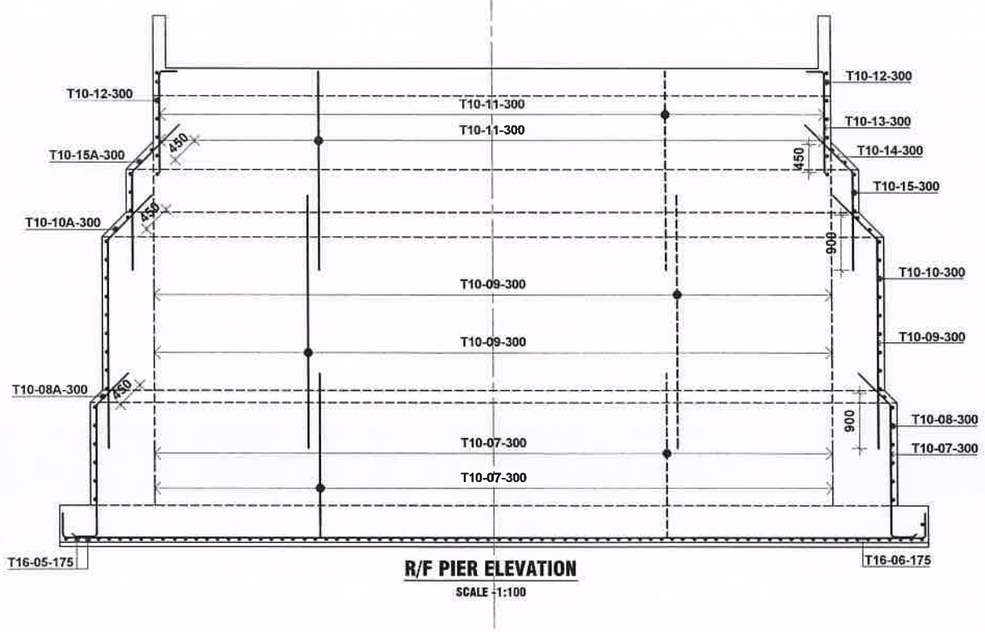
R/F DETAILS OF PIER CURTING WALL

SCALE - 1:25



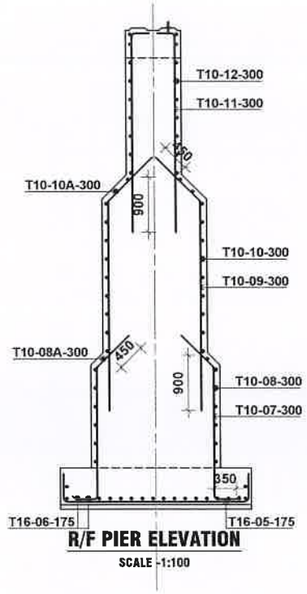
R/F DETAILS OF PIER CURTAING WALL

SCALE - 1:25



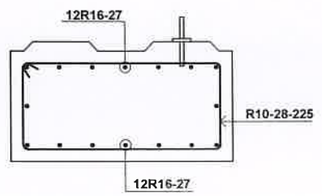
R/F PIER ELEVATION

SCALE -1:100



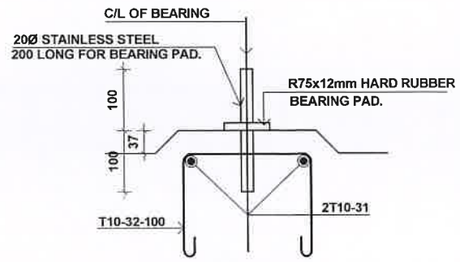
R/F PIER ELEVATION

SCALE -1:100



R/F DETAILS OF PIER CAPPING

SCALE - 1:25



DETAILS "A" BEARING SEAT

SCALE - 1:10

ROAD-RAJAMAWATHA EXTENSION FROM KETAWALA TO MASPANNA ROAD,
LOCATION BRIDGE AT CH 08+380 km

DETAILS OF PIER AND CAPPING BEAM

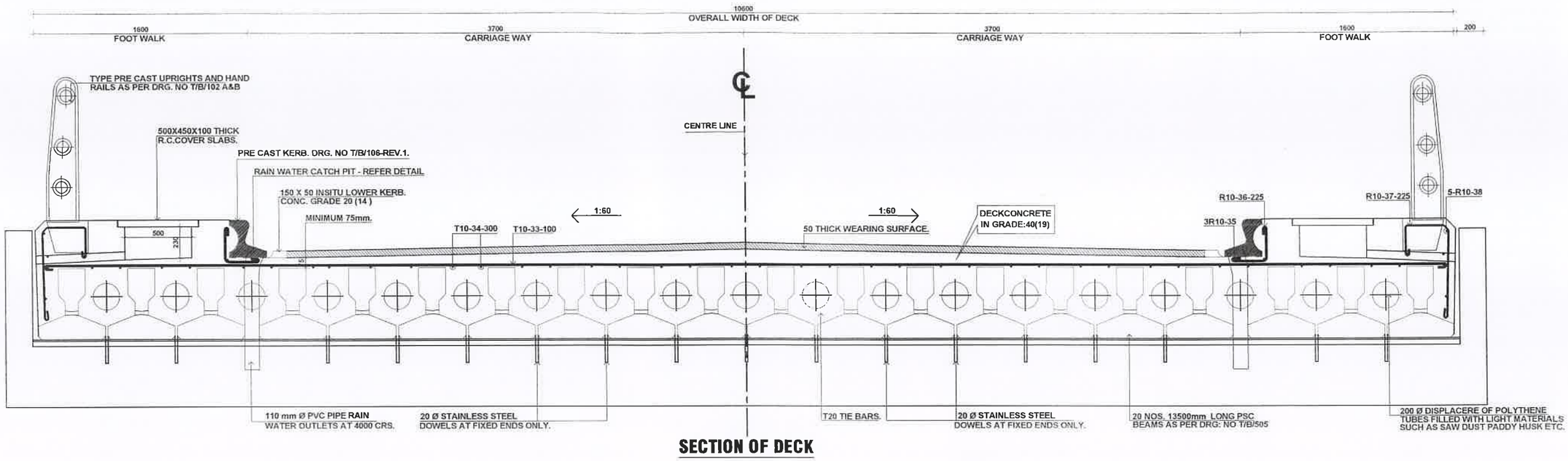
SCALE - 1:50

REV	DESCRIPTION	BY.	DATE
00	TENDER ISSUE	RDA	13.03.2023

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

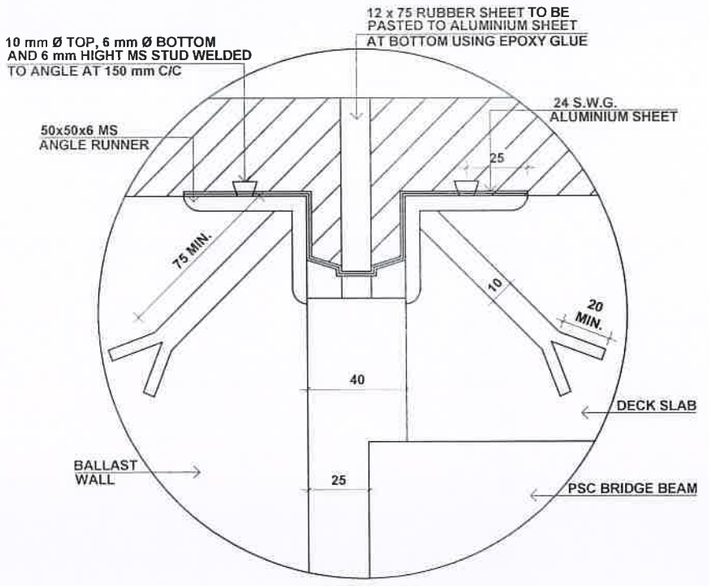
DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B,SAMAGI NIWASA,GANNORUWA RD,PERADENIYA
TEL : 0812388997 FAX : 0812388997 email : docp@rda.gov.lk

SURVEYED & PLOTTED :	DESIGNED : K.P.R.H.RUPASINGHE	DRAWN : JAGATH C RAJAPAKSE	CHECKED : L.G. A. LIYANAGE
C.E. (DESIGN) : S. KUMARA ARACHCHI	A.D.D.(DESIGN) L.V.S WEERAKOON		DATE : 20-11-2014
			DRG.No. : DD/D/CP/UVA/B/1262/05-11



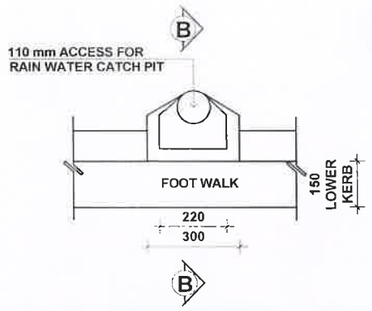
SECTION OF DECK

SCALE - 1:40



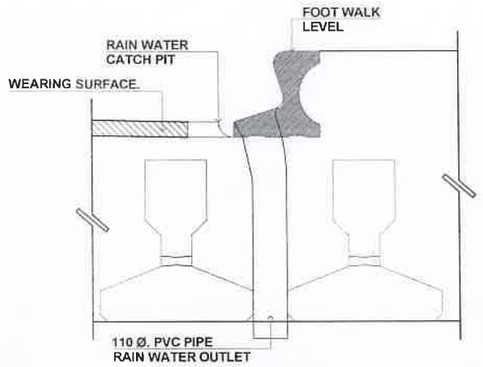
DETAILS OF EXPANSION JOINT

SCALE - 1:2.5



DETAILS OF RAIN WATER CATCH PIT

SCALE - 1:20



SECTION B-B

SCALE - 1:20

ROAD-RAJAMAWATHA EXTENSION FROM KETAWALA TO MASPANNA ROAD,
LOCATION BRIDGE AT CH 08+380 km

DETAILS OF DECK

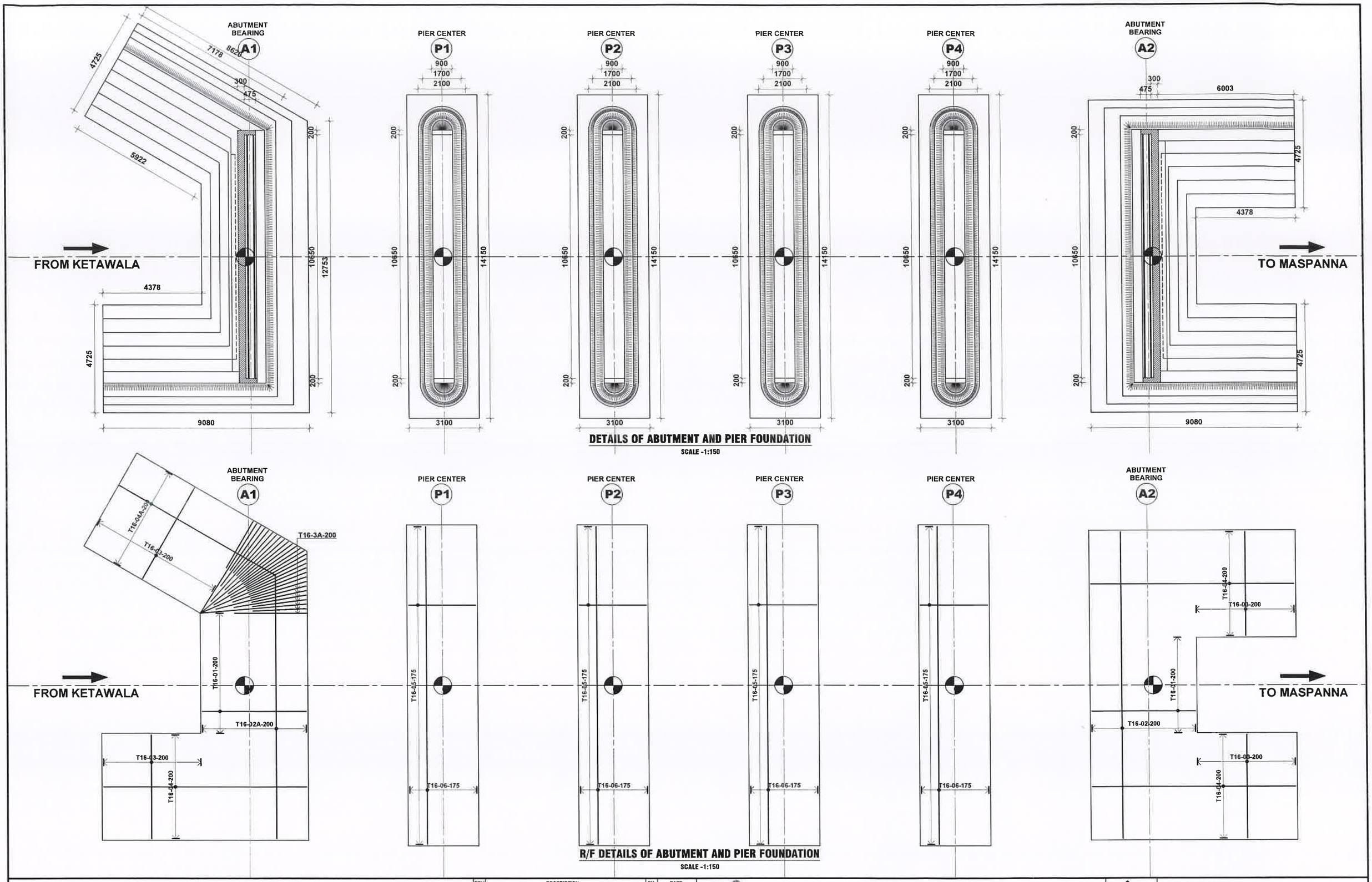
SCALE - 1:50

REV.	DESCRIPTION	BY.	DATE
00	TENDER ISSUE	RDA	13.03.2023

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B,SAMAGI NIWASA,GANNORUWA RD,PERADENIYA
TEL : 0812388997 FAX : 0812388997 email : docp@rda.gov.lk

SURVEYED & PLOTTED :	DESIGNED : K.P.R.H RUPASINGHE	DRAWN : JAGATH C RAJAPAKSE	CHECKED : L.G. A. LIYANAGE
C.E. (DESIGN) : S. KUMARA ARACHCHI	A.D.D. (DESIGN) L.V.S WEERAKOON		DATE : 20-11-2014
			DRG.No. : DD/D/CP/UVA/B/1262/06-11



DETAILS OF ABUTMENT AND PIER FOUNDATION

SCALE -1:150

R/F DETAILS OF ABUTMENT AND PIER FOUNDATION

SCALE -1:150

ROAD-RAJAMAWATHA EXTENSION FROM KETAWALA TO MASPANNA ROAD,
LOCATION BRIDGE AT CH 08+380 km

DETAILS OF ABUTMENT AND PIER FOUNDATION

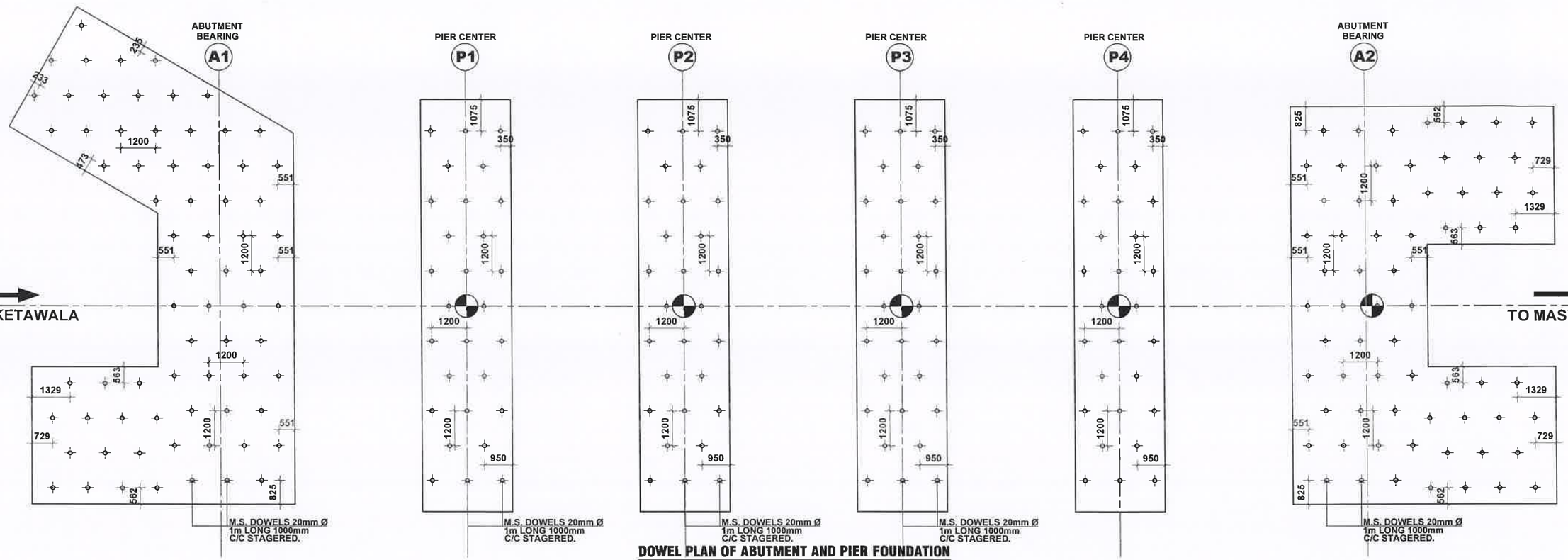
SCALE - 1:50

REV.	DESCRIPTION	BY.	DATE
00	TENDER ISSUE	RDA	13 03 2023

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B,SAMAGI NIWASA,GANNORUWA RD,PERADENIYA
TEL : 0812388997 FAX : 0812388997 email : docp@rda.gov.lk

SURVEYED & PLOTTED :	DESIGNED : K.P.R.H.RUPASINGHE	DRAWN : JAGATH C RAJAPAKSE	CHECKED : L.G. A. LIYANAGE
C.E. (DESIGN) : S. KUMARA ARACHCHI	A.D.D (DESIGN) L.V.S.WEERAKOON		DATE : 20-11-2014
			DRG.No. : DD/D/CP/UVA/B/1262/07-11



DOWEL PLAN OF ABUTMENT AND PIER FOUNDATION

SCALE -1:150

ROAD-RAJAMAWATHA EXTENSION FROM KETAWALA TO MASPANNA ROAD,
LOCATION BRIDGE AT CH 08+380 km

DOWEL PLAN

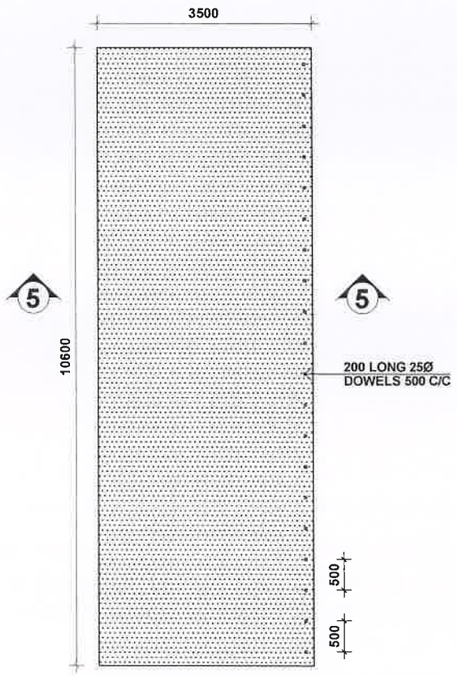
SCALE - 1:50

REV	DESCRIPTION	BY.	DATE
00	TENDER ISSUE	RDA	13.03.2023

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

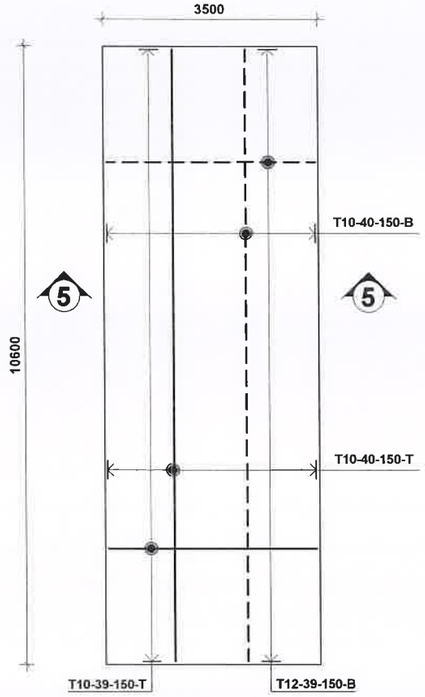
DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B,SAMAGI NIWASA,GANNORUWA RD,PERADENIYA
TEL : 0812388997 FAX : 0812388997 email : docp@rda.gov.lk

SURVEYED & PLOTTED :	DESIGNED : K.P.R.H.RUPASINGHE	DRAWN : JAGATH C RAJAPAKSE	CHECKED : L.G. A. LIYANAGE
C.E. (DESIGN) : S. KUMARA ARACHCHI	A.D.D.(DESIGN) L.V.S.WEERAKOON		DATE : 20-11-2014
			DRG.No. : DD/D/CP/UVA/B/1262/08-11



DETAILS OF APPROACH SLAB

SCALE - 1:100

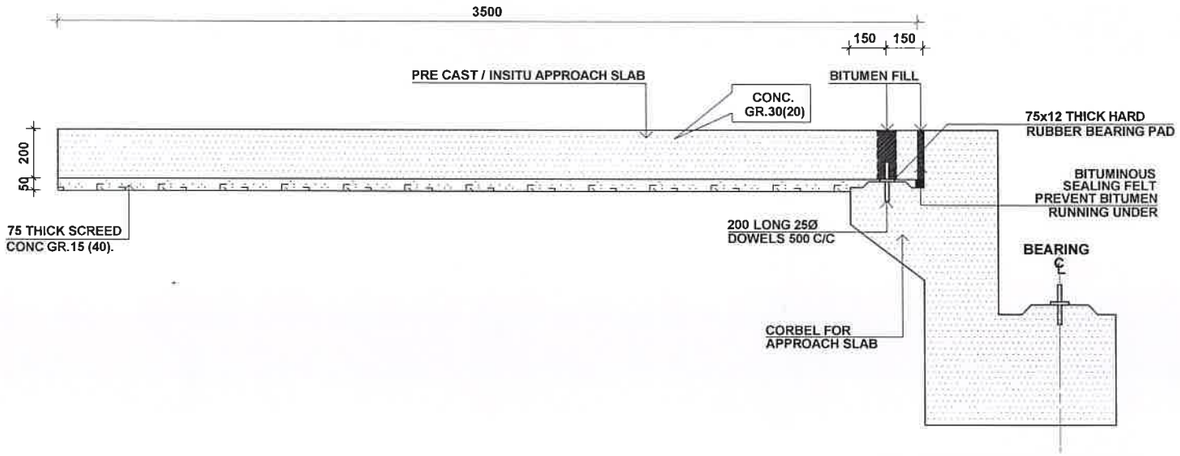


R/F DETAILS OF APPROACH SLAB

SCALE - 1:100

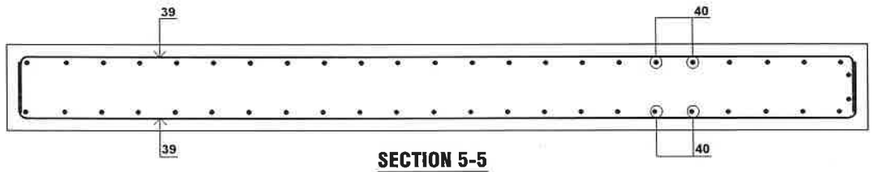
NOTE

1. DIMENSIONS SHALL NOT BE OBTAINED BY SCALING.
2. ALL WORKMANSHIP AND MATERIALS ARE TO BE ACCORDING WITH REQUIREMENTS OF THE SPECIFICATION AND BY LOWS OF THE AUTHORITY.
3. ALL DIMENSIONS ARE IN MILLIMETERS
4. ALL BARS MARKED 'R' SHALL BE HOT ROLLED MILD STEEL PLAIN BARS.
5. ALL BARS MARKED 'T' SHALL BE TOR STEEL.
6. CLEAR COVER TO REINFORCEMENT 40mm UNLESS OTHERWISE STATED.
7. CONCRETE GRADE 25(20)
8. SUITABLE TYPE OF APPROACH SLAB SHOULD BE SELECTED TO SUIT THE BACK FILLING WIDTH BEHIND THE ABUTMENT.
9. FOR INSITU CONSTRUCTION USE CONTINUOS MESHES OF REINFORCEMENT FOR THE ENTIRE WIDTH OF CARRIAGEWAY.



DETAILS OF ABUTMEN CAPPING

SCALE - 1:25



SECTION 5-5

SCALE - 1:25

ROAD-RAJAMAWATHA EXTENSION FROM KETAWALA TO MASPANNA ROAD,
LOCATION BRIDGE AT CH 08+380 km

APPROACH SLAB

SCALE - 1:50

REV	DESCRIPTION	BY	DATE
00	TENDER ISSUE	RDA	13.03.2023

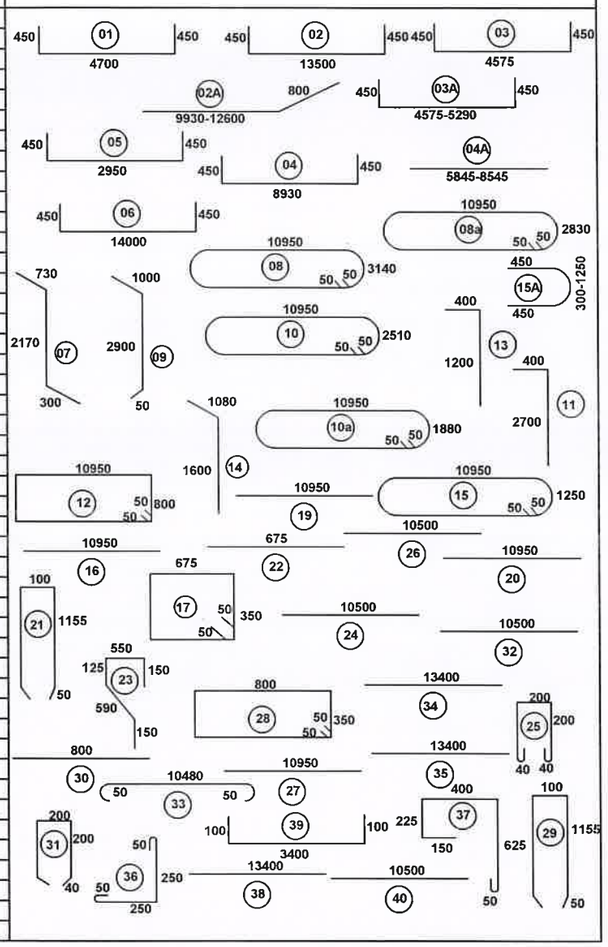
DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B,SAMAGI NIWASA,GANNORUWA RD,PERADENIYA
TEL : 0812388997 FAX : 0812388997 email : docp@rda.gov.lk

SURVEYED & PLOTTED :	DESIGNED : K.P.R.H.RUPASINGHE	DRAWN : JAGATH C RAJAPAKSE	CHECKED : L.G. A. LIYANAGE
C.E. (DESIGN) : S. KUMARA ARACHCHI	A.D.D.(DESIGN) L.V.S.WEERAKOON		DATE : 20-11-2014
			DRG.No. : DD/D/CP/UVA/B/1262/09-11

LOCATION	BAR MARK	BAR TYPE	DIA (mm)	NO.OF BARS	CUT LENGTH (mm)
Abutment & wing wall	01	T	16	44	5600
	02	T	16	25	14400
	02A	T	16	25	12065
	03	T	16	84	5475
	03A	T	16	20	5830
	04	T	16	96	9830
	04A	T	16	24	7195
Pier	05	T	16	324	3850
	06	T	16	72	14900
	07	T	10	388	3200
	08	T	10	24	28280
	08a	T	10	04	27660
	09	T	10	368	3950
	10	T	10	36	27020
	10a	T	10	04	25760
	11	T	10	366	3100
	12	T	10	24	23600
	13	T	10	32	1600
	14	T	10	32	2680
	15	T	10	12	24500
	15a	T	10	12	1675
Abutment capping	16	R	16	20	10950
	17	R	10	100	2150
	18	R	10	100	2400
	19	R	10	10	10950
	20	R	10	10	10950
	21	R	10	20	2510
	22	T	10	40	675
	23	R	10	96	1565
	24	R	10	12	10500
	25	R	06	420	680
	26	R	06	08	10500
Pier capping	27	R	16	48	10950
	28	R	10	200	2400
	29	R	10	40	2510
	30	T	10	80	800
	31	R	06	840	680
	32	R	06	16	10500
Deck	33	T	10	450	10580
	34	T	10	180	13400
	35	R	10	30	13400
	36	R	10	600	600
	37	R	10	600	1450
	38	R	10	50	13400
Approch slab	39	T	10	284	3600
	40	T	10	96	10500

SHAPE



NOTES

CONCRETE

Use following concrete grades for structures or part of a structure as indicated below in accordance with specifications.

ABUTMENT & wingwall - KETAWALA END

a.	Screed Conc.	=	GR. 15 (40)
b.	Foundation	=	GR. 30 (20)
c.	Stem	=	GR. 15 (40)
d.	Capping	=	GR. 30 (20)

PIER

a.	Screed Conc.	=	GR. 15 (40)
b.	Foundation	=	GR. 30 (20)
c.	Stem	=	GR. 15 (40)
d.	Capping	=	GR. 30 (20)

ABUTMENT & Wingwall - MASPANNA END

a.	Screed Conc.	=	GR. 15 (40)
b.	Foundation	=	GR. 30 (20)
c.	Stem	=	GR. 15 (40)
d.	Capping	=	GR. 30 (20)

REINFORCEMENT

a. All bar marked "Y" shall be high yield deformed bars of yield strength not less than 460 N/mm² and all marked "R" shall not be rolled mild steel plain bars of yield strength not less than 250 N/mm²

b. Bars of cut length larger than the supplied length to be lapped with length of 50 Ø,where Ø is the diameter and lapping should be staggered with length of 50 Ø,where Ø is the diameter

c. Reinforcement bars shall be bent accordance with standard specifications.

d. Clear concrete cover for reinforcement
- Capping beam - 75 mm
- Abutment foundation - 75 mm

SPECIAL NOTES

All the constructions shall be in accordance with

a. Standards specification for construction & maintenance of Road & Bridges. Second Edition June 2009 ICTAD

b. Specification for Building Works (Volume I) - ICTAD

c. Specification for Building Works (Volume II) - ICTAD

ROAD-RAJAMAWATHA EXTENSION FROM KETAWALA TO MASPANNA ROAD,
LOCATION BRIDGE AT CH 08+380 km

DETAILS OF BAR SCHEDULE

SCALE - 1:50

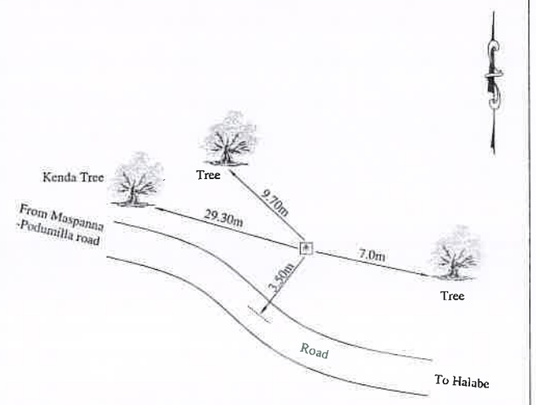
REV	DESCRIPTION	BY.	DATE
00	TENDER ISSUE	RDA	13.03.2023

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B,SAMAGI NIWASA,GANNORUWA RD,PERADENIYA
TEL : 0812388997 FAX : 0812388997 email : docp@rda.gov.lk

SURVEYED & PLOTTED :	DESIGNED : K.P.R.H.RUPASINGHE	DRAWN : JAGATH C RAJAPAKSE	CHECKED : L.G. A. LIYANAGE
C.E. (DESIGN) : S. KUMARA ARACHCHI	A.D.D (DESIGN) L.V.S.WEERAKOON		DATE : 20-11-2014
			DRG.No. : DD/D/CP/UVA/B/1262/10-11

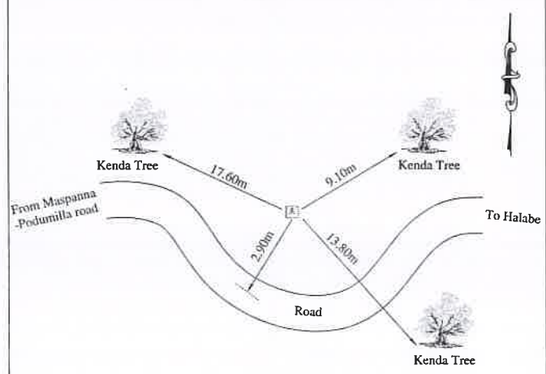
DESCRIPTION OF GPS CONTROL POINT			Point No: GPS 10
PROVINCE	Uva	DISTRICT	Badulla
D.S.DIVISION	Uva Paranagama	STATION	Dalukella
PREPARED BY:		CHECKED BY:	
NAME	J.M.K.R. Jayasekara	NAME	P.L.Y. Seneviratne
DESIGNATION	Govt. Surveyor	DESIGNATION	Supdt. of Surveys
DATE	2014.07.25	DATE	2014.07.



Remarks :

MONUMENT TYPE: A6							GEODETIC ID: 71C20072		
WGS 84 COORDINATES							NATIONAL GRID COORDINATES		
LATITUDE			LONGITUDE			ELLIPSOIDAL HEIGHT (m)	NORTHING (m)	EASTING (m)	EVEREST HEIGHT (m)
°	'	"	°	'	"				
7	00	21.42563	80	58	11.72049	472.341	500573.705	521675.481	-
REQUISITION NO:						MISSION	PROJECT		
ISM/2014/BD/51						TGPS	Kandy-Badulla Rajamawatha(MAGA Engineering)		

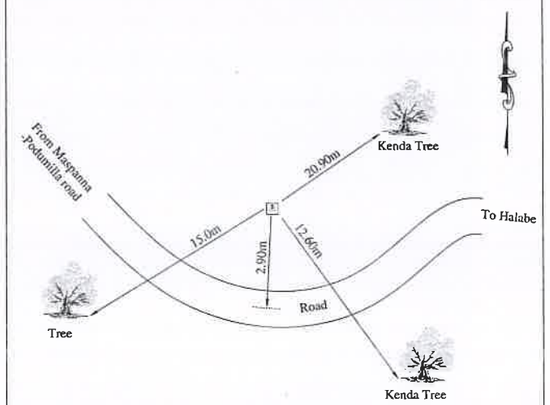
DESCRIPTION OF GPS CONTROL POINT			Point No: GPS 11
PROVINCE	Uva	DISTRICT	Badulla
D.S.DIVISION	Uva Paranagama	STATION	Dalukella
PREPARED BY:		CHECKED BY:	
NAME	J.M.K.R. Jayasekara	NAME	P.L.Y. Seneviratne
DESIGNATION	Govt. Surveyor	DESIGNATION	Supdt. of Surveys
DATE	2014.07.25	DATE	2014.07.



Remarks :

MONUMENT TYPE: A6							GEODETIC ID: 71C20073		
WGS 84 COORDINATES							NATIONAL GRID COORDINATES		
LATITUDE			LONGITUDE			ELLIPSOIDAL HEIGHT (m)	NORTHING (m)	EASTING (m)	EVEREST HEIGHT (m)
°	'	"	°	'	"				
7	00	21.23985	80	58	10.48263	472.521	500567.983	521637.493	-
REQUISITION NO:						MISSION	PROJECT		
ISM/2014/BD/51						TGPS	Kandy-Badulla Rajamawatha(MAGA Engineering)		

DESCRIPTION OF GPS CONTROL POINT			Point No: GPS 12
PROVINCE	Uva	DISTRICT	Badulla
D.S.DIVISION	Uva Paranagama	STATION	Dalukella
PREPARED BY:		CHECKED BY:	
NAME	J.M.K.R. Jayasekara	NAME	P.L.Y. Seneviratne
DESIGNATION	Govt. Surveyor	DESIGNATION	Supdt. of Surveys
DATE	2014.07.25	DATE	2014.07.



Remarks :

MONUMENT TYPE: A6							GEODETIC ID: 71C20074		
WGS 84 COORDINATES							NATIONAL GRID COORDINATES		
LATITUDE			LONGITUDE			ELLIPSOIDAL HEIGHT (m)	NORTHING (m)	EASTING (m)	EVEREST HEIGHT (m)
°	'	"	°	'	"				
7	00	21.21434	80	58	09.25906	472.319	500567.184	521599.942	-
REQUISITION NO:						MISSION	PROJECT		
ISM/2014/BD/51						TGPS	Kandy-Badulla Rajamawatha(MAGA Engineering)		

ROAD-RAJAMAWATHA EXTENSION FROM KETAWALA TO MASPANNA ROAD,
LOCATION BRIDGE AT CH 08+380 km

GPS CONTROL POINT

SCALE - 1:50

REV.	DESCRIPTION	BY.	DATE
00	TENDER ISSUE	RDA	13.03.2023

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B,SAMAGI NIWASA,GANNORUWA RD,PERADENIYA
TEL : 0812388997 FAX : 0812388997 email : docp@rda.gov.lk

SURVEYED & PLOTTED :

DESIGNED :
K.P.R.H.RUPASINGHE

DRAWN :
JAGATH C RAJAPAKSE

CHECKED :
L.G. A. LIYANAGE

C.E. (DESIGN) :
S. KUMARA ARACHCHI

A.D.D.(DESIGN)
L.V.S.WEERAKOON

DATE : 20-11-2014

DRG.No. : DD/D/CP/UVA/B/1262/11-11

GOVERNMENT OF DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS AND TRANSPORT

ROAD DEVELOPMENT AUTHORITY

CONSTRUCTION OF RAJA MAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA
(CH 07+560– CH 09+300)

DETAILED ENGINEERING DESIGNS
GEOMETRIC DESIGN DRAWINGS

MARCH 2023

Design Office (Central Province)
Road Development Authority
6B, Gannoruwa,
Peradeniya

CONTENTS

: GEOMETRIC DESIGN DRAWINGS

1.1 General Details

1.2 Plan & Profile

1.3 Typical road cross sections

1.4 Pavement design thicknesses

1.5 Structures

CONSTRUCTION OF RAJA MAWATHA EXTENTION ROAD FROM KETAWALA TO MASPANNA (CH 7+560– CH9+300km)

: GEOMETRIC DESIGN DRAWINGS,

1.1 – GENERAL DETAILS

LEGEND

Existing ground features	
	North Direction
	Edge of existing road
CUL	Culvert / Bridge No.
	Stream/River etc.
	Tree
	Railway Track
RW	Retaining Wall
● KMP (No.)	Kilometer post No.
	RDA Boundary stone
● SB/DB/NB	Sign Board/Direction Board/Named Board
● AdB	Advertising Board

Utility etc.	
	Lamp Post
	Electric Post
	Electric Post (High Tension)
	Transmission Tower
TF	Transformer (Electrical)
MHE	Man hole (Electrical)
	Telephone Post
CB	Telephone Booth
MHT	Man hole (Telecom)
TCB	Telephone cable box
● PB	Post Box
WPL	Water Pipe line
ECB	Electric cable box
WTH	Water tank (Over head)
WTP	Water Tap
MHW	Man hole (Water)
MH	Man hole
TUW	Tube Well
	Fire Hydrent

CP	Concrete post
MHS	Manhole Sewer
MHD	Manhole Dialog
GL	Gully
V	Valve
ECB	Electric Cable Box
TSP	Traffic Signal Post
FB	Flower Bed
WM	Water Main Marker
GS	Gurd stone
M	Memorial
BL	Building Lavatory
	Exiting Sluice Valve
	Sluice Valve/Section Valve
	Road
	Proposed 225mm dia.pipe line
	Flow Meters
	Existing Pipe line

Boundaries, Fences etc.	
U	Undefined
IF	Iron Fence
WFC	Wire on concrete post
WFI	Wire on iron post
CFC	Chain link fence concrete post
CFI	Chain link fence iron post
W	Boundary Wall
WF	Wire fence
TB	Bank Top
BB	Bank Bottom
ABF	Asbestos Fence
WMF	Wire Mesh Fence
ZF	Zinc Fence

DF	Dry Fence
GR	Guard rail

Buildings , Houses, shops etc.	
P	Permanent Building
Ty	Temporary Building
TRS	Tiled Roofed Shop
TRG	Tiled Roofed Garage
ARH	Asbestos Roofed House
ARS	Asbestos Roofed Shop
TinRH	Tin Roofed House
TinRS	Tin Roofed Shop
TH	Temporary Hut
C/rbldg	Concrete Roofed Building
BS	Bus Shelter
BUC	Building Under Construction
G	Gate

Design notations and abbreviations Vertical Geometry	
G	Gradient
△ IP	Point of intersection of gradient
V.C.L.	Vertical Curve length
K	Curve coefficient
PT	Point
STA:	Station
ELEV:	Elevation
BVCS:	Vertical Tangent-Curve Intersect Station
BVCE:	Vertical Tangent-Curve Intersect Elevation
EVCS:	Vertical Curve-Tangent Intersect Station
EVCE:	Vertical Curve-Tangent Intersect Elevation
VCCS:	Vertical Compound Curve Intersect Station
VCCE:	Vertical Compound Curve Intersect Elevation

Proposed ground features	
	Center Line
	Edge of carriageway
	Edge of shoulder
	Acquisition boundary
	Finished ground profile
	Existing ground profile
	Shoulder edge Profile
	Drain invert Profile
	Flow direction
	Embankment
BM/CP/GPS(No)	Bench Mark /Control Point/GPS Point (No)
TBM(No)	Temporary bench mark (No)
	Traverse line

Design notations and abbreviations Horizontal Geometry	
CH	CHAINAGE
PC	Tangent - curve intersect
PCC	Curve - curve intersect
PT	Curve - tangent intersect
R	Radius of curvature
Off:	Offfset
l & r	Difference in levels between left or right edge of carriageway & centerline

DRAIN	
	Exisiting Drain
CDn	Covered Drain
SDn	Shoe Drain
MDn	Masonry Drain
EDn	Earth Drain
Udn	Under Ground Drain

CONSTRUCTION OF RAJA MAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA.
(FROM CH7+560 TO 9+300 km)

LEGEND

SCALE - N.T.S

REV	DESCRIPTION	BY	DATE
			28-11-2011

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
6B,GANNORUWA, PERADENIYA.
TEL : 0812388997 FAX : 0812388997 email : docpkandy@gmail.com

SURVEYED & PLOTTED :
DESIGNED :
DRAWN :
CHECKED :

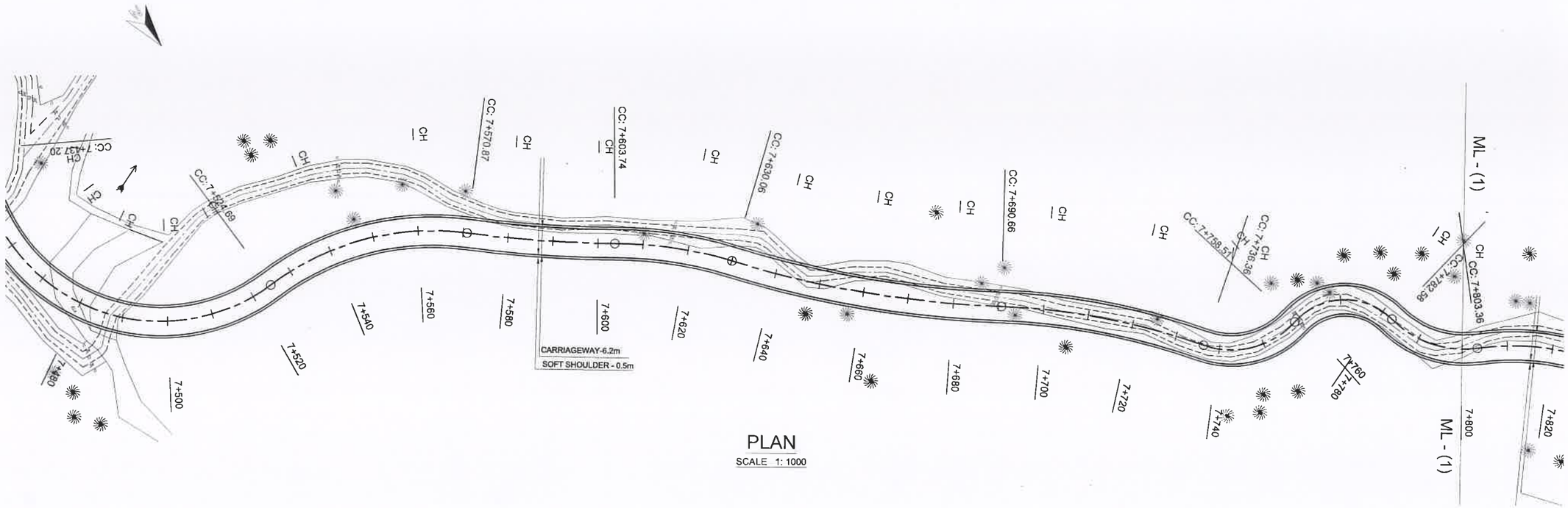
C.E. (DESIGN) : K.AS.B.KUMARA ARACHCHI
D.D (DESIGN) L.V S.WEERAKOON

DATE : 23-03-2023
DRG.No. : DD/D/UVA/H/1267/1.1/01(01)

CONSTRUCTION OF RAJA MAWATHA EXTENTION ROAD FROM KETAWALA TO MASPANNA (CH 7+560– CH9+300km)

: GEOMETRIC DESIGN DRAWINGS,

1.2 – PLAN, SETTING OUT DATA & PROFILE



PLAN

SCALE 1: 1000

Station	Northing(m)	Easting(m)
7+500.00	499720.745	523497.459
7+505.00	499723.409	523493.232
7+510.00	499725.539	523488.711
7+515.00	499727.103	523483.966
7+520.00	499728.079	523479.065
7+525.00	499728.453	523474.082
7+530.00	499728.792	523469.095
7+535.00	499729.545	523464.153
7+540.00	499730.707	523459.292
7+545.00	499732.270	523454.544
7+550.00	499734.222	523449.942
7+555.00	499736.551	523445.519
7+560.00	499739.239	523441.305
7+565.00	499742.270	523437.330
7+570.00	499745.620	523433.621
7+575.00	499749.146	523430.076
7+580.00	499752.606	523426.467
7+585.00	499755.995	523422.790
7+590.00	499759.309	523419.046
7+595.00	499762.549	523415.238
7+600.00	499765.712	523411.366
7+605.00	499768.808	523407.440
7+610.00	499772.036	523403.623
7+615.00	499775.472	523399.991
7+620.00	499779.104	523396.555
7+625.00	499782.921	523393.327
7+630.00	499786.912	523390.315
7+635.00	499790.956	523387.375
7+640.00	499794.936	523384.349
7+645.00	499798.849	523381.237
7+650.00	499802.695	523378.042
7+655.00	499806.471	523374.765
7+660.00	499810.176	523371.407
7+665.00	499813.807	523367.970
7+670.00	499817.363	523364.456
7+675.00	499820.843	523360.865
7+680.00	499824.245	523357.201
7+685.00	499827.567	523353.464
7+690.00	499830.807	523349.657
7+695.00	499834.045	523345.846
7+700.00	499837.406	523342.145
7+705.00	499840.888	523338.557
7+710.00	499844.488	523335.087
7+715.00	499848.201	523331.740
7+720.00	499852.024	523328.518
7+725.00	499855.953	523325.425
7+730.00	499859.982	523322.464
7+735.00	499864.108	523319.640
7+740.00	499868.093	523316.637
7+745.00	499871.201	523312.738
7+750.00	499873.187	523308.165
7+755.00	499873.915	523303.233
7+760.00	499873.466	523298.260
7+765.00	499873.944	523293.306
7+770.00	499876.017	523288.782
7+775.00	499879.457	523285.185
7+780.00	499883.884	523282.911
7+785.00	499888.773	523281.890
7+790.00	499893.461	523280.180
7+795.00	499897.670	523277.499

SETTING OUT DATA OF C/L

CONSTRUCTION OF RAJA MAWATHA EXTENTION ROAD FROM KETAWALA TO MASPENNA
SECTION FROM CH (7+500 - 9+300)Km

PLAN AND SETTING OUT DATA - CH(7+500-7+800)Km

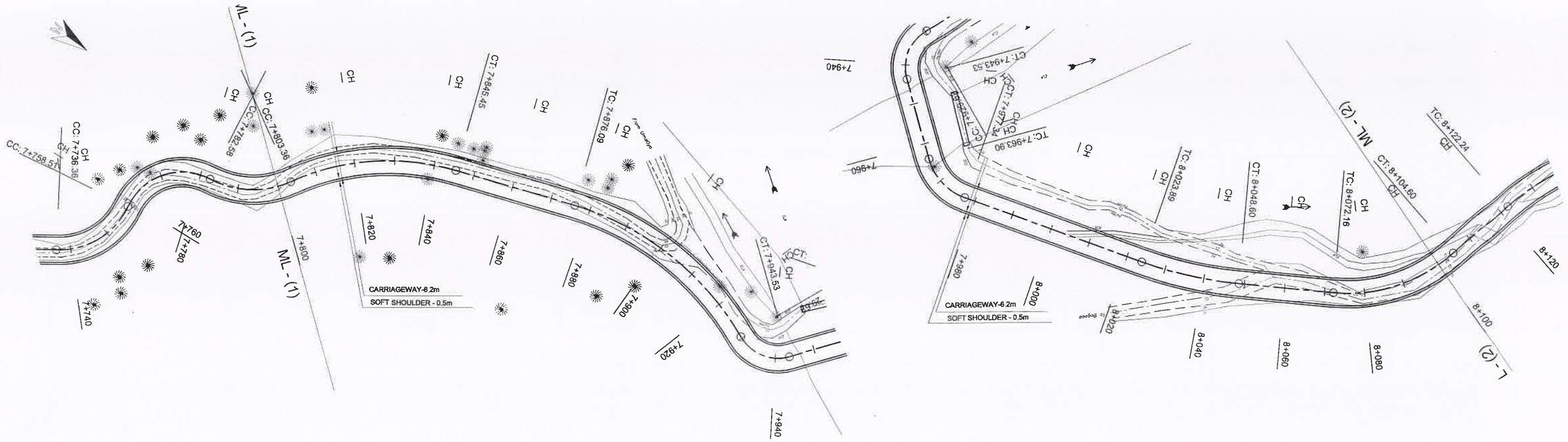
SCALE -1:1000

REV	DESCRIPTION	BY	DATE

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS & TRANSPORT

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
6B,GANNORUWA, PERADENIYA.
TEL : 0812388997 FAX : 0812388997 email : docpkandy@gmail.com

SURVEYED & PLOTTED :	DESIGNED : K.A.S.B. KUMARA ARACHCHI	DRAWN : B.K. RANASINGHE	CHECKED : R.I.P. SOMARATHNA
C.E. (DESIGN) : K.A.S.B. KUMARA ARACHCHI	D.D(DESIGN) L.V.S.WEERAKOON		DATE : 2023-03-23
			DRG.No. : DD/D/UVA/H/1267/1.2/1/01(06)



PLAN

SCALE 1: 1000

Station	Northing(m)	Easting(m)
7+800.00	499901.201	523273.973
7+805.00	499903.959	523269.808
7+810.00	499906.781	523265.683
7+815.00	499909.938	523261.807
7+820.00	499913.406	523258.207
7+825.00	499917.161	523254.908
7+830.00	499921.179	523251.934
7+835.00	499925.429	523249.304
7+840.00	499929.884	523247.037
7+845.00	499934.513	523245.149
7+850.00	499939.229	523243.488
7+855.00	499943.946	523241.829
7+860.00	499948.662	523240.170
7+865.00	499953.379	523238.511
7+870.00	499958.096	523236.852
7+875.00	499962.813	523235.193
7+880.00	499967.564	523233.638
7+885.00	499972.411	523232.418
7+890.00	499977.334	523231.547
7+895.00	499982.306	523231.029
7+900.00	499987.302	523230.868
7+905.00	499992.297	523231.063
7+910.00	499997.266	523231.615
7+915.00	500002.182	523232.519
7+920.00	500007.022	523233.772
7+925.00	500011.759	523235.368
7+930.00	500016.374	523237.290
7+935.00	500021.269	523238.042
7+940.00	500025.965	523236.465
7+945.00	500029.498	523232.972
7+950.00	500032.612	523229.060
7+955.00	500035.726	523225.148
7+960.00	500038.841	523221.237
7+965.00	500041.921	523217.299
7+970.00	500043.928	523212.749
7+975.00	500044.219	523207.784
7+980.00	500042.992	523202.944
7+985.00	500041.576	523198.149
7+990.00	500040.160	523193.353
7+995.00	500038.744	523188.558
8+000.00	500037.328	523183.763
8+005.00	500035.912	523178.967
8+010.00	500034.496	523174.172
8+015.00	500033.080	523169.377
8+020.00	500031.664	523164.582
8+025.00	500030.242	523159.788
8+030.00	500028.654	523155.047
8+035.00	500026.831	523150.392
8+040.00	500024.778	523145.834
8+045.00	500022.500	523141.384
8+050.00	500020.010	523137.048
8+055.00	500017.464	523132.744
8+060.00	500014.919	523128.441
8+065.00	500012.373	523124.137
8+070.00	500009.828	523119.834
8+075.00	500007.196	523115.584
8+080.00	500004.102	523111.660
8+085.00	500000.543	523108.153
8+090.00	499996.575	523105.117
8+095.00	499992.259	523102.599

SETTING OUT DATA OF C/L

CONSTRUCTION OF RAJA MAWATHA EXTENTION ROAD FROM KETAWALA TO MASPENNA
SECTION FROM CH (7+500 - 9+300)Km

PLAN AND SETTING OUT DATA - CH(7+800-8+100)Km

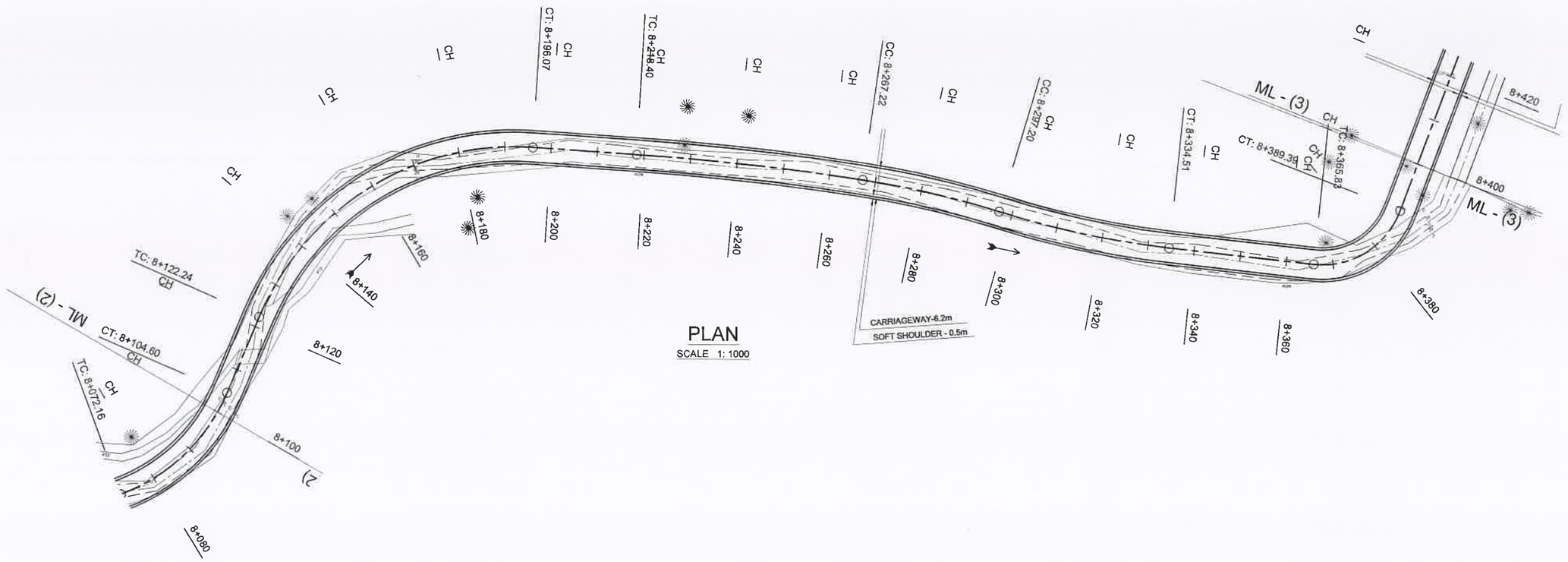
SCALE -1:1000

REV	DESCRIPTION	BY	DATE

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS & TRANSPORT

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
6B,GANNORUWA, PERADENIYA.
TEL : 0812388997 FAX : 0812388997 email : docpkandy@gmail.com

SURVEYED & PLOTTED :	DESIGNED : K.A.S.B. KUMARA ARACHCHI	DRAWN : B.K. RANASINGHE	CHECKED : R.I.P. SOMARATHNA
C.E. (DESIGN) : K.A.S.B. KUMARA ARACHCHI	D.D(DESIGN) L.V.S.WEERAKOON		DATE : 2023-03-23
			DRG.No. : DD/D/UVA/H/1267/1.2/1/02(05)



PLAN

SCALE 1: 1000

Station	8+100.00	8+105.00	8+110.00	8+115.00	8+120.00	8+125.00	8+130.00	8+135.00	8+140.00	8+145.00	8+150.00	8+155.00	8+160.00	8+165.00	8+170.00	8+175.00	8+180.00	8+185.00	8+190.00	8+195.00	8+200.00	8+205.00	8+210.00	8+215.00	8+220.00	8+225.00	8+230.00	8+235.00	8+240.00	8+245.00	8+250.00	8+255.00	8+260.00	8+265.00	8+270.00	8+275.00	8+280.00	8+285.00	8+290.00	8+295.00	8+300.00	8+305.00	8+310.00	8+315.00	8+320.00	8+325.00	8+330.00	8+335.00	8+340.00	8+345.00	8+350.00	8+355.00	8+360.00	8+365.00	8+370.00	8+375.00	8+380.00	8+390.00	8+395.00
Northing(m)	499987.663	499982.858	499977.985	499973.112	499968.238	499963.380	499958.625	499954.014	499949.580	499945.354	499941.365	499937.640	499934.205	499931.084	499928.300	499925.870	499923.813	499922.142	499920.869	499920.003	499919.421	499918.849	499918.277	499917.705	499917.134	499916.596	499916.100	499915.644	499915.230	499914.858	499914.528	499914.238	499913.991	499913.785	499913.634	499913.599	499913.690	499913.905	499914.245	499914.710	499915.260	499915.711	499916.036	499916.237	499916.312	499916.263	499916.089	499915.790	499915.441	499915.092	499914.742	499914.393	499914.044	499913.694	499912.867	499910.741	499907.460	499903.277	499898.512	499893.604
Easting(m)	523100.639	523099.265	523098.147	523097.028	523095.910	523094.730	523093.190	523091.259	523088.951	523086.282	523083.270	523079.937	523076.306	523072.401	523068.250	523063.881	523059.326	523054.615	523049.781	523044.858	523039.892	523034.925	523029.958	523024.991	523020.023	523015.052	523010.077	523005.098	523000.115	522995.129	522990.140	522985.148	522980.154	522975.159	522970.161	522965.161	522960.162	522955.167	522950.179	522945.200	522940.231	522935.251	522930.262	522925.266	522920.267	522915.267	522910.270	522905.279	522900.292	522895.304	522890.316	522885.328	522880.340	522875.353	522870.436	522865.928	522862.176	522859.468	522858.000	522857.048

SETTING OUT DATA OF C/L

CONSTRUCTION OF RAJA MAWATHA EXTENTION ROAD FROM KETAWALA TO MASPENNA
SECTION FROM CH (7+500 - 9+300)Km

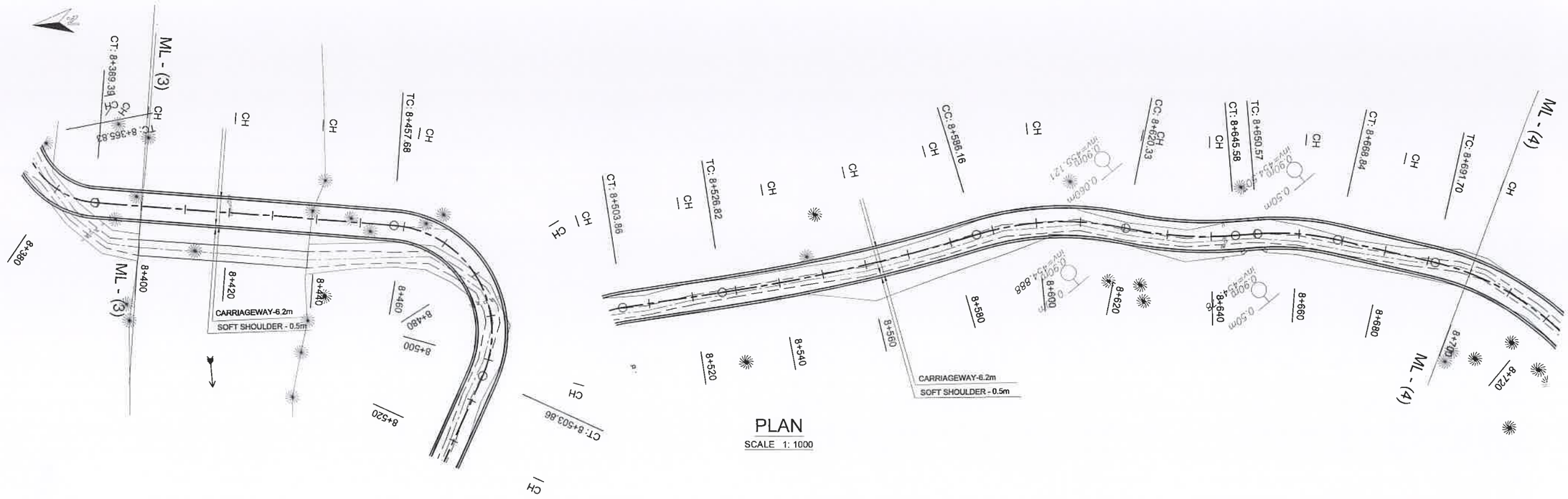
PLAN AND SETTING OUT DATA - CH(8+100-8+400)Km | SCALE -1:1000

REV	DESCRIPTION	BY.	DATE

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS & TRANSPORT

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
6B,GANNORUWA, PERADENIYA.
TEL : 0812388997 FAX : 0812388997 email : docpkandy@gmail.com

SURVEYED & PLOTTED :
DESIGNED : K.A.S.B. KUMARA ARACHCHI
DRAWN : B.K. RANASINGHE
CHECKED : R.I.P. SOMARATHNA
C.E. (DESIGN) : K.A.S.B. KUMARA ARACHCHI
D.D(DESIGN) L.V.S.WEERAKOON
DATE : 2023-03-23
DRG.No. : DD/D/UVA/H/1267/1.2/1/03(06)



PLAN

SCALE 1: 1000

Station	Northing(m)	Easting(m)
8+400.00	499888.695	522856.096
8+405.00	499883.787	522855.144
8+410.00	499878.878	522854.192
8+415.00	499873.970	522853.239
8+420.00	499869.061	522852.287
8+425.00	499864.153	522851.335
8+430.00	499859.244	522850.383
8+435.00	499854.336	522849.431
8+440.00	499849.427	522848.479
8+445.00	499844.519	522847.527
8+450.00	499839.610	522846.575
8+455.00	499834.702	522845.622
8+460.00	499829.818	522844.561
8+465.00	499825.206	522842.653
8+470.00	499821.089	522839.832
8+475.00	499817.644	522836.221
8+480.00	499815.020	522831.975
8+485.00	499813.332	522827.279
8+490.00	499812.651	522822.334
8+495.00	499813.008	522817.356
8+500.00	499814.386	522812.559
8+505.00	499816.704	522808.137
8+510.00	499819.295	522803.860
8+515.00	499821.886	522799.584
8+520.00	499824.476	522795.308
8+525.00	499827.067	522791.031
8+530.00	499829.647	522786.748
8+535.00	499832.177	522782.436
8+540.00	499834.653	522778.092
8+545.00	499837.074	522773.717
8+550.00	499839.441	522769.313
8+555.00	499841.752	522764.879
8+560.00	499844.007	522760.416
8+565.00	499846.207	522755.926
8+570.00	499848.350	522751.409
8+575.00	499850.437	522746.865
8+580.00	499852.467	522742.296
8+585.00	499854.439	522737.701
8+590.00	499856.470	522733.133
8+595.00	499858.820	522728.721
8+600.00	499861.488	522724.494
8+605.00	499864.460	522720.474
8+610.00	499867.719	522716.684
8+615.00	499871.247	522713.143
8+620.00	499875.026	522709.871
8+625.00	499878.862	522706.664
8+630.00	499882.514	522703.250
8+635.00	499885.971	522699.638
8+640.00	499889.222	522695.840
8+645.00	499892.257	522691.868
8+650.00	499895.157	522687.794
8+655.00	499898.186	522683.818
8+660.00	499901.533	522680.106
8+665.00	499905.177	522676.685
8+670.00	499909.087	522673.570
8+675.00	499913.074	522670.552
8+680.00	499917.060	522667.534
8+685.00	499921.047	522664.516
8+690.00	499925.033	522661.498
8+695.00	499929.073	522658.553

SETTING OUT DATA OF C/L

CONSTRUCTION OF RAJA MAWATHA EXTENTION ROAD FROM KETAWALA TO MASPENNA
SECTION FROM CH (7+500 - 9+300)Km

PLAN AND SETTING OUT DATA - CH(8+400-8+700)Km

SCALE -1:1000

REV	DESCRIPTION	BY.	DATE

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS & TRANSPORT

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
6B,GANNORUWA, PERADENIYA.
TEL : 0812388997 FAX : 0812388997 email : docpkandy@gmail.com

SURVEYED & PLOTTED :

DESIGNED : K.A.S.B. KUMARA ARACHCHI

DRAWN : B.K. RANASINGHE

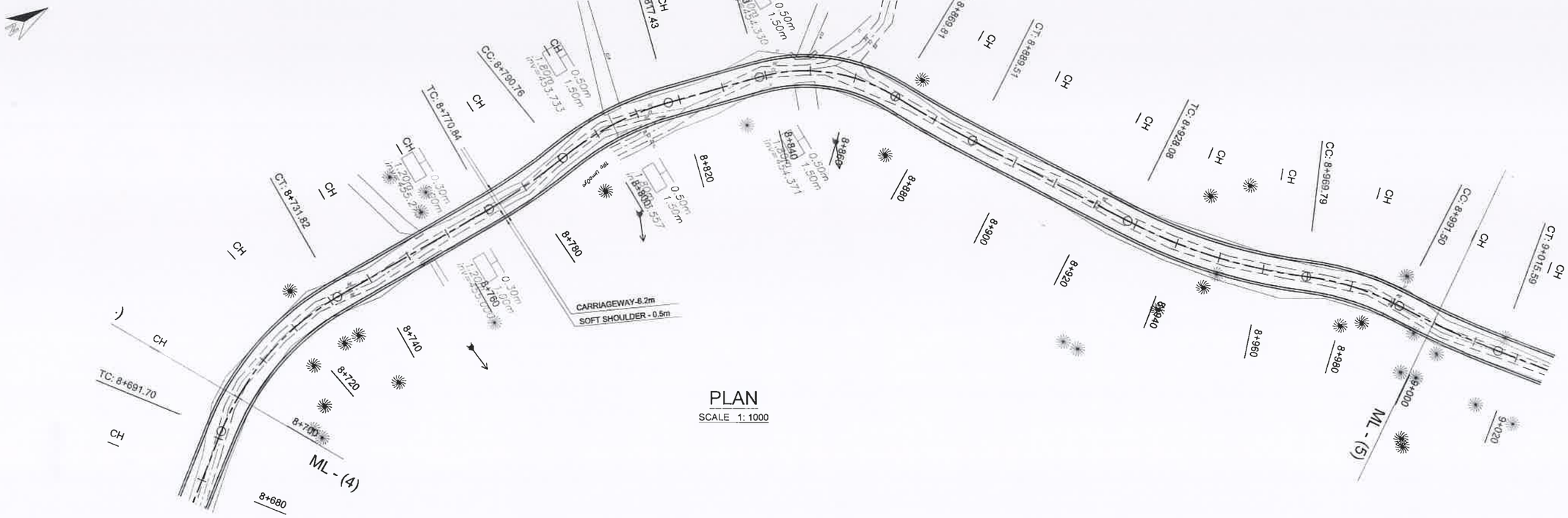
CHECKED : R.I.P. SOMARATHNA

C.E. (DESIGN) : K.A.S.B. KUMARA ARACHCHI

D.D(DESIGN) L.V.S.WEERAKOON

DATE : 2023-03-23

DRG.No. : DD/D/UVA/H/1267/1.2/1/04(06)



PLAN

SCALE 1: 1000

Station	Northing(m)	Easting(m)
8+700.00	499933.331	522655.935
8+705.00	499937.792	522653.680
8+710.00	499942.425	522651.804
8+715.00	499947.198	522650.320
8+720.00	499952.078	522649.239
8+725.00	499957.032	522648.568
8+730.00	499962.024	522648.311
8+735.00	499967.023	522648.387
8+740.00	499972.022	522648.490
8+745.00	499977.021	522648.593
8+750.00	499982.020	522648.697
8+755.00	499987.019	522648.800
8+760.00	499992.017	522648.903
8+765.00	499997.016	522649.007
8+770.00	500002.015	522649.110
8+775.00	500007.015	522649.142
8+780.00	500012.012	522648.970
8+785.00	500016.997	522648.592
8+790.00	500021.963	522648.009
8+795.00	500026.928	522647.433
8+800.00	500031.923	522647.233
8+805.00	500036.918	522647.418
8+810.00	500041.885	522647.985
8+815.00	500046.793	522648.933
8+820.00	500051.628	522650.207
8+825.00	500056.451	522651.524
8+830.00	500061.274	522652.841
8+835.00	500066.098	522654.158
8+840.00	500070.913	522655.503
8+845.00	500075.569	522657.315
8+850.00	500079.948	522659.722
8+855.00	500083.972	522662.683
8+860.00	500087.574	522666.146
8+865.00	500090.690	522670.052
8+870.00	500093.267	522674.332
8+875.00	500095.627	522678.740
8+880.00	500098.075	522683.100
8+885.00	500100.609	522687.410
8+890.00	500103.229	522691.668
8+895.00	500105.884	522695.905
8+900.00	500108.538	522700.143
8+905.00	500111.193	522704.380
8+910.00	500113.847	522708.617
8+915.00	500116.502	522712.854
8+920.00	500119.156	522717.091
8+925.00	500121.811	522721.328
8+930.00	500124.478	522725.557
8+935.00	500127.287	522729.693
8+940.00	500130.265	522733.709
8+945.00	500133.408	522737.597
8+950.00	500136.711	522741.351
8+955.00	500140.167	522744.964
8+960.00	500143.770	522748.430
8+965.00	500147.515	522751.743
8+970.00	500151.394	522754.897
8+975.00	500155.189	522758.150
8+980.00	500158.700	522761.708
8+985.00	500161.903	522765.545
8+990.00	500164.775	522769.636
8+995.00	500167.412	522773.884
9+000.00	500170.132	522778.079

SETTING OUT DATA OF C/L

CONSTRUCTION OF RAJA MAWATHA EXTENTION ROAD FROM KETAWALA TO MASPENNA
SECTION FROM CH (7+500 - 9+300)Km

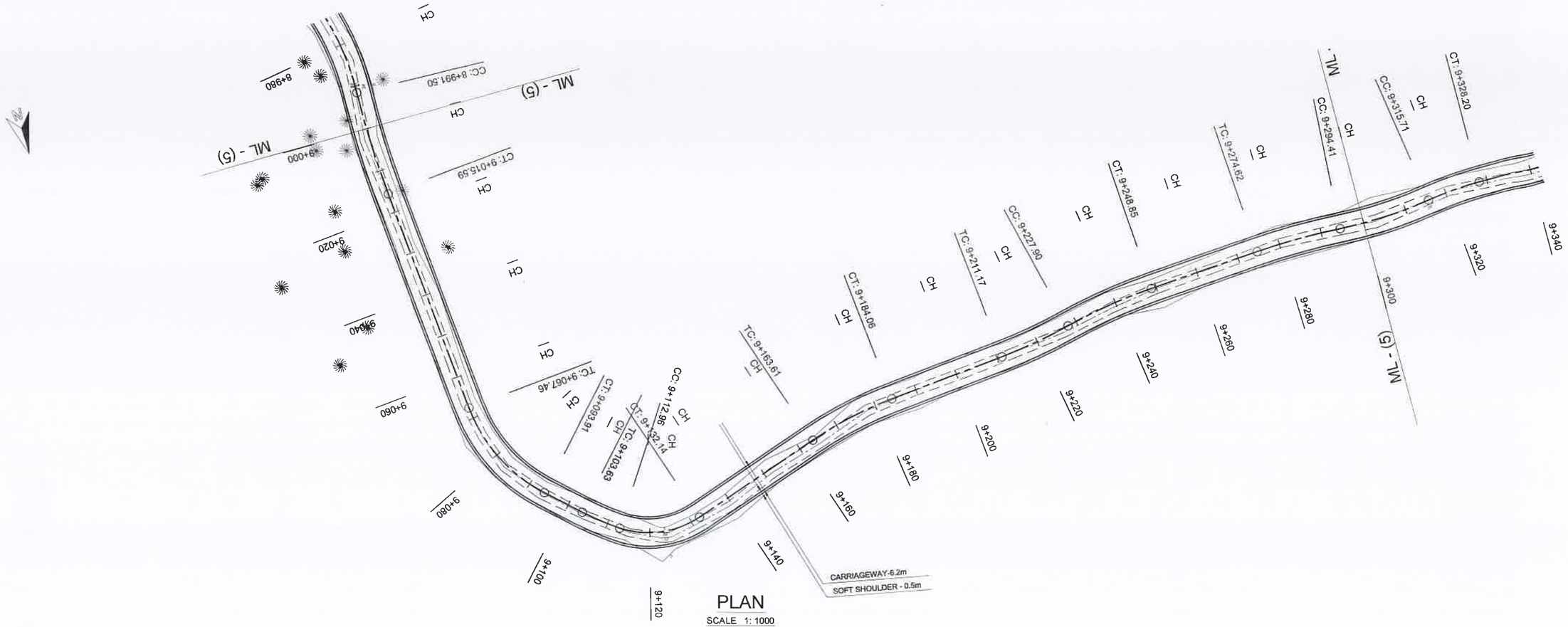
PLAN AND SETTING OUT DATA - CH(8+700-9+000)Km | SCALE -1:1000

REV	DESCRIPTION	BY.	DATE

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS & TRANSPORT

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
6B,GANNORUWA, PERADENIYA.
TEL : 0812388997 FAX : 0812388997 email : docpkandy@gmail.com

SURVEYED & PLOTTED :	DESIGNED : K.A.S.B. KUMARA ARACHCHI	DRAWN : B.K. RANASINGHE	CHECKED : R.I.P. SOMARATHNA
C.E. (DESIGN) : K.A.S.B. KUMARA ARACHCHI	D.D(DESIGN) L.V.S.WEERAKOON		DATE : 2023-03-23
			DRG.No. : DD/D/UVA/H/1267/1.2/1/05(05)



PLAN

SCALE 1: 1000

Station	Northing(m)	Easting(m)
9+000.00	500170.132	522778.079
9+005.00	500172.957	522782.204
9+010.00	500175.985	522786.258
9+015.00	500178.912	522790.237
9+020.00	500182.000	522794.169
9+025.00	500185.089	522798.101
9+030.00	500188.178	522802.033
9+035.00	500191.267	522805.965
9+040.00	500194.355	522809.897
9+045.00	500197.444	522813.829
9+050.00	500200.533	522817.760
9+055.00	500203.622	522821.692
9+060.00	500206.710	522825.624
9+065.00	500209.799	522829.556
9+070.00	500212.957	522833.431
9+075.00	500216.562	522836.890
9+080.00	500220.611	522839.817
9+085.00	500225.026	522842.155
9+090.00	500229.722	522843.859
9+095.00	500234.607	522844.913
9+100.00	500239.534	522845.759
9+105.00	500244.465	522846.590
9+110.00	500249.436	522847.116
9+115.00	500254.431	522847.162
9+120.00	500259.318	522846.162
9+125.00	500263.831	522844.037
9+130.00	500267.716	522840.908
9+135.00	500270.910	522837.065
9+140.00	500274.021	522833.151
9+145.00	500277.132	522829.236
9+150.00	500280.243	522825.322
9+155.00	500283.354	522821.408
9+160.00	500286.466	522817.494
9+165.00	500289.585	522813.586
9+170.00	500292.862	522809.810
9+175.00	500296.343	522806.222
9+180.00	500300.018	522802.833
9+185.00	500303.873	522799.650
9+190.00	500307.786	522796.537
9+195.00	500311.699	522793.424
9+200.00	500315.612	522790.311
9+205.00	500319.525	522787.198
9+210.00	500323.437	522784.086
9+215.00	500327.312	522780.925
9+220.00	500331.055	522777.611
9+225.00	500334.656	522774.143
9+230.00	500338.137	522770.554
9+235.00	500341.715	522767.062
9+240.00	500345.436	522763.723
9+245.00	500349.293	522760.541
9+250.00	500353.275	522757.518
9+255.00	500357.295	522754.545
9+260.00	500361.315	522751.571
9+265.00	500365.335	522748.598
9+270.00	500369.354	522745.624
9+275.00	500373.374	522742.651
9+280.00	500377.450	522739.756
9+285.00	500381.621	522736.998
9+290.00	500385.881	522734.381
9+295.00	500390.224	522731.904
9+300.00	500394.523	522729.351

SETTING OUT DATA OF C/L

CONSTRUCTION OF RAJA MAWATHA EXTENTION ROAD FROM KETAWALA TO MASPENNA
SECTION FROM CH (7+500 - 9+300)Km

PLAN AND SETTING OUT DATA - CH(9+000-9+300)Km

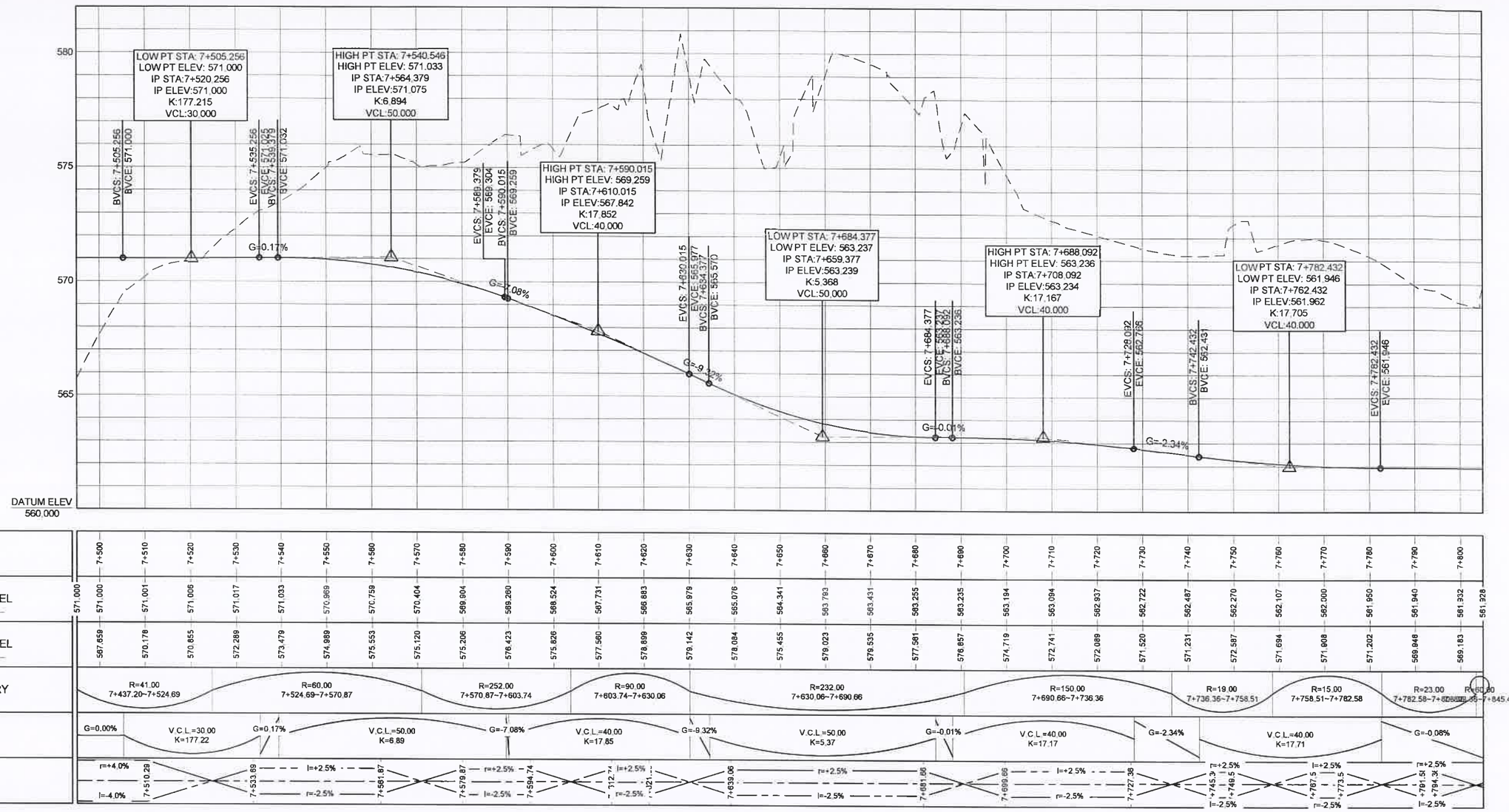
SCALE -1:1000

REV	DESCRIPTION	BY	DATE

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS & TRANSPORT

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
6B,GANNORUWA, PERADENIYA.
TEL : 0812388997 FAX : 0812388997 email : docpkandy@gmail.com

SURVEYED & PLOTTED :	DESIGNED : K.A.S.B. KUMARA ARACHCHI	DRAWN : B.K. RANASINGHE	CHECKED : R.I.P. SOMARATHNA
C.E. (DESIGN) : K.A.S.B. KUMARA ARACHCHI	D.D(DESIGN) L.V.S.WEERAKOON		DATE : 2023-03-23
			DRG.No. : DD/D/UVA/H/1267/1.2/1/06(06)



CHAINAGE	7+500	7+510	7+520	7+530	7+540	7+550	7+560	7+570	7+580	7+590	7+600	7+610	7+620	7+630	7+640	7+650	7+660	7+670	7+680	7+690	7+700	7+710	7+720	7+730	7+740	7+750	7+760	7+770	7+780	7+790	7+800
FINISHED GROUND LEVEL	571.000	571.001	571.006	571.017	571.033	570.969	570.759	570.404	569.904	569.280	568.524	567.731	566.883	565.979	565.076	564.341	563.783	563.431	563.255	563.235	563.194	563.094	562.937	562.722	562.487	562.270	562.107	562.000	561.950	561.940	561.932
EXISTING GROUND LEVEL	567.659	570.178	570.855	572.289	573.479	574.989	575.553	575.120	575.206	576.423	575.826	577.560	578.899	578.142	578.084	575.455	579.023	579.535	577.561	576.857	574.719	572.741	572.089	571.520	571.231	572.587	571.694	571.808	571.202	569.848	569.183
HORIZONTAL GEOMETRY		R=41.00 7+437.20~7+524.69			R=60.00 7+524.69~7+570.87			R=252.00 7+570.87~7+603.74			R=90.00 7+603.74~7+630.06			R=232.00 7+630.06~7+690.66							R=150.00 7+690.66~7+736.36				R=19.00 7+736.36~7+758.51			R=15.00 7+758.51~7+782.58		R=23.00 7+782.58~7+808.55	R=60.00 7+808.55~7+845.45
VERTICAL GEOMETRY	G=0.00%	V.C.L.=30.00 K=177.22	G=0.17%		V.C.L.=50.00 K=6.89		G=-7.08%	V.C.L.=40.00 K=17.85	G=-9.32%		V.C.L.=50.00 K=5.37	G=-0.01%		V.C.L.=40.00 K=17.17	G=-2.34%		V.C.L.=40.00 K=17.71		G=-0.08%												
SUPERELEVATION LHS	r=+4.0% l=-4.0%	7+510.29		7+533.69	l=+2.5% r=-2.5%		7+581.87	7+579.87	r=+2.5% l=-2.5%	7+594.74	7+612.74	l=+2.5% r=-2.5%	7+621.74	7+639.06	r=+2.5% l=-2.5%				7+681.65	7+699.65	l=+2.5% r=-2.5%	7+727.38			7+745.38	r=+2.5% l=-2.5%	7+748.5	7+767.5	l=+2.5% r=-2.5%	7+773.5	7+781.5	r=+2.5% l=-2.5%	7+784.38

LONGITUDINAL SECTION

SCALE : HORIZONTAL 1: 1000
VERTICAL 1: 200

CONSTRUCTION OF RAJA MAWATHA EXTENTION ROAD FROM KETAWALA TO MASPENNA
SECTION FROM CH (7+500 - 9+300)Km

PROFILE - CH(7+500-7+800)Km

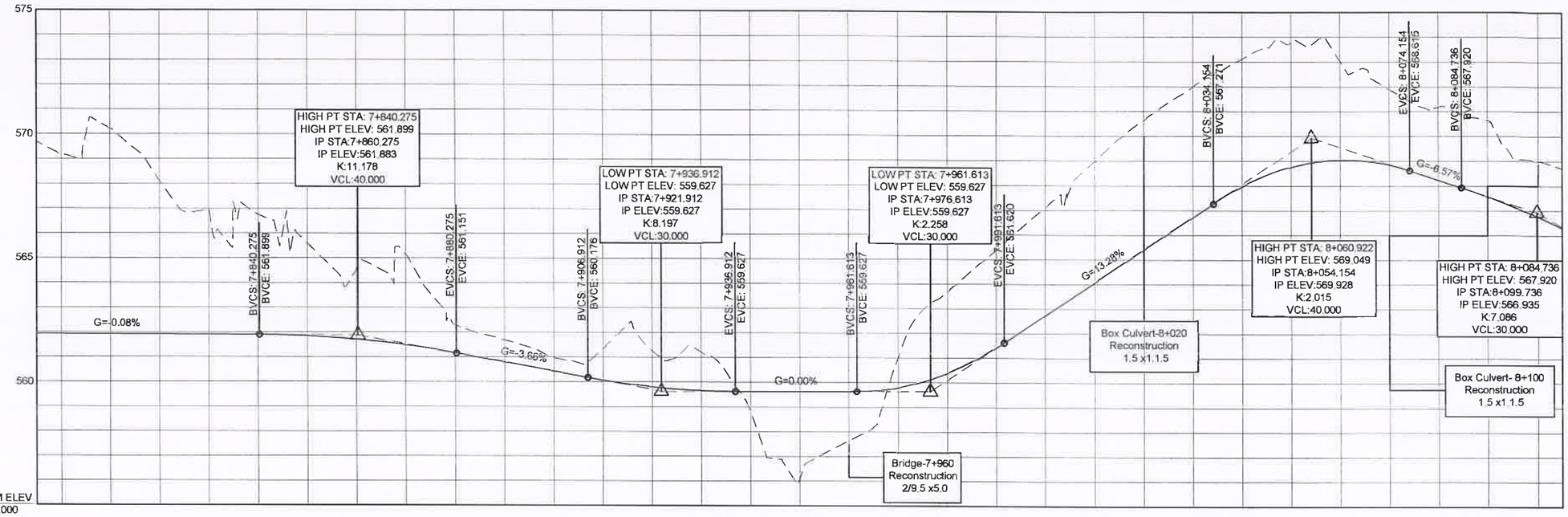
SCALE -1:1000

REV	DESCRIPTION	BY	DATE

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS & TRANSPORT

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
6B,GANNORUWA, PERADENIYA.
TEL : 0812388997 FAX : 0812388997 email : docpkandy@gmail.com

SURVEYED & PLOTTED :	DESIGNED : K.A.S.B. KUMARA ARACHCHI	DRAWN : B.K. RANASINGHE	CHECKED : R.I.P. SOMARATHNA
C.E. (DESIGN) : K.A.S.B. KUMARA ARACHCHI	D.D(DESIGN) L.V.S.WEERAKOON		DATE : 2023-03-23
			DRG.No. : DD/D/UVA/H/1267/1 2/2/01(06)



CHAINAGE	7+800	7+810	7+820	7+830	7+840	7+850	7+860	7+870	7+880	7+890	7+900	7+910	7+920	7+930	7+940	7+950	7+960	7+970	7+980	7+990	8+000	8+010	8+020	8+030	8+040	8+050	8+060	8+070	8+080	8+090	8+100
FINISHED GROUND LEVEL	561.936	561.832	561.924	561.916	561.907	561.899	561.849	561.709	561.480	561.161	560.795	560.429	560.069	559.801	559.658	559.627	559.627	559.627	559.783	560.378	561.411	562.734	564.062	565.391	566.719	567.983	568.753	569.047	568.844	568.231	567.554	566.753	566.299
EXISTING GROUND LEVEL	569.183	570.222	568.087	566.973	566.758	565.588	564.547	565.150	562.293	561.682	560.967	561.342	561.287	561.216	558.813	556.127	557.618	560.984	563.663	565.379	567.086	568.961	570.639	572.000	573.123	573.779	573.034	571.896	571.181	570.851	569.002		
HORIZONTAL GEOMETRY	R=23.00 7+782.58~7+803.36	R=60.00 7+803.36~7+845.45	R=70.00 7+876.09~7+929.62	R=10.50 7+929.62~7+943.53	R=14.00 7+963.90~7+977.64	R=100.00 8+023.89~8+048.60	R=40.00 8+072.16~8+104.60																										
VERTICAL GEOMETRY	G=-0.08%	V.C.L.=40.00 K=11.18	G=-3.66%	V.C.L.=30.00 K=8.20	G=0.00%	V.C.L.=30.00 K=2.26	G=13.28%	V.C.L.=40.00 K=2.01	G=-6.57%	V.C.L.=30.00 K=7.09																					
SUPERELEVATION LHS	7+812.36	I=+2.5%	7+839.45	r=-2.5%	7+857.45	I&r=-2.5%	7+864.09	I=+2.5%	7+882.09	r=-2.5%	7+911.62	7+929.62	I&r=-2.5%	8+011.89	r=+2.5%	8+029.89	I=-2.5%	8+046.53	8+051.93	r=+4.0%	I=-4.0%	8+098.78									

LONGITUDINAL SECTION

SCALE : HORIZONTAL 1: 1000
VERTICAL 1: 200

CONSTRUCTION OF RAJA MAWATHA EXTENTION ROAD FROM KETAWALA TO MASPENNA
SECTION FROM CH (7+500 - 9+300)Km

PROFILE - CH(7+800-8+100)Km

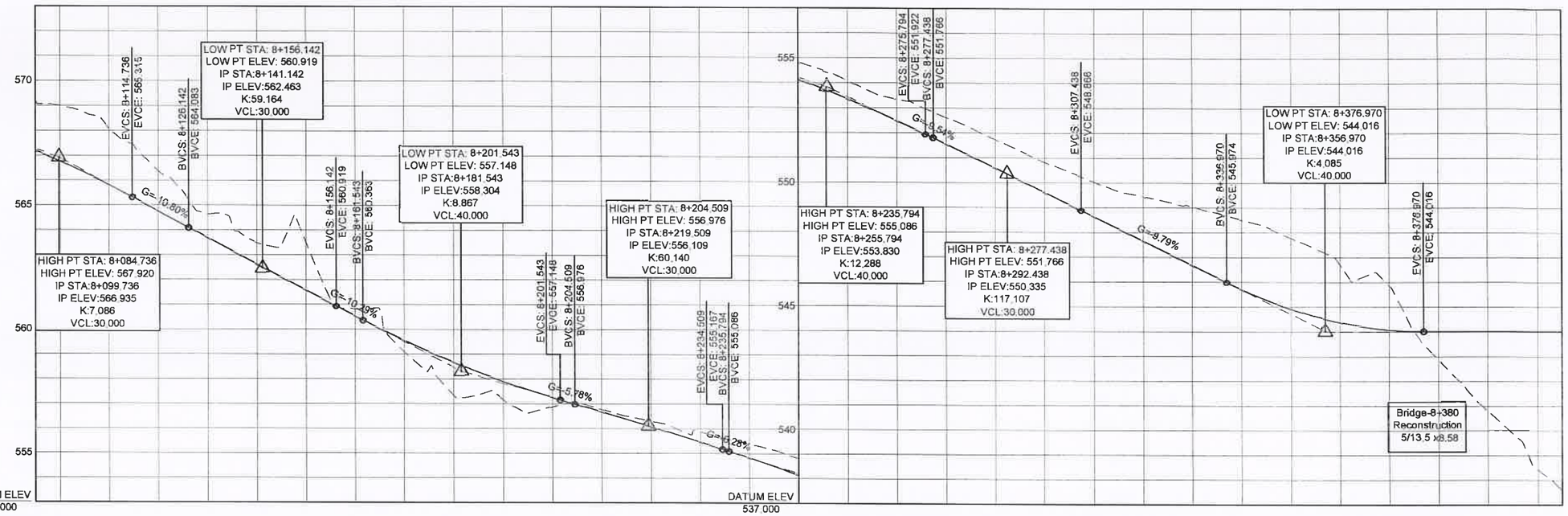
SCALE -1:1000

REV	DESCRIPTION	BY	DATE

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS & TRANSPORT

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
5B,GANNORUWA, PERADENIYA.
TEL : 0812388997 FAX : 0812388997 email : docpkandy@gmail.com

SURVEYED & PLOTTED :	DESIGNED : K.A.S.B. KUMARA ARACHCHI	DRAWN : B.K. RANASINGHE	CHECKED : R.I.P. SOMARATHNA
C.E. (DESIGN) : K.A.S.B. KUMARA ARACHCHI	D.D(DESIGN) L.V.S.WEERAKOON		DATE : 2023-03-23
			DRG.No. : DD/D/UVA/H/1267/1 2/2/02(06)



CHAINAGE	8+100	8+110	8+120	8+130	8+140	8+150	8+160	8+170	8+180	8+190	8+200	8+210	8+220	8+230	8+240	8+250	8+260	8+270	8+280	8+290	8+300	8+310	8+320	8+330	8+340	8+350	8+360	8+370	8+380	8+390	8+400
FINISHED GROUND LEVEL	567.171	566.753	565.810	564.748	563.887	562.802	561.554	560.521	559.532	558.655	557.690	557.238	556.656	556.060	555.448	554.814	554.111	553.327	552.481	551.521	550.561	549.592	548.615	547.638	546.657	545.689	544.806	544.369	544.075	544.018	544.018	544.018	544.016
EXISTING GROUND LEVEL		568.002	568.062	566.372	564.649	563.478	563.491	560.818	559.082	557.339	557.157	556.868	556.768	556.283	555.873	555.373	554.803	554.058	553.320	552.607	551.723	550.817	550.025	549.420	548.041	548.497	547.772	546.708	545.883	542.862	540.795	538.410
HORIZONTAL GEOMETRY		R=40.00 8+072.16~8+106.60			R=60.00 8+122.24~8+196.07								R=600.00 8+218.40~8+267.22						R=200.00 8+267.22~8+297.20			R=200.00 8+297.20~8+334.51								R=18.00 8+365.83~8+389.39			
VERTICAL GEOMETRY		V.C.L.=30.00 K=7.09	G=-10.80%		V.C.L.=30.00 K=59.16	G=-10.29%		V.C.L.=40.00 K=8.87		G=-5.78%		V.C.L.=30.00 K=60.14	G=-6.28%		V.C.L.=40.00 K=12.29	G=-9.54%		V.C.L.=30.00 K=117.11	G=-9.79%			V.C.L.=40.00 K=4.08		G=0.00%							
SUPERELEVATION LHS	8+088.78	8+122.18	l=+2.5%																	8+288.20	8+308.20	r=+2.5%		8+328.51		8+348.51		l&r=-2.5%			
			r=-2.5%																			l=-2.5%									

LONGITUDINAL SECTION

SCALE : HORIZONTAL 1: 1000
VERTICAL 1: 200

CONSTRUCTION OF RAJA MAWATHA EXTENTION ROAD FROM KETAWALA TO MASPENNA
SECTION FROM CH (7+500 - 9+300)Km

PROFILE - CH(8+100-8+400)Km

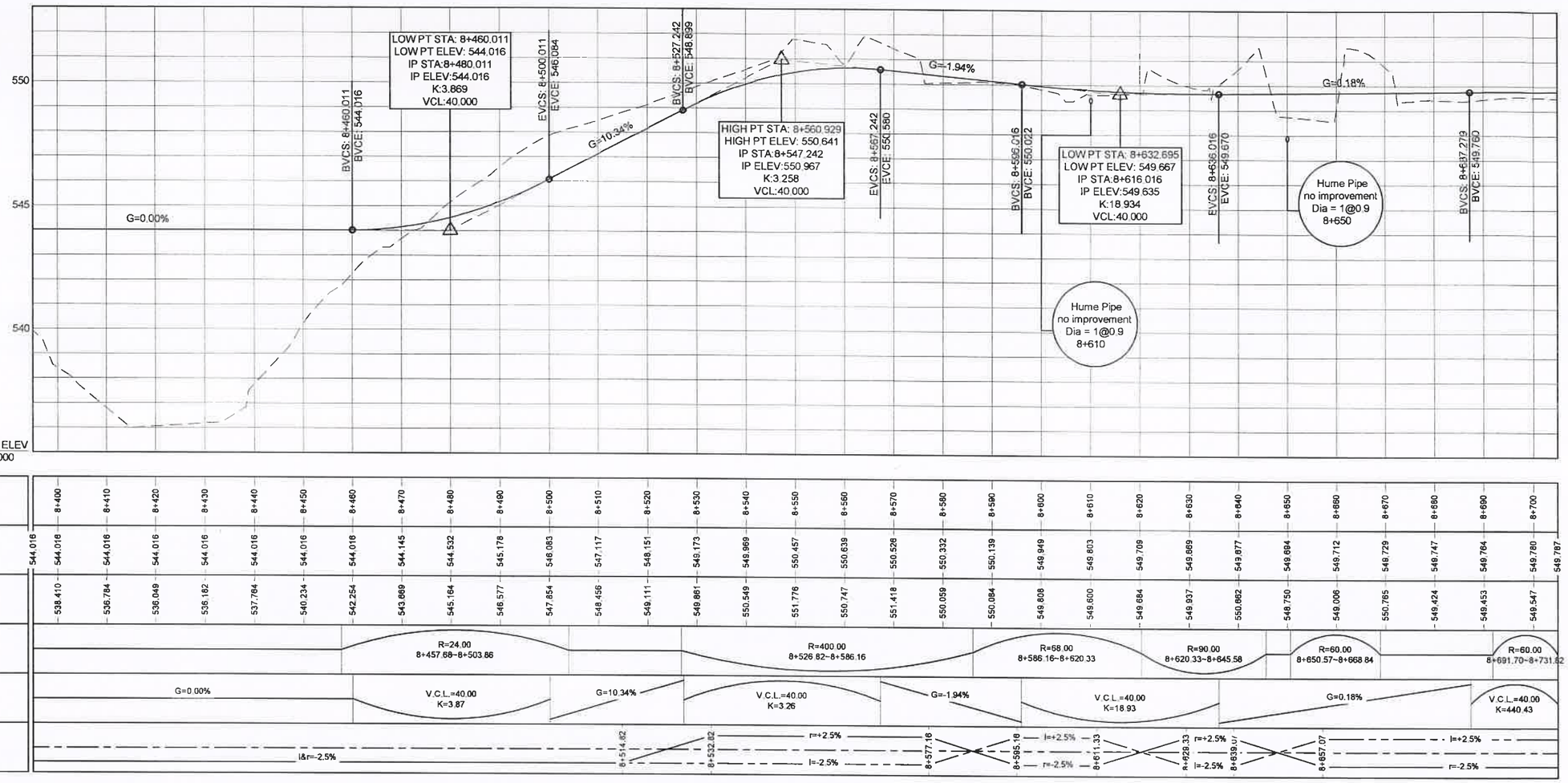
SCALE -1:1000

REV	DESCRIPTION	BY	DATE

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS & TRANSPORT

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
6B,GANNORUWA, PERADENIYA.
TEL : 0812388997 FAX : 0812388997 email : docpkandy@gmail.com

SURVEYED & PLOTTED :	DESIGNED : K.A.S.B. KUMARA ARACHCHI	DRAWN : B.K. RANASINGHE	CHECKED : R.I.P. SOMARATHNA
C.E. (DESIGN) : K.A.S.B. KUMARA ARACHCHI	D.D(DESIGN) L.V.S.WEERAKOON		DATE : 2023-03-23
			DRG.No. : DD/D/UVA/H/1267/1.2/2/03(06)



LONGITUDINAL SECTION

SCALE : HORIZONTAL 1: 1000
VERTICAL 1: 200

CONSTRUCTION OF RAJA MAWATHA EXTENTION ROAD FROM KETAWALA TO MASPENNA
SECTION FROM CH (7+500 - 9+300)Km

PROFILE - CH(8+400-8+700)Km

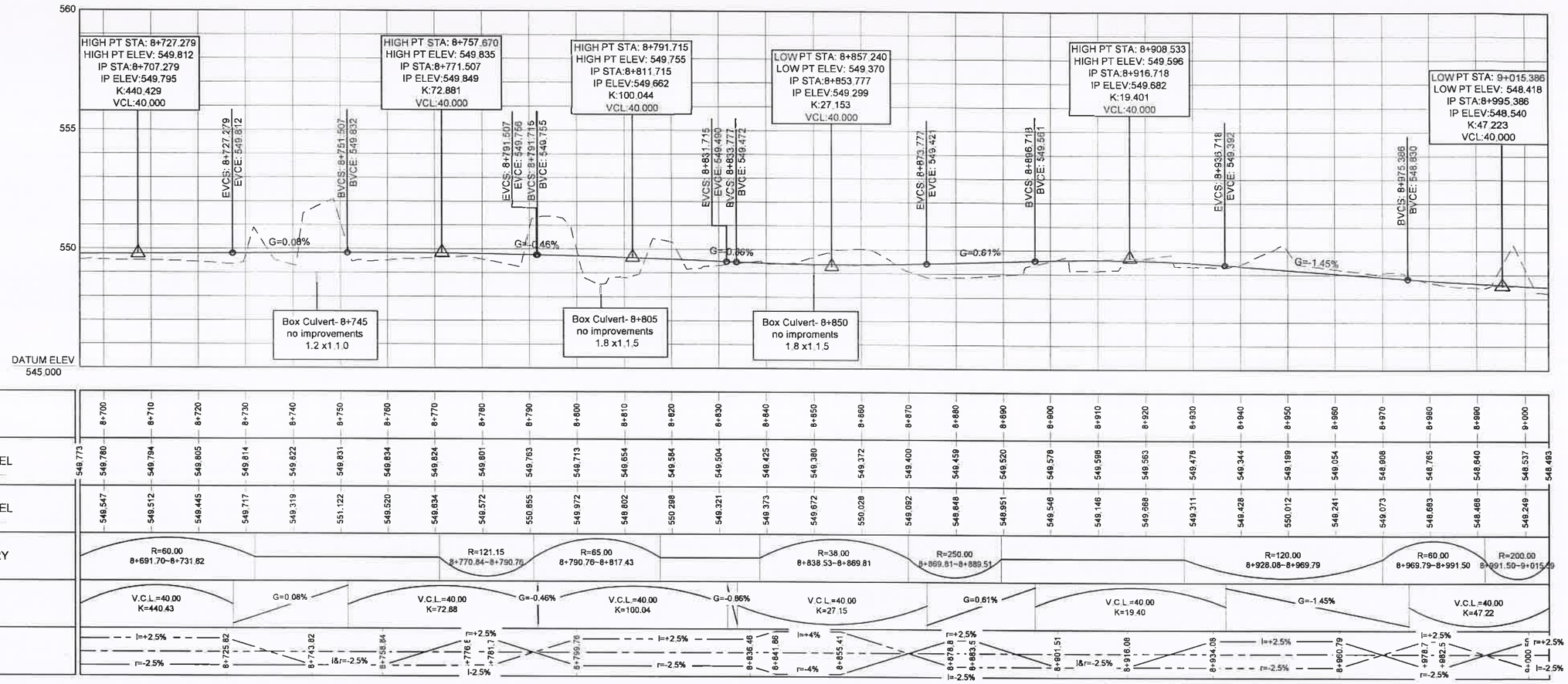
SCALE -1:1000

REV	DESCRIPTION	BY.	DATE

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS & TRANSPORT

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
6B,GANNORUWA, PERADENIYA.
TEL : 0812388997 FAX : 0812388997 email : docpkandy@gmail.com

SURVEYED & PLOTTED :	DESIGNED : K.A.S.B. KUMARA ARACHCHI	DRAWN : B.K. RANASINGHE	CHECKED : R.I.P. SOMARATHNA
C.E. (DESIGN) : K.A.S.B. KUMARA ARACHCHI	D.D(DESIGN) L.V.S.WEERAKOON		DATE : 2023-03-23
			DRG.No. : DD/D/UVA/H/1267/1.2/2/04(06)



CHAINAGE	8+700	8+710	8+720	8+730	8+740	8+750	8+760	8+770	8+780	8+790	8+800	8+810	8+820	8+830	8+840	8+850	8+860	8+870	8+880	8+890	8+900	8+910	8+920	8+930	8+940	8+950	8+960	8+970	8+980	8+990	9+000
FINISHED GROUND LEVEL	548.773	549.780	549.794	549.805	549.814	549.822	549.831	549.834	549.824	549.801	549.763	549.713	549.654	549.584	549.504	549.425	549.380	549.372	549.400	549.459	549.520	549.578	549.596	549.563	549.478	549.344	549.199	549.054	548.908	548.765	548.640	548.537	548.493
EXISTING GROUND LEVEL		549.547	549.512	549.445	549.717	549.319	551.122	549.520	548.834	549.572	550.855	549.972	549.802	550.288	549.321	549.373	549.672	550.028	549.052	549.848	549.951	549.546	549.146	549.668	549.311	549.428	550.012	549.241	549.073	548.683	548.468	549.249	
HORIZONTAL GEOMETRY		R=60.00 8+691.70~8+731.82								R=121.15 8+770.84~8+790.76		R=65.00 8+790.76~8+817.43					R=38.00 8+838.53~8+869.81		R=250.00 8+869.81~8+889.51							R=120.00 8+928.08~8+969.79				R=60.00 8+969.79~8+991.50		R=200.00 8+991.50~9+015.39
VERTICAL GEOMETRY		V.C.L.=40.00 K=440.43		G=0.08%				V.C.L.=40.00 K=72.88	G=-0.46%		V.C.L.=40.00 K=100.04	G=-0.86%		V.C.L.=40.00 K=27.15		G=0.61%		V.C.L.=40.00 K=19.40		G=-1.45%		V.C.L.=40.00 K=47.22									
SUPERELEVATION LHS		l=+2.5% r=-2.5%		8+725.82	8+743.82	l&r=-2.5%	8+758.84	r=+2.5% l=-2.5%	+776.2 +781.7		8+799.76	l=+2.5% r=-2.5%	8+836.46	8+841.86	l=+4% r=-4%	8+855.41	r=+2.5% l=-2.5%	8+878.8	8+883.5	8+901.51	l&r=-2.5%	8+916.08	8+934.08	l=+2.5% r=-2.5%	8+960.79	+978.7 +982.5	l=+2.5% r=-2.5%	9+000.5	r=+2.5% l=-2.5%			

LONGITUDINAL SECTION

SCALE : HORIZONTAL 1: 1000
VERTICAL 1: 200

CONSTRUCTION OF RAJA MAWATHA EXTENTION ROAD FROM KETAWALA TO MASPENNA
SECTION FROM CH (7+500 - 9+300)Km

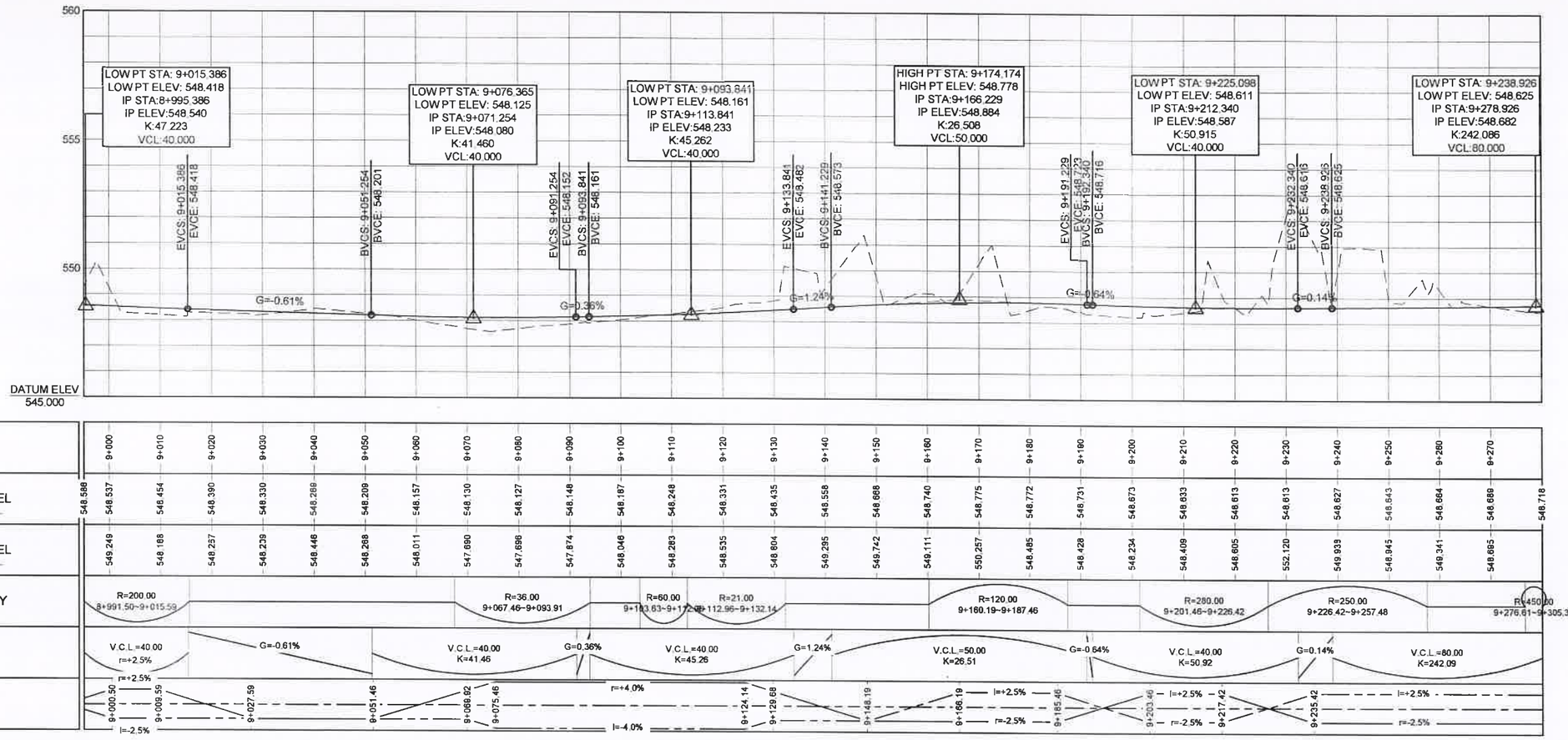
PROFILE - CH(8+700-9+000)Km | SCALE -1 1000

REV	DESCRIPTION	BY	DATE

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS & TRANSPORT

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
6B,GANNORUWA, PERADENIYA.
TEL : 0812388997 FAX : 0812388997 email : docpkandy@gmail.com

SURVEYED & PLOTTED :	DESIGNED : K.A.S.B. KUMARA ARACHCHI	DRAWN : B.K. RANASINGHE	CHECKED : R.I.P. SOMARATHNA
C.E. (DESIGN) : K.A.S.B. KUMARA ARACHCHI	D D(DESIGN) L.V.S.WEERAKOON		DATE : 2023-03-23
			DRG.No. : DD/D/UVA/H/1267/1.2/2/05(06)



CHAINAGE	9+000	9+010	9+020	9+030	9+040	9+050	9+060	9+070	9+080	9+090	9+100	9+110	9+120	9+130	9+140	9+150	9+160	9+170	9+180	9+190	9+200	9+210	9+220	9+230	9+240	9+250	9+260	9+270
FINISHED GROUND LEVEL	548.588	548.537	548.454	548.390	548.330	548.266	548.209	548.157	548.130	548.127	548.148	548.187	548.248	548.331	548.435	548.558	548.668	548.740	548.775	548.772	548.731	548.673	549.033	548.613	548.613	548.627	548.643	548.684	548.688	548.718
EXISTING GROUND LEVEL		549.249	548.188	548.257	548.239	548.448	548.288	548.011	547.690	547.696	547.874	548.046	548.283	548.535	548.804	549.295	549.742	549.111	550.257	548.485	548.428	548.234	548.409	548.605	552.120	549.933	548.945	549.341	548.695	
HORIZONTAL GEOMETRY		R=200.00 8+991.50~9+015.59							R=36.00 9+067.46~9+093.91			R=60.00 9+103.63~9+112.96	R=21.00 9+112.96~9+132.14					R=120.00 9+160.19~9+187.46				R=280.00 9+201.46~9+226.42			R=250.00 9+226.42~9+257.48			R=450.00 9+276.61~9+305.30		
VERTICAL GEOMETRY		V.C.L.=40.00 r=+2.5%		G=-0.61%				V.C.L.=40.00 K=41.46		G=0.36%		V.C.L.=40.00 K=45.26		G=1.24%			V.C.L.=50.00 K=26.51		G=-0.64%		V.C.L.=40.00 K=50.92		G=0.14%		V.C.L.=80.00 K=242.09			
SUPERELEVATION LHS		r=+2.5%								r=+4.0%																		
		9+000.50	9+009.59	9+027.59	9+051.46	9+069.82	9+075.46	9+124.14	9+129.68	9+148.19	9+168.19	l=+2.5%	9+185.46	9+203.46	l=+2.5%	9+217.42	9+235.42	l=+2.5%										
		l=-2.5%								l=-4.0%		r=-2.5%			r=-2.5%			r=-2.5%										

LONGITUDINAL SECTION

SCALE : HORIZONTAL 1: 1000
VERTICAL 1: 200

CONSTRUCTION OF RAJA MAWATHA EXTENTION ROAD FROM KETAWALA TO MASPENNA
SECTION FROM CH (7+500 - 9+300)Km

PROFILE - CH(9+000-9+300)Km

SCALE -1:1000

REV	DESCRIPTION	BY	DATE

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS & TRANSPORT

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
6B,GANNORUWA, PERADENIYA
TEL : 0812388997 FAX : 0812388997 email : docpkandy@gmail.com

SURVEYED & PLOTTED :

DESIGNED : K.A.S.B. KUMARA ARACHCHI

DRAWN : B.K. RANASINGHE

CHECKED : R.I.P. SOMARATHNA

C.E. (DESIGN) : K.A.S.B. KUMARA ARACHCHI

D.D(DESIGN) L.V.S.WEERAKOON

DATE : 2023-03-23

DRG.No. : DD/D/UVA/H/1267/1.2/2/06(06)

CONSTRUCTION OF RAJA MAWATHA EXTENTION ROAD FROM KETAWALA TO MASPANNA (CH 7+560– CH9+300km)

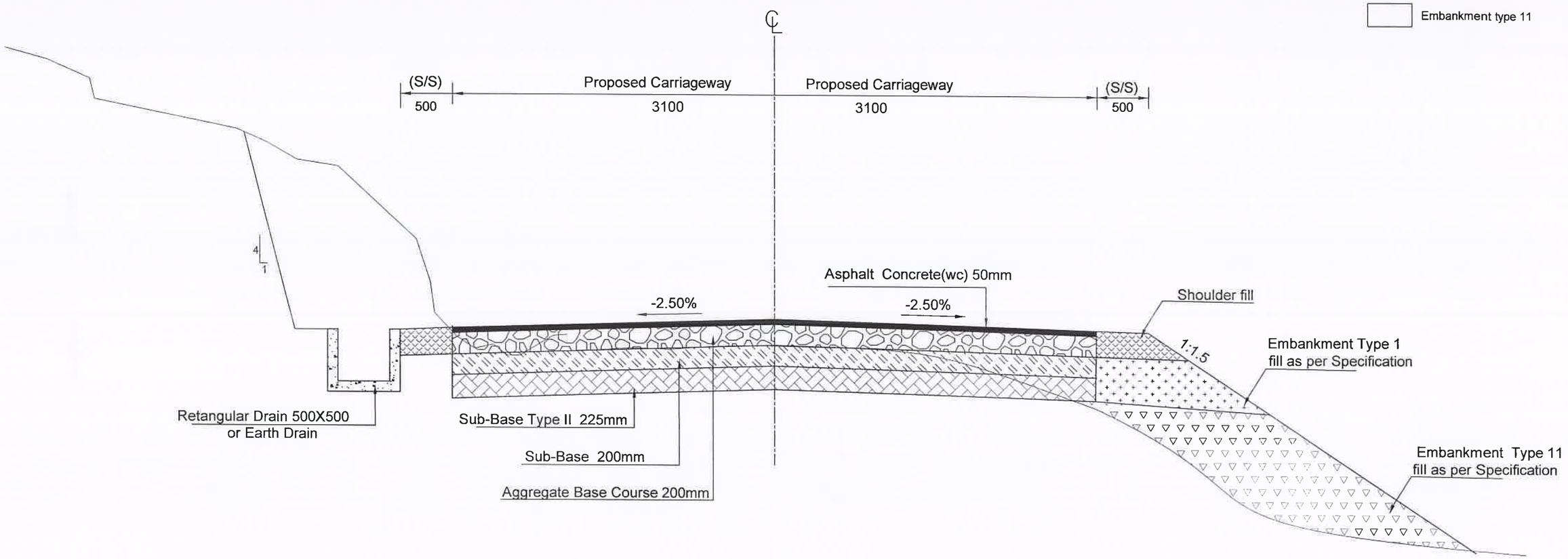
: GEOMETRIC DESIGN DRAWINGS ,

1.3 – TYPICAL ROAD CROSS SECTIONS

LEGEND:

C/L: New Centre Line

- Asphalt Concrete
- Dence Graded Aggregate Base Course
- Sub base (CBR ≥ 30%)
- Sub base (CBR ≥ 15%)
- Shoulder Fill
- Embankment type 1
- Embankment type 11



TYPICAL CROSS SECTION

CONSTRUCTION OF RAJA MAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA.
(FROM CH7+560 TO 9+300 km)

TYPICAL CROSS SECTION

SCALE -

REV	DESCRIPTION	BY	DATE

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS AND TRANSPORT.

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
S.W.R.D. BANDARANAYAKE MAWATHA,KANDY
TEL : 0812234267 FAX : 0812234267 email : docpkandy@gmail.com

SURVEYED & PLOTTED :	DESIGNED : K.A.S.B.KUMARA ARACHCHI	DRAWN : S.M.S.T.THILAKARATHNA	CHECKED : R.I.P.SOMARATHNA
C.E. (DESIGN) : K.A.S.B.KUMARAARACHCHI	D.D (DESIGN) L.V.S.WEERAKOON		DATE : 23-13-2023
			DRG.No. : DD/D/UVA/H/TY.CS/1267/01/(01)

CONSTRUCTION OF RAJA MAWATHA EXTENTION ROAD FROM KETAWALA TO MASPANNA (CH 7+560– CH9+300km)

: GEOMETRIC DESIGN DRAWINGS,

1.4 – PAVEMENT DESIGN THICKNESSES

CONSTRUCTION OF RAJA MAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA.(FROM CH7+560 TO 9+000)km

No	REGION		DESIGN THICKNESS OF PAVEMENT LAYERS(mm)			
			RECONSTRUCTIONS			
	FROM	TO	WEARING COURSE	DENSE GRADED AGGREGATE BASE(CBR>=80)	SOIL SUB BASE TYPE 1 (CBR ≥ 30)	SOIL SUB BASE TYPE 11 (CBR ≥ 15)
1	7+560	9+300	50	200	200	225

CONSTRUCTION OF RAJA MAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA.
FROM (CH7+560 TO 9+300 km)

PAVEMENT DESIGN THICKNESSES

SCALE -

REV	DESCRIPTION	BY	DATE
R1	VERTICAL PROFILE CHANGED		28-11-2011

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS AND TRANSPORT.

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
6B,GANNORUWA, PERADENIYA.
TEL : 0812388997 FAX : 0812388997 email : docpkandy@gmail.com

SURVEYED & PLOTTED :
DESIGNED : K.A.S.B.KUMARAARACHCHI
DRAWN : S.M.S.T.THILAKARATHNA
CHECKED : R.P.I.SOMARATHNA
C.E. (DESIGN) : K.A.S.B.KUMARA ARACHCHI
D.D.(DESIGN): L.V.S.WEERAKOON
DATE : 23 - 03- 2023
DRG.No. : DD/D/UVA/H/1267/1.6/01(01)

CONSTRUCTION OF RAJA MAWATHA EXTENTION ROAD FROM KETAWALA TO MASPANNA (CH 7+560– CH9+300km)

: GEOMETRIC DESIGN DRAWINGS,

1.5 – STRUCTURES

GABION WALL			
CHAINAGE	LHS	RHS	TYPICAL SECTION
8+036 - 8+081	45m	-	TYPE S.B -1
8+081 - 8+110	29m	-	TYPE S.B -2
8+140 - 8+230	90m	-	TYPE S.B -1
8+230 - 8+270	20m	-	TYPE S.B -2

MASS CONCRETE RETAINING WALLS			
CHAINAGE	LHS	RHS	TYPICAL SECTION
7+590 - 7+610	20m	-	M.C.R- 03
7+700 - 7+730	30m	-	M.C.R- 05
7+790 - 7+810	20m	-	M.C.R- 03
8+500 - 8+520	20m	-	M.C.R- 05
8+600 - 8+620	20m	-	M.C.R- 03
9+200 - 9+230	30m	-	M.C.R- 06

BOX CULVERT TYPE		
CHAINAGE	SIZE	TYPICAL SECTION
8+100	1.5 x 1.5	BOX CULVERT/ M.C.R- 02
8+020	1.5 x 1.5	BOX CULVERT/ M.C.R- 02

CONSTRUCTION OF RAJAMAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA.
(FROM CH 07+560 TO 09+300 km)

DETAILS OF WALL AND CULVERT

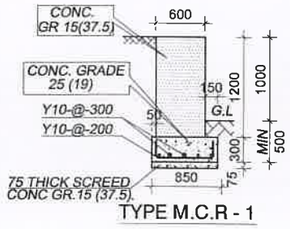
SCALE - 1:50

REV	DESCRIPTION	BY	DATE

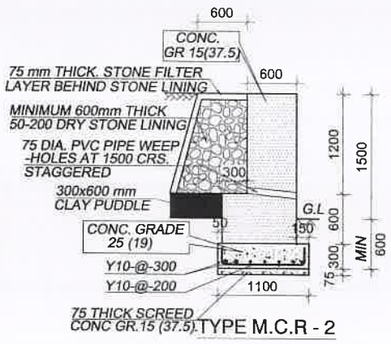
DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS AND TRANSPORT

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B. SAMAGI NIWASA, GANNORUWA, PERADENIYA.
TEL : 0812234267 FAX : 0812234267 email : dacp@rda.gov.lk

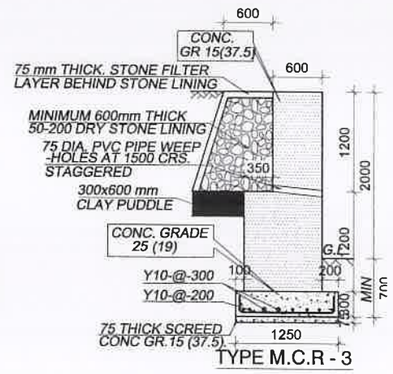
SURVEYED & PLOTTED :	DESIGNED : K.A.S.B.KUMARAARACHCI	DRAWN : JAGATH C RAJAPAKSE	CHECKED : R.I.P.SOMARATHNA
C.E. (DESIGN) : K.A.S.B.KUMARAARACHCI	D.D.(DESIGN) L.V.S.WEERAKOON		DATE : 23-03-2023
			DRG.No. : DD/D/CP/UVA/STR/1267/1.5/01-07



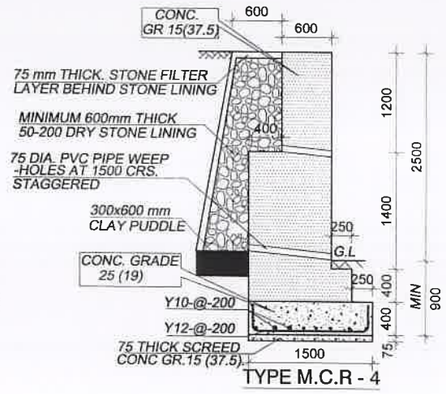
TYPE M.C.R - 1



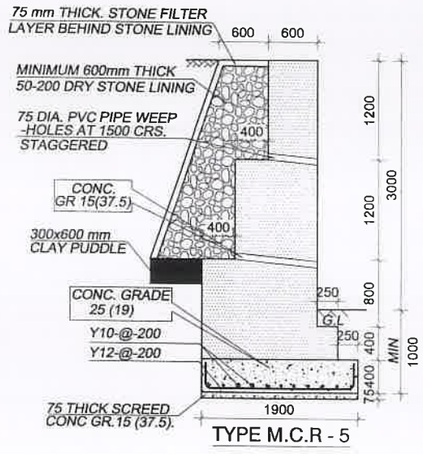
TYPE M.C.R - 2



TYPE M.C.R - 3



TYPE M.C.R - 4



TYPE M.C.R - 5

GENERAL NOTES

(a) ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED

(b) ALL MATERIALS AND WORKMANSHIP ARE TO BE IN ACCORDANCE WITH REQUIREMENT OF THE SPECIFICATION

(c) POROUS BACKFILL TO BE PROVIDED ALONG THE ENTIRE LENGTH OF THE WALL AS INDICATED

(d) WEEP HOLES TO BE PROVIDED AT 1500m C/C STRAGGERED USING 75mm DIA. PVC PIPES

(e) EXPANSION JOINT TO BE PROVIDED AT EVERY 5m INTERVAL USING THERMOFORM

CONCRETE

USE FOLLOWING CONCRETE GRADES FOR STRUCTURE OR PART OF A STRUCTURE MENTIONED BELOW WITH REQUIREMENT OF THE STANDARD SPECIFICATION

(a) SCREED	-	GR. 15/37.5
(b) FOUNDATION BASE	-	GR. 25/19
(c) SUB STRUCTURE	-	GR. 15/37.5

REINFORCEMENT

(a) ALL BARS MARKED "Y" SHALL BE HIGH YIELD DEFORMED BARS OF YIELD STRENGTH NOT LESS THAN 460N/mm²

(b) BARS OF CUT LENGTH LARGER THAN THE SUPPLIED LENGTH TO BE LAPPED WITH LENGTH OF 50Ø, WHERE Ø IS THE DIAMETER AND LAPPING SHOULD BE STRAGGERED

(c) REINFORCEMENT BARS SHALL BE BENT ACCORDANCE WITH STANDARD SPECIFICATIONS

(d) CLEAR CONCRETE COVER FOR ALL REINFORCEMENT TO BE 50mm

FORM WORK

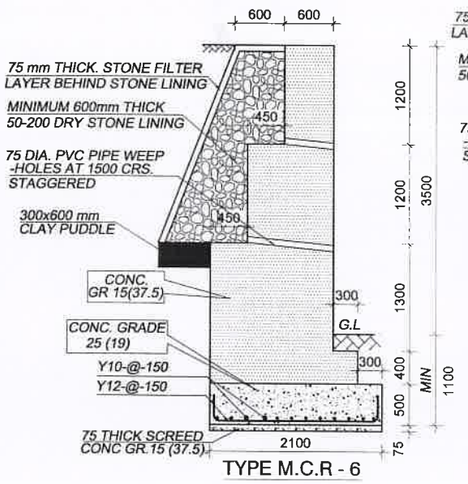
(a) TYPE OF FORM WORK FOR FOUNDATION SLAB TO BE ROUGH FINISH.

(b) TYPE OF FORM WORK FOR SUB STRUCTURE TO BE SMOOTH FINISH.

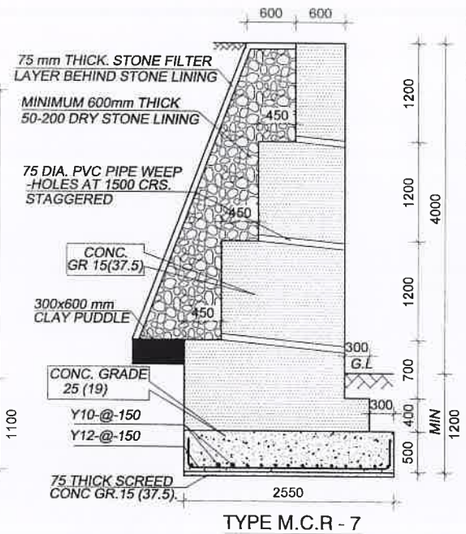
SPECIAL NOTES

(a) ALLOWABLE BEARING CAPACITY OF THE GROUND AND THE PASSIVE EARTH HEIGHT SHALL BE CHECKED BY THE ENGINEER

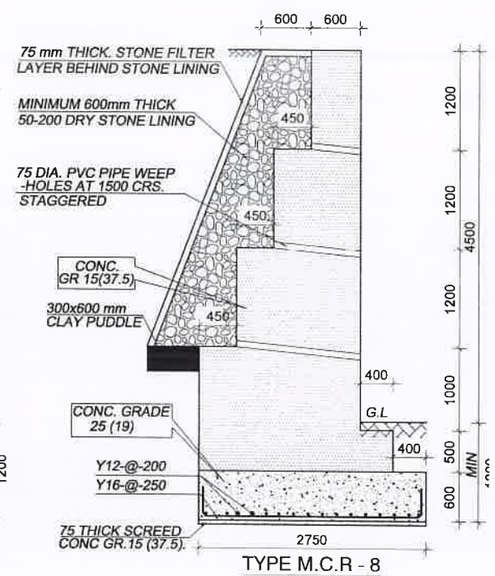
(b) M.C.R = MASS CONCRETE RETAINING WALL.



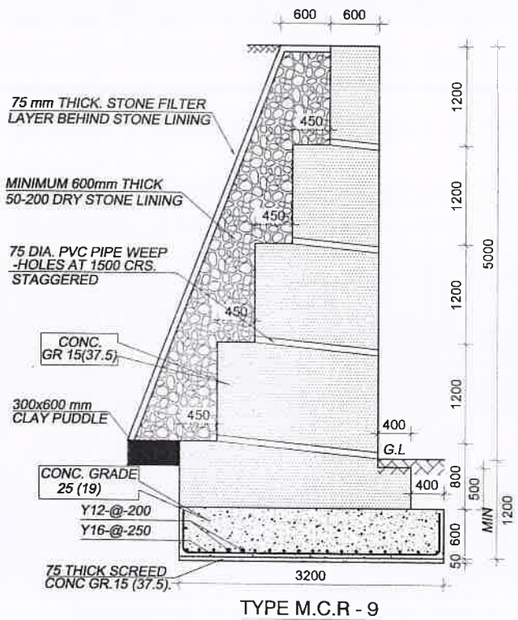
TYPE M.C.R - 6



TYPE M.C.R - 7



TYPE M.C.R - 8



TYPE M.C.R - 9

RETAINNG WALL TYPE	HEIGHT OF THE WALL ABOVE THE GROUND LEVEL (m)	ALLOWABLE BEARING STRENGTH OF SOIL SHOULD NOT BE LESS THAN (KN/m²)	PASSIVE EARTH HEIGHT
M.C.R-1	1.0	75.00	0.5
M.C.R-2	1.5	100.00	0.6
M.C.R-3	2.0	140.00	0.7
M.C.R-4	2.5	145.00	0.9
M.C.R-5	3.0	155.00	1.0
M.C.R-6	3.5	175.00	1.1
M.C.R-7	4.0	185.00	1.2
M.C.R-8	4.5	190.00	1.2
M.C.R-9	5.0	200.00	1.2

CONSTRUCTION OF RAJAMAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA
(FROM CH 07+560 TO 09+300 km)

TYPICAL SECTION OF MASS CONCRETE RETAINING WALLS AND HEAD WALLS

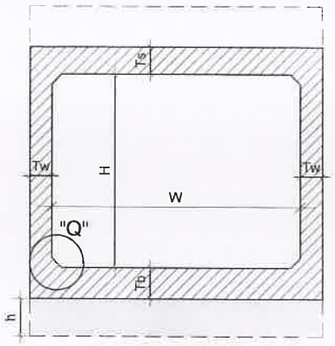
SCALE -

REV.	DESCRIPTION	BY.	DATE

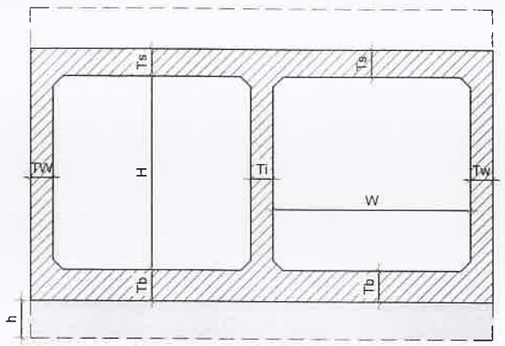
DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS AND TRANSPORT

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B, SAMAGI NIWASA, GANNORUWA, PERADENIYA.
TEL : 0812234267 FAX : 0812234267 email : dacp@rda.gov.lk

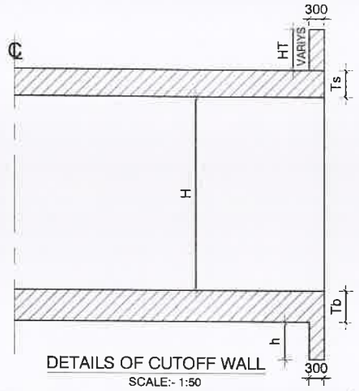
SURVEYED & PLOTTED :	DESIGNED : A.G. ARIYAWANSA	DRAWN : J.C. RAJAPAKSHA	CHECKED : A.G ARIYAWANSA
C.E. (DESIGN) : A.G.ARIYAWANSA	D.D (DESIGN) L.V.S WEERAKOON		DATE : 23-03-2023
			DRG.No. : DD/D/CP/UVA/TP/1267/1.5/02-07



SINGLE BOX TYPE
SCALE:- 1:50



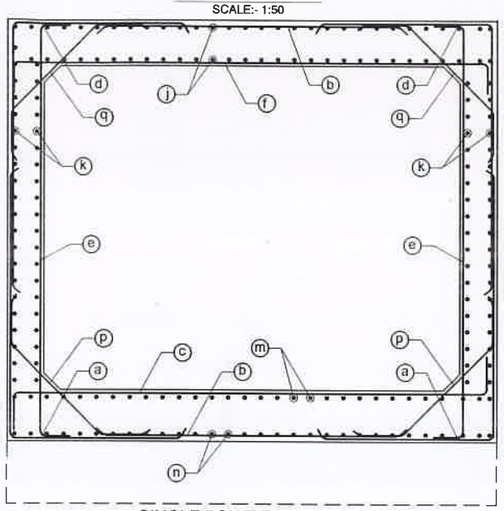
TWIN BOX TYPE
SCALE:- 1:50



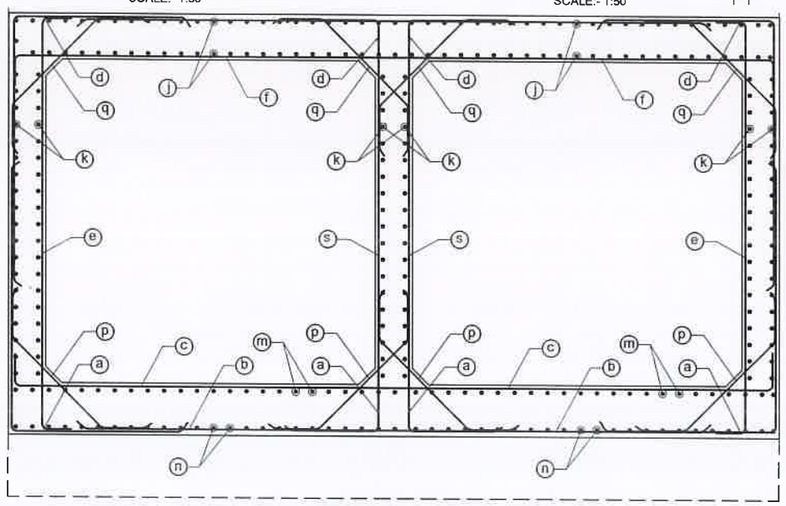
DETAILS OF CUTOFF WALL
SCALE:- 1:50

GENERAL NOTES

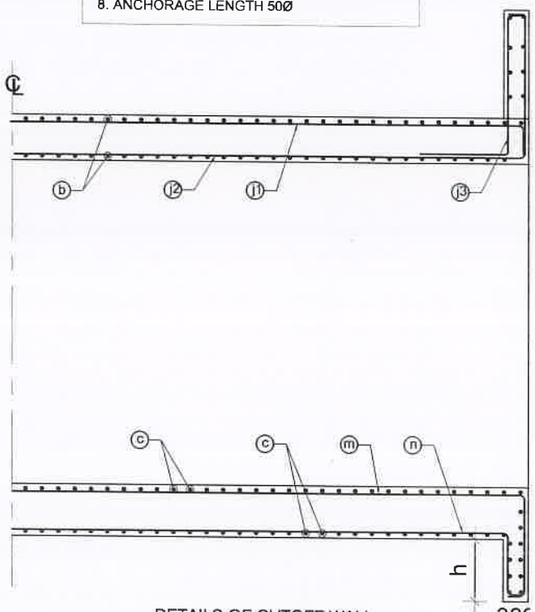
1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
2. THIS DRAWINGS TO SUIT SITE CONDITIONS SHALL BE DECIDED BY THE ENGINEER AT CONSTRUCTION STAGE.
3. CONCRETE GRADE SHALL BE GR. 30/19
4. REINFORCEMENT SHALL BE HOT ROLLED HIGH YIELD STEEL TO BS 4469WITH MIN fy = 460 N/SQMM
5. CLEAR COVER TO REINFORCEMENT SHALL BE 50 MIN.
6. MINIMUM RADIUS FOR SCHEDULING 3Ø
7. LAP LENGTH 50Ø
8. ANCHORAGE LENGTH 50Ø



SINGLE BOX TYPE
SCALE:- 1:50

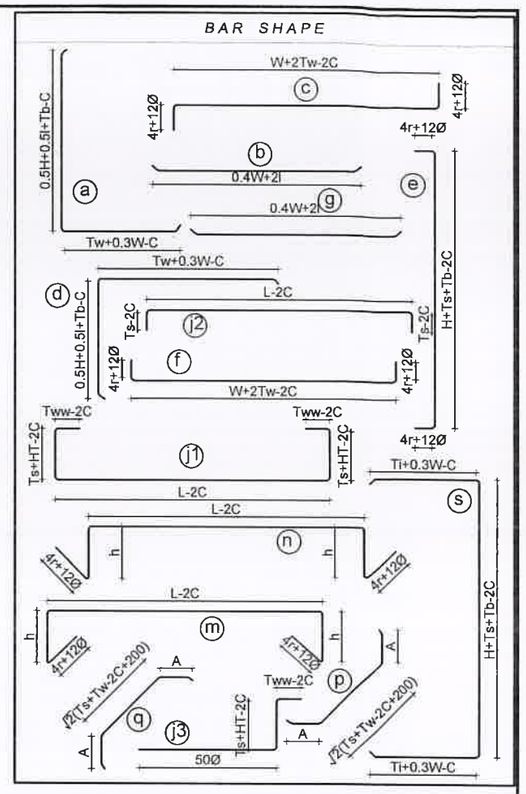


TWIN BOX TYPE
SCALE:- 1:50



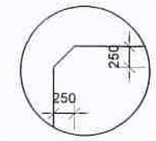
DETAILS OF CUTOFF WALL
SCALE:- 1:50

BAR SHAPE



SPECIAL NOTES

1. h - DROP WALL HEIGHT.
2. W - WIDTH OF OPENING
3. H - HEIGHT OF OPENING
4. Ts - TOP SLAB THICKNESS
5. Tb - BOTTOM SLAB THICKNESS
6. Tw - SIDE WALL THICKNESS
7. TI - MID WALL THICKNESS
8. Tww - WING WALL THICKNESS



DETAIL AT Q

CULVERT TYPE	INTERNAL DIMENSION		CULVERT I.D NO	EARTH COVER (m)	SLAB THICKNESS (TS)	BASE THICKNESS (TB)	WALL THICKNESS EXT(TW)	WALL THICKNESS INT(TI)	REINFORCEMENT DETAILS											
	W(m)	H(m)							a	b	c	d	e	f	g	j1-j2-j3	m	n	p	q	s
SINGLE CELL	1.0	1.0	SC - 1	-	200	200	200	-	T12-200	T12-200	T16-200	T16-200	T12-200	T16-200	T12-200	T12-250	T12-250	T12-250	T12-200	T12-200	T16-200
	1.5	1.0	SC - 2	-	200	200	200	-	T12-150	T12-150	T16-150	T16-150	T12-150	T16-150	T12-150	T12-250	T12-250	T12-250	T12-150	T12-150	T16-150
	2.0	1.0	SC - 3	-	250	250	200	-	T16-175	T12-175	T20-175	T16-175	T12-175	T20-175	T12-175	T12-250	T12-250	T12-250	T12-175	T12-175	T16-175
	2.5	1.0	SC - 4	-	225	225	200	-	T16-150	T12-150	T20-150	T16-150	T12-150	T20-150	T12-150	T12-250	T12-250	T12-250	T12-150	T12-150	T16-150
	1.0	1.5	SC - 5	-	225	225	225	-	T12-200	T12-200	T16-200	T16-200	T12-200	T16-200	T12-200	T12-250	T12-250	T12-250	T12-200	T12-200	T16-200
	1.5	1.5	SC - 6	-	200	200	200	-	T12-150	T12-150	T16-150	T16-150	T12-150	T16-150	T12-150	T12-250	T12-250	T12-250	T12-150	T12-150	T16-150
	2.0	1.5	SC - 7	-	225	225	225	-	T16-175	T12-175	T20-175	T16-175	T12-175	T20-175	T12-175	T12-250	T12-250	T12-250	T12-175	T12-175	T16-175
	2.5	1.5	SC - 8	-	225	225	225	-	T16-150	T12-150	T20-150	T16-150	T16-150	T20-150	T12-150	T12-250	T12-250	T12-250	T12-150	T12-150	T16-150
	1.0	2.0	SC - 9	-	200	200	200	-	T12-200	T20-200	T16-200	T16-200	T20-200	T16-200	T20-200	T12-250	T12-250	T12-250	T12-200	T12-200	T16-200
	1.5	2.0	SC - 10	-	200	200	200	-	T12-150	T12-150	T16-150	T16-150	T12-150	T16-150	T12-150	T12-250	T12-250	T12-250	T12-150	T12-150	T16-150
	2.0	2.0	SC - 11	-	225	225	225	-	T16-175	T12-175	T20-175	T16-175	T12-175	T20-175	T12-175	T12-250	T12-250	T12-250	T12-175	T12-175	T16-175
	2.5	2.0	SC - 12	-	225	225	225	-	T16-150	T12-150	T20-150	T16-150	T16-150	T20-150	T12-150	T12-250	T12-250	T12-250	T12-150	T12-150	T16-150
	1.0	2.5	SC - 13	-	200	200	200	-	T12-200	T20-200	T16-200	T16-200	T20-200	T16-200	T20-200	T12-250	T12-250	T12-250	T12-200	T12-200	T16-200
	1.5	2.5	SC - 14	-	200	200	200	-	T12-150	T12-150	T16-150	T16-150	T12-150	T16-150	T12-150	T12-250	T12-250	T12-250	T12-150	T12-150	T16-150
	2.0	2.5	SC - 15	-	225	225	225	-	T16-175	T12-175	T20-175	T16-175	T12-175	T20-175	T12-175	T12-250	T12-250	T12-250	T12-175	T12-175	T16-175
	2.5	2.5	SC - 16	-	225	225	225	-	T16-150	T12-150	T20-150	T16-150	T16-150	T20-150	T12-150	T12-250	T12-250	T12-250	T12-150	T12-150	T16-150
SINGLE CELL	2.0	2.0	SCE - 1	0 - 2	250	250	250	-	T12-150	T12-150	T16-150	T16-150	T12-150	T16-150	T12-150	T12-250	T12-250	T12-250	T12-150	T12-150	T16-150
			SCE - 2	2 - 4	300	300	300	-	T16-175	T12-175	T20-175	T16-175	T12-175	T20-175	T12-175	T12-250	T12-250	T12-250	T12-175	T12-175	T16-175
			SCE - 3	4 - 6	350	350	350	-	T16-150	T12-150	T20-150	T16-150	T16-150	T20-150	T12-150	T12-250	T12-250	T12-250	T12-150	T12-150	T16-150
	3.0	2.0	SCE - 4	0 - 2	300	300	300	-	T12-150	T12-150	T16-150	T16-150	T12-150	T16-150	T12-150	T12-250	T12-250	T12-250	T12-150	T12-150	T16-150
			SCE - 5	2 - 4	350	350	350	-	T16-175	T12-175	T20-175	T16-175	T12-175	T20-175	T12-175	T12-250	T12-250	T12-250	T12-175	T12-175	T16-175
			SCE - 6	4 - 6	400	400	400	-	T16-150	T12-150	T20-150	T16-150	T16-150	T20-150	T12-150	T12-250	T12-250	T12-250	T12-150	T12-150	T16-150
	3.0	3.0	SCE - 7	0 - 2	300	300	300	-	T12-150	T12-150	T16-150	T16-150	T12-150	T16-150	T12-150	T12-250	T12-250	T12-250	T12-150	T12-150	T16-150
			SCE - 8	2 - 4	350	350	350	-	T16-175	T12-175	T20-175	T16-175	T12-175	T20-175	T12-175	T12-250	T12-250	T12-250	T12-175	T12-175	T16-175
			SCE - 9	4 - 6	450	450	450	-	T16-150	T12-150	T20-150	T16-150	T16-150	T20-150	T12-150	T12-250	T12-250	T12-250	T12-150	T12-150	T16-150
TWIN CELL	2.0	2.0	TCE - 1	0 - 2	250	250	250	250	T12-150	T12-150	T16-150	T16-150	T12-150	T16-150	T12-150	T12-250	T12-250	T12-250	T12-150	T12-150	T16-150
			TCE - 2	2 - 4	300	300	300	300	T16-175	T12-175	T20-175	T16-175	T12-175	T20-175	T12-175	T12-250	T12-250	T12-250	T12-175	T12-175	T16-175
			TCE - 3	4 - 6	400	400	400	350	T16-150	T12-150	T20-150	T16-150	T16-150	T20-150	T12-150	T12-250	T12-250	T12-250	T12-150	T12-150	T16-150
	3.0	2.0	TCE - 4	0 - 2	300	300	300	300	T12-150	T12-150	T16-150	T16-150	T12-150	T16-150	T12-150	T12-250	T12-250	T12-250	T12-150	T12-150	T16-150
			TCE - 5	2 - 4	400	400	400	350	T16-175	T12-175	T20-175	T16-175	T12-175	T20-175	T12-175	T12-250	T12-250	T12-250	T12-175	T12-175	T16-175
			TCE - 6	4 - 6	500	500	500	400	T16-150	T12-150	T20-150	T16-150	T16-150	T20-150	T12-150	T12-250	T12-250	T12-250	T12-150	T12-150	T16-150
	3.0	3.0	TCE - 7	0 - 2	350	350	350	350	T12-150	T12-150	T16-150	T16-150	T12-150	T16-150	T12-150	T12-250	T12-250	T12-250	T12-150	T12-150	T16-150
			TCE - 8	2 - 4	400	400	400	350	T16-175	T12-175	T20-175	T16-175	T12-175	T20-175	T12-175	T12-250	T12-250	T12-250	T12-175	T12-175	T16-175
			TCE - 9	4 - 6	500	500	500	400	T16-150	T12-150	T20-150	T16-150	T16-150	T20-150	T12-150	T12-250	T12-250	T12-250	T12-150	T12-150	T16-150

CONSTRUCTION OF RAJAMAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA ROAD,
(FROM CH 07+560 TO 09+300 km)

TYPICAL BOX CULVERT AND WINGWALL DETAILS

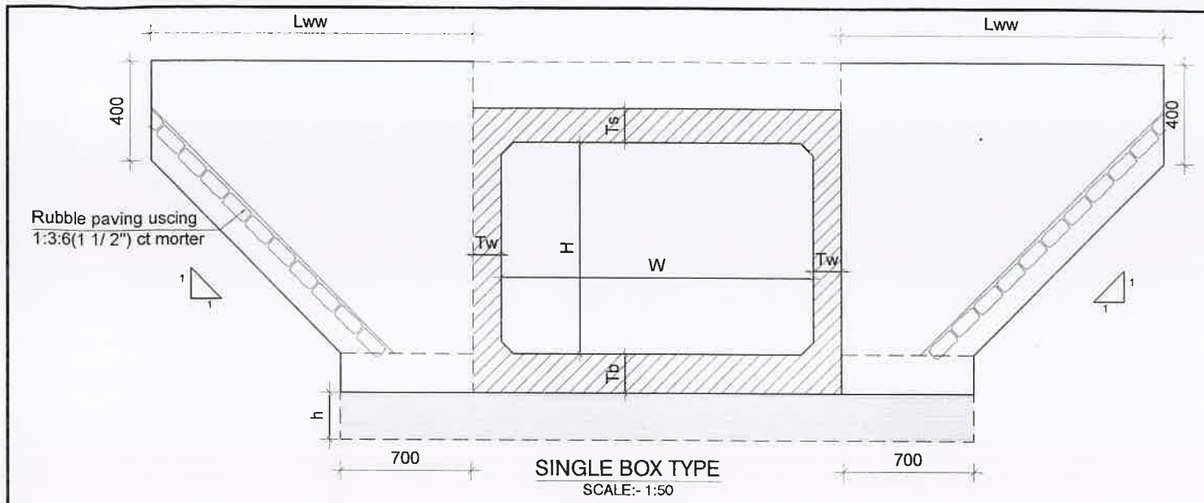
SCALE -

REV	DESCRIPTION	BY	DATE

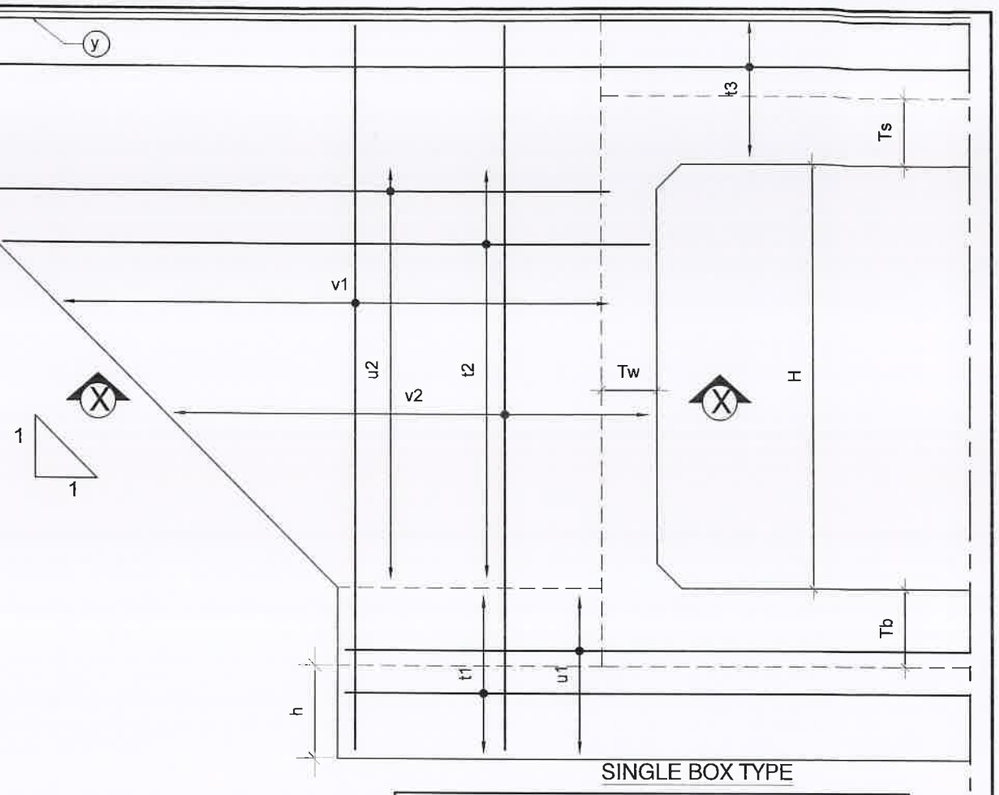
DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS AND TRANSPORT

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B, SAMAGI NIWASA, GANNORUWA, PERADENIYA.
TEL : 0812234267 FAX : 0812234267 email : dacp@rda.gov.lk

SURVEYED & PLOTTED :	DESIGNED : A.G. ARIYAWANSA	DRAWN : J.C. RAJAPAKSHA	CHECKED : A.G ARIYAWANSA
C.E. (DESIGN) : A.G.ARIYAWANSA	D.D.(DESIGN) L.V.S.WEERAKOON		DATE : 23-03-2023
			DRG.No. : DD/D/CP/UVA/TP/1267/1.5/03-07



SINGLE BOX TYPE
SCALE:- 1:50



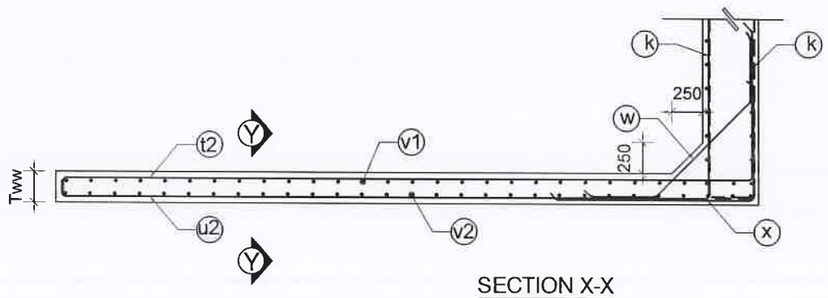
SINGLE BOX TYPE

GENERAL NOTES

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE STATED.
2. THIS DRAWINGS TO SUIT SITE CONDITIONS SHALL BE DECIDED BY THE ENGINEER AT CONSTRUCTION STAGE.
3. CONCRETE GRADE SHALL BE GR. 30/19
4. REINFORCEMENT SHALL BE HOT ROLLED HIGH YIELD STEEL TO BS 4469WITH MIN fy = 460 N/SQMM
5. CLEAR COVER TO REINFORCEMENT SHALL BE 50 MIN.
6. MINIMUM RADIUS FOR SCHEDULING 3Ø
7. LAP LENGTH 50Ø
8. ANCHORAGE LENGTH 50Ø

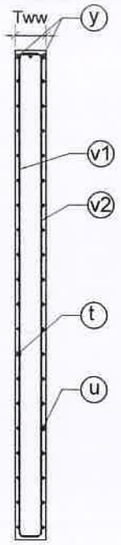
SPECIAL NOTES

1. h - DROP WALL HEIGHT.
2. W - WIDTH OF OPENING
3. H - HEIGHT OF OPENING
4. Ts - TOP SLAB THICKNESS
5. Tb - BOTTOM SLAB THICKNESS
6. Tw - SIDE WALL THICKNESS
7. Tl - MID WALL THICKNESS
8. Tww - WING WALL THICKNESS

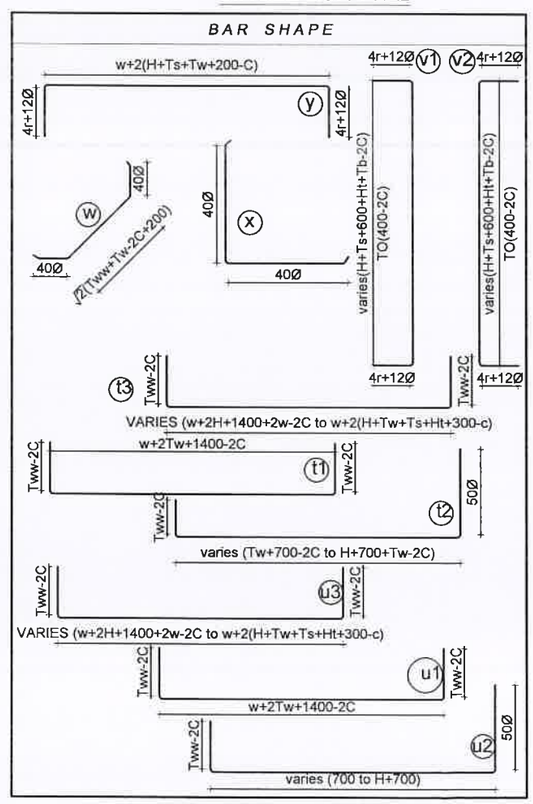


SECTION X-X
SCALE:- 1:50

CULVERT TYPE	INTERNAL DIMENSION		WING WALL THICKNESS	REINFORCEMENT DETAILS						
	W(m)	H(m)		t1-t2-t3	v1	u1-u2-u3	v2	y	w	x
SINGLE CELL	1.0	1.0	250	T12-250	T10-250	T10-300	T10-300	2 T 25	T12-250	T12-250
	1.5	1.0	250	T12-250	T10-250	T10-300	T10-300	2 T 25	T12-250	T12-250
	2.0	1.0	250	T12-250	T10-250	T10-300	T10-300	2 T 25	T12-250	T12-250
	2.5	1.0	250	T12-250	T10-250	T10-300	T10-300	2 T 25	T12-250	T12-250
	1.0	1.5	250	T20-250	T10-250	T10-300	T10-300	2 T 25	T12-250	T12-250
	1.5	1.5	250	T20-250	T10-250	T10-300	T10-300	2 T 25	T12-250	T12-250
	2.0	1.5	250	T20-250	T10-250	T10-300	T10-300	2 T 25	T12-250	T12-250
	2.5	1.5	250	T20-250	T10-250	T10-300	T10-300	2 T 25	T12-250	T12-250
	1.0	2.0	300	T16-125	T12-250	T10-250	T10-250	3 T 25	T12-250	T12-250
	1.5	2.0	300	T16-125	T12-250	T10-250	T10-250	3 T 25	T12-250	T12-250
	2.0	2.0	300	T16-125	T12-250	T10-250	T10-250	3 T 25	T12-250	T12-250
	2.5	2.0	300	T25-125	T12-250	T10-250	T10-250	3 T 25	T12-250	T12-250
	1.0	2.5	300	T25-125	T12-250	T10-250	T10-250	3 T 25	T12-250	T12-250
	1.5	2.5	300	T25-125	T12-250	T10-250	T10-250	3 T 25	T12-250	T12-250
	2.0	2.5	300	T25-125	T12-250	T10-250	T10-250	3 T 25	T12-250	T12-250
	2.5	2.5	300	T25-125	T12-250	T10-250	T10-250	3 T 25	T12-250	T12-250



SECTION Y-Y
SCALE:- 1:50



CONSTRUCTION OF RAJAMAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA ROAD, (FROM CH 07+560 TO 09+300 km)

TYPICAL BOX CULVERT AND WINGWALL DETAILS

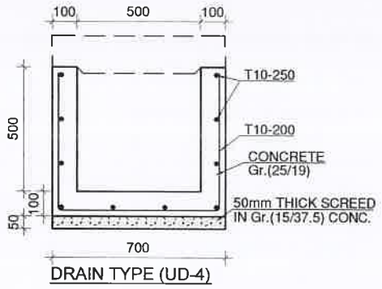
SCALE -

REV.	DESCRIPTION	BY	DATE

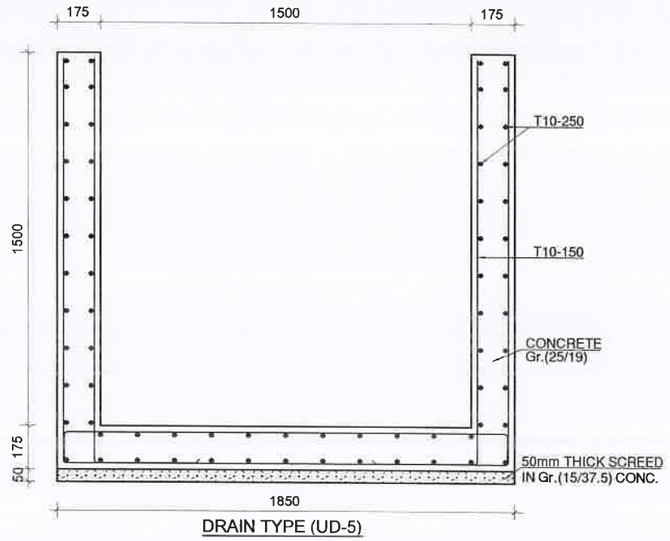
DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS AND TRANSPORT

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B. SAMAGI NIWASA, GANNORUWA, PERADENIYA.
TEL : 0812234267 FAX : 0812234267 email : dacp@rda.gov.lk

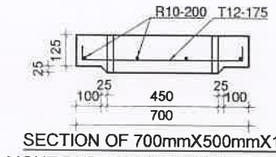
SURVEYED & PLOTTED :	DESIGNED : A.G. ARIYAWANSA	DRAWN : J.C. RAJAPAKSHA	CHECKED : A.G ARIYAWANSA
C.E. (DESIGN) : A.G.ARIYAWANSA	D.D.(DESIGN) L.V.S.WEERAKOON		DATE : 23-03-2023
			DRG.No. : DD/D/CP/UVA/TP/1267/1.5/04-07



DRAIN TYPE (UD-4)



DRAIN TYPE (UD-5)



SECTION OF 700mmX500mmX175mm
LIGHT DUTY PEDESTRIAN COVER SLAB

GENERAL NOTE:

1. ALL DIMENSIONS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.
2. ALL MATERIALS AND WORKMANSHIP ARE TO BE IN ACCORDANCE WITH OF THE SPECIFICATION.
3. TYPE & NUMBERS OF COVER SLAB SHALL BE INSTRUCTED BY THE ENGINEER.

CONCRETE:

1. EXPOSED SHARP EDGES OF CONCRETE SHALL BE CHAMFERED.
2. APPROPRIATE PROVISIONS TO BE MADE TO FACILITATE HANDLING OF SLAB.
3. CONCRETE GRADE SHALL BE USED AS FOLLOWS:
   (a) PRECAST RCC: GRADE 25/19
   (b) DRAIN BASE: GRADE 20/19

REINFORCEMENT:

1. ALL BARS MARKED "R" SHALL BE HOT ROLLED MILD STEEL PLAIN BARS OF YIELD STRENGTH NOT LESS THAN 250 N/mm.
2. ALL BARS MARKED "T" SHALL BE HIGH YIELD DEFORMED BARS OF YIELD STRENGTH NOT LESS THAN 460 N/mm.
3. REINFORCEMENT BARS SHALL BE BENT ACCORDANCE WITH STANDARD SPECIFICATIONS.
4. CLEAR COVER FOR ALL REINFORCEMENT SHALL BE 20 mm MINIMUM.

WEEP HOLE:

1. WEEP HOLE TO BE PROVIDED AT 2000mm C/C STRAGGERED USING 75mm DIA. PVC PIPES.
2. AT THE PAVEMENT EDGE, THE WEEP HOLES TO BE PROVIDE AT THE BOTTOM OF ABC. IF THE DEPTH OF CONCRETE DRAIN IS LESS THAN BOTTOM LEVEL OF ABC, THE WEEP HOLE AT THE PAVEMENT EDGE SHALL BE PROVIDE HIGHER THAN THE BOTTOM SLAB OF CONCRETE DRAIN 100 mm OR AS INSTRUTED BY THE ENGINEER.
3. WEEP HOLES SHALL BE PLACE 45 DEGREES HORIZONTAL ANGLE TO MATCH WATER FLOW DIRECTION OF CONCRETE "U" DRAIN.

SPECIAL NOTE

DRAIN TYPE AND THE HEIGHT OF THE DRAIN TO BE DECIDED TO SUITE SITE CONDITION AS DIRECTED BY THE ENGINEER.

CONSTRUCTION OF RAJAMAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA
(FROM CH 07+560 TO 09+300 km)

TYPICAL DETAILS OF "U" DRAIN AND COVER SLAB

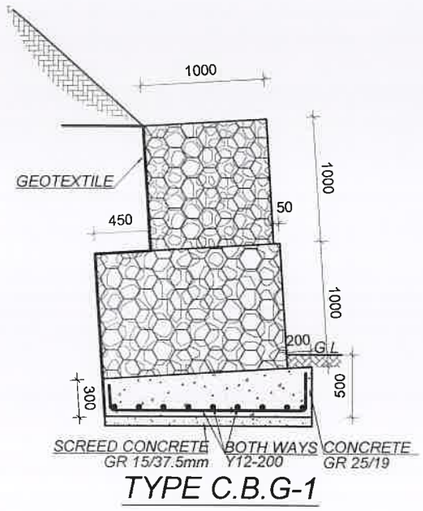
SCALE -

REV	DESCRIPTION	BY	DATE

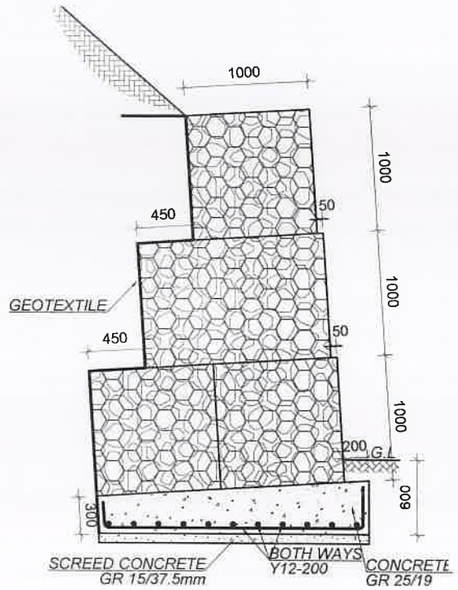
DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS AND TRANSPORT

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B. SAMAGI NIWASA, GANNORUWA, PERADENIYA.
TEL : 0812234267 FAX : 0812234267 email : dacp@rda.gov.lk

SURVEYED & PLOTTED :	DESIGNED : A.G. ARIYAWANSA	DRAWN : J.C. RAJAPAKSHA	CHECKED : A.G ARIYAWANSA
C.E. (DESIGN) : A.G ARIYAWANSA	D.D.(DESIGN) L.V.S WEERAKOON		DATE : 23-03-2023
			DRG No. : DD/D/CP/UVA/TP/1267/1.5/06-07

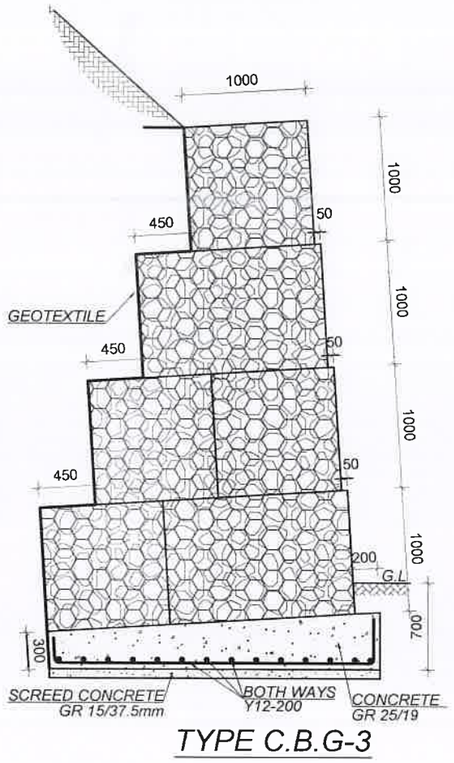


TYPE C.B.G-1

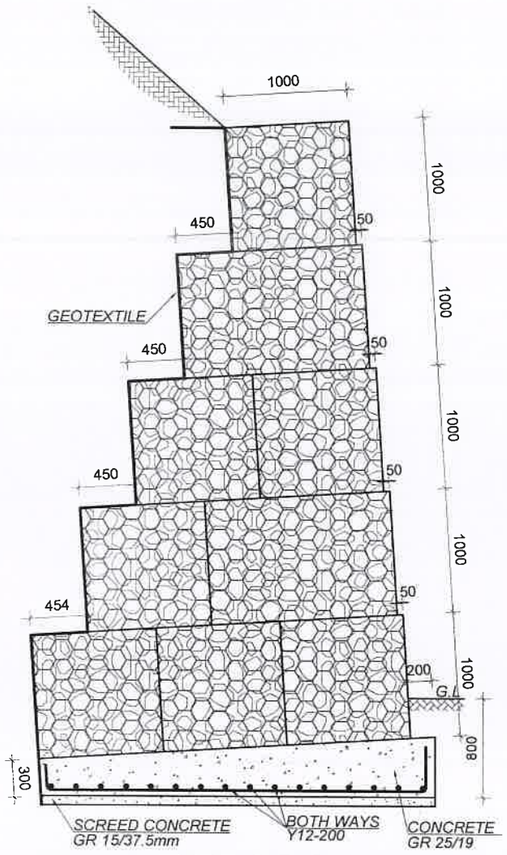


TYPE C.B.G-2

GABION WALL TYPE	HEIGHT OF THE WALL ABOVE THE GROUND LEVEL (m)	PASSIVE EARTH HEIGHT
C.B.G - 1	2.00	0.5
C.B.G - 2	3.00	0.6
C.B.G - 3	4.00	0.7
C.B.G - 4	5.00	0.8
C.B.G - 5	6.00	0.9



TYPE C.B.G-3



TYPE C.B.G-4

SPECIFICATION

(1) Galvanization and Plastic Coating :

All the wire used in the manufacture of gabion system units, and that used for connecting them together , (which reguives wire with diameter not less than 2.2mm) complies with the strictest international standards.

-BS 1052/80
-ASTM-A641-82 Class 3
The steel wire is heavily zino coatoo for protation against corrossion.
-ASTM a641-82
- BS 443-82
The galvanization is coatoo with a PVC sheath of a nominal thickness of 0.50mm.
The main values for the PVC material are as follows.
-Colour :Gray - ASTM D1482-57T
-Specific weight : between 1.30& 1.35 dN/dm3 -ASTM D792-91
-Hardness:beteen 50&60 -ASTM D2240-91
-Teasile strengh : not less than 210dN/cm2- ASTM D412-92
-Elongation : between 200% & 280% - ASTM D412-92
-Weight loss : less than 5% after 24hrs. at 105c -ASTM D2287-92
-Residual ashes :less than 2% - ASTM D2124-62T
-Abrasion resstanes: loss in volume less than 0.30cm3 ASTM D1242-56(75) Test method A

CONSTRUCTION OF RAJAMAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA
(FROM CH 07+560 TO 09+300 km)

TYPICAL GABION WALL SECTION WITH CONCRETE BASE

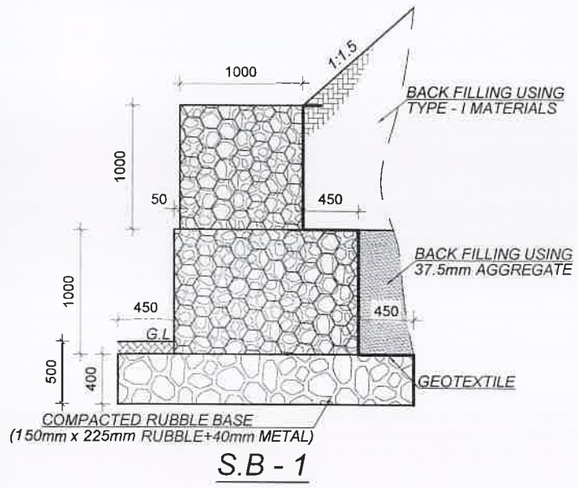
SCALE -

REV.	DESCRIPTION	BY.	DATE

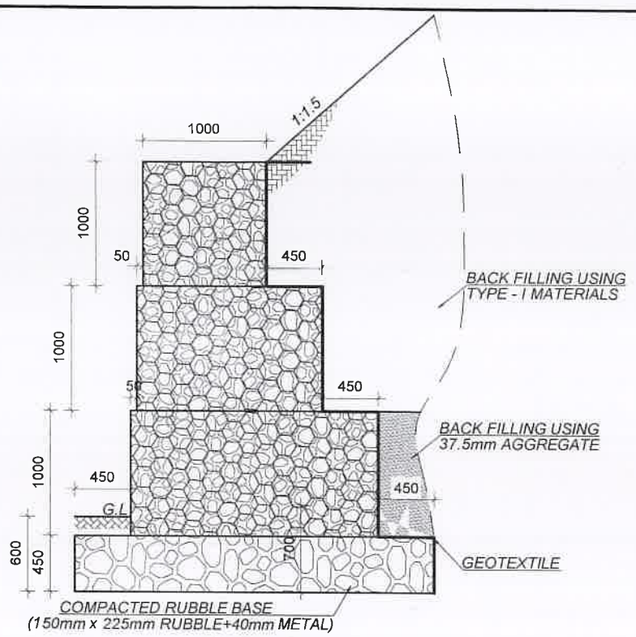
DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS AND TRANSPORT

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B, SAMAGI NIWASA, GANNORUWA, PERADENIYA.
TEL : 0812234267 FAX : 0812234267 email : dacp@rda.gov.lk

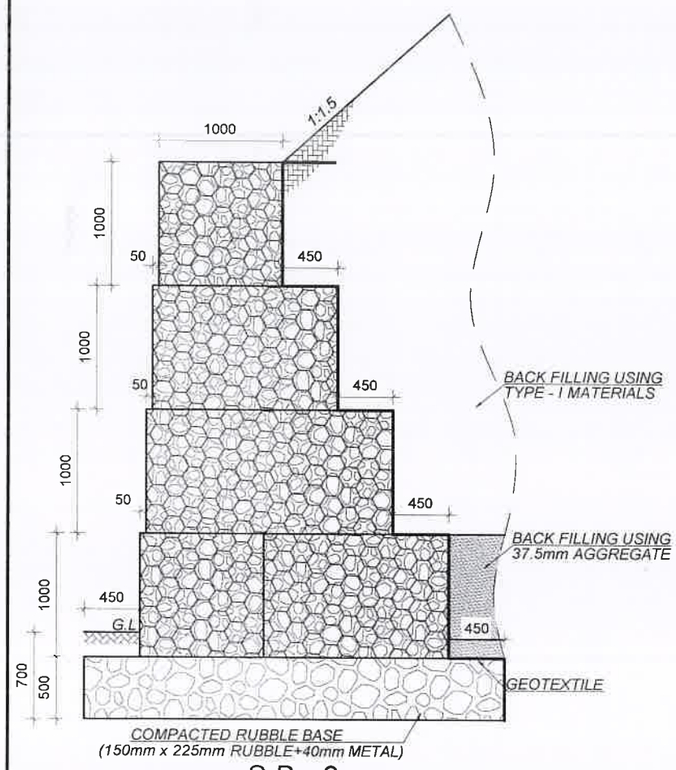
SURVEYED & PLOTTED :	DESIGNED : A.G. ARIYAWANSA	DRAWN : J.C. RAJAPAKSHA	CHECKED : A.G ARIYAWANSA
C.E. (DESIGN) : A.G.ARIYAWANSA	D.D (DESIGN) L.V.S WEERAKOON		DATE : 23-03-2023
			DRG.No. : DD/D/CP/UVA/TP/1267/1.5/05-07



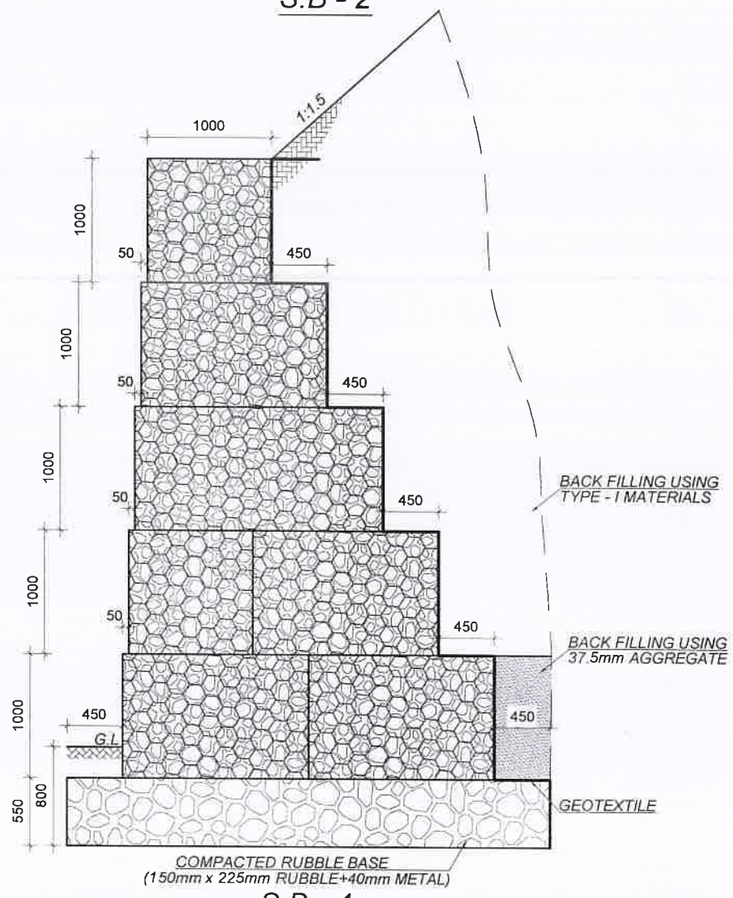
S.B - 1



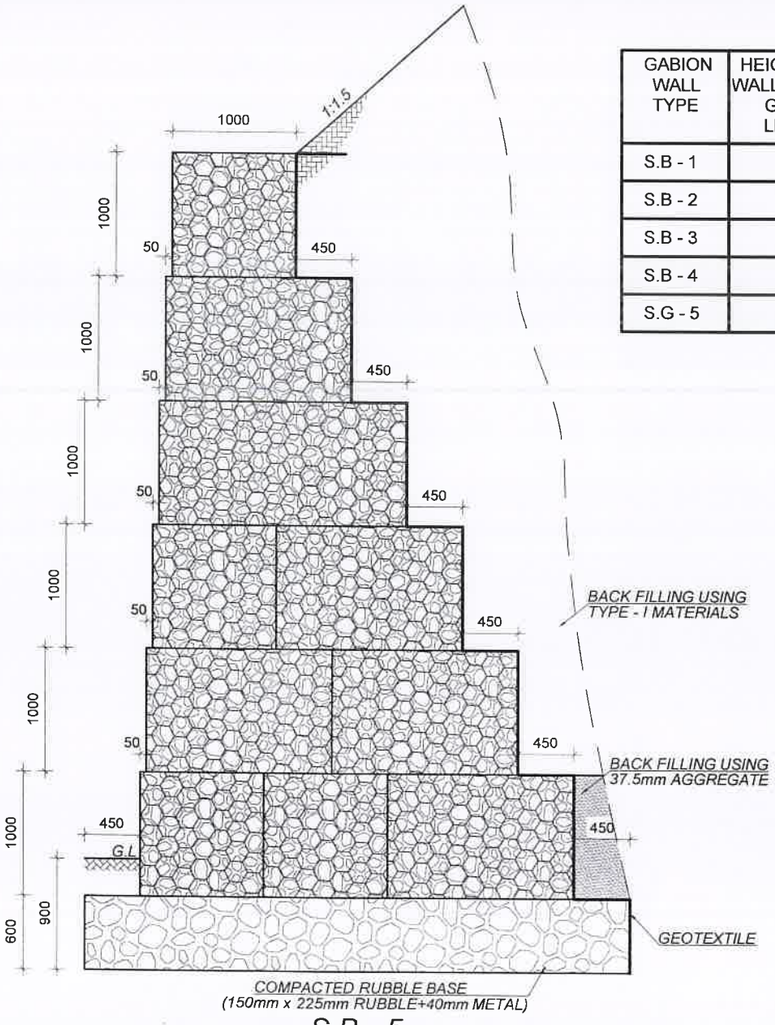
S.B - 2



S.B - 3



S.B - 4



S.B - 5

SPECIFICATION

(1) Galvanization and Plastic Coating :

All the wire used in the manufacture of gabion system units, and that used for connecting them together , (which reguives wire with diameter not less than 2.2mm) complies with the strictest international standards.

-BS 1052/80
-ASTM-A641-82 Class 3
The steel wire is heavily zino coatoo for protation against corrossion.
-ASTM a641-82
- BS 443-82
The galvanization is coatoo with a PVC sheath of a nominal thickness of 0.50mm.
The main values for the PVC material are as follows.
-Colour :Gray - ASTM D1482-57T
-Specific weight : between 1.30& 1.35 dN/dm3 -ASTM D792-91
-Hardness:beteen 50&60 -ASTM D2240-91
-Teasile strengh : not less than 210dN/cm2- ASTM D412-92
-Elongation : between 200% & 280% - ASTM D412-92
-Weight loss : less than 5% after 24hrs. at 105c -ASTM D2287-92
-Residual ashes :less than 2% - ASTM D2124-62T
-Abrasion resstanes: loss in volume less than 0.30cm3 ASTM D1242-56(75) Test method A

GABION WALL TYPE	HEIGHT OF THE WALL ABOVE THE GROUND LEVEL (m)	PASSIVE EARTH HEIGHT
S.B - 1	1.90	0.5
S.B - 2	2.85	0.6
S.B - 3	3.80	0.7
S.B - 4	4.75	0.8
S.G - 5	5.70	0.9

CONSTRUCTION OF RAJAMAWATHA EXTENSION ROAD FROM KETAWALA TO MASPANNA
(FROM CH 07+560 TO 09+300 km)

TYPICAL GABION WALL SECTION WITH ROCK BASE

SCALE -

REV	DESCRIPTION	BY.	DATE

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA
MINISTRY OF HIGHWAYS AND TRANSPORT

DESIGN OFFICE (C.P.),
ROAD DEVELOPMENT AUTHORITY
06B. SAMAGI NIWASA, GANNORUWA, PERADENIYA.
TEL : 0812234267 FAX : 0812234267 email : dacp@rda.gov.lk

SURVEYED & PLOTTED :	DESIGNED : A.G. ARIYAWANSA	DRAWN : J.C. RAJAPAKSHA	CHECKED : A.G.ARIYAWANSA
C.E. (DESIGN) : A.G.ARIYAWANSA	D.D (DESIGN) L.V.S.WEERAKOON		DATE : 23-03-2023
			DRG.No. : DD/D/CP/UVA/TP/1267/1.5/07-07