

Ministry of Fisheries and Aquatic Resources  
Tsunami Housing Reconstructon Unit  
Ministry of Provincial Council and Local Government  
Ministry of Finance and Planning

Japan International  
Cooperation Agency  
(JICA)

**Recovery, Rehabilitation and Development Project for  
Tsunami Affected Area of Southern Region in  
the Democratic Socialist Republic of Sri Lanka**

**Final Report**

**ANNEX  
Draft Tender Documents**

**March 2006**

**PADECO Co., Ltd.**  
in association with  
**NIPPON KOEI Co., Ltd.**  
and  
**OVERSEAS AGRO-FISHERIES CONSULTANTS Co., Ltd.**

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Tsunami Housing Reconstruction Unit  
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*for the currency conversion, in case necessary,  
Exchange rate shown below is applied*

*1 USD= 107.00 JPY,*

*1 Rs= 1.0 JPY*

# **ANNEX**

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**DRAFT**

**TENDER DOCUMENTS  
FOR  
CONSTRUCTION WORK  
ON  
THE PROJECT  
FOR  
RECONSTRUCTION OF AQUEDUCT AT MATARA  
DAMAGED BY TSUNAMI DISASTER  
(Matara Aqueduct)**

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**CONSTRUCTION WORK  
ON  
THE PROJECT  
FOR  
RECONSTRUCTION OF AQUEDUCT AT MATARA  
DAMAGED BY TSUNAMI DISASTER  
(Matara Aqueduct)**

**Section - 1**

**INSTRUCTIONS TO TENDERERS**

## Section 1. INSTRUCTIONS TO TENDERERS

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## **CHAPTER 1 INTRODUCTION**

### **1. THE PURPOSE OF TENDER**

- (1) For the purpose of contributing to the execution of the Project for Reconstruction of Aqueduct at Dondra in Matara District Damaged by Tsunami Disaster (hereinafter called “the Project”), in its current portion of the execution of the Program for Efforts to cope with the Damages caused by the Great Earthquake off the Coast of Sumatra, the Republic of Indonesia, and by Indian Ocean Tsunami Disaster (hereinafter called “the Program”) under Japan’s Grant aid to the Government of the Democratic Socialist Republic of Sri Lanka in accordance with the Exchange of Notes signed on the 17<sup>th</sup> day of January, 2005 between the Government of Japan (the Donor) and the Government of the Democratic Socialist Republic of Sri Lanka (the Recipient).
- (2) The Project consists of the construction of the following aqueduct, namely;
  - Matara Aqueduct
- (3) On behalf of the Government of the Democratic Socialist Republic of Sri Lanka, Japan International Cooperation System (JICS) (hereinafter called “the Employer”) as a competent agent of the Government of the Democratic Socialist Republic of Sri Lanka to secure the smooth and successful implementation of the Programme, will invite the qualified Tenderers provided in Clause 2 of this Chapter to Tender for Construction Work for the Project.
- (4) The Executing Agency of the Project shall be the National Water Supply and Drainage Board in the Democratic Socialist Republic of Sri Lanka.

### **2. QUALIFICATION OF TENDERERS**

Tenderers shall be construction firms and companies who were qualified on the pre-qualification procedure to participate in the tendering process by the Employer and obtained the Tender Documents.

### **3. DESCRIPTION OF THE PROJECT**

- (1) The Employer takes responsibility for implementing the Project, with the consultancy services provided by the Consultant who is designated by the Employer through the tendering process for the Project (hereinafter called “the Consultant”).
- (2) The Project will contribute to the recovery of social securities through construction of aqueduct in the appointed areas.
- (3) The Tenderer, if awarded, shall proceed with the work in accordance with the detailed design and drawings in the Tender Documents.

#### **4. SCOPE OF WORKS**

The scope of works of the Project covered by this Tendering (hereinafter called “the Work”) of the Project consists of the following:

- Construction of Matara Aqueduct

Details of the Work shall be stipulated in due conformity with the Specifications of the Tender Documents.

#### **5. COMPLETION DATE OF THE WORK**

The Work shall be completed within six (6) calendar months from the date of Notice to Commence.

#### **6. ACQUAINTANCE WITH LOCAL CONDITIONS**

- (1) The Project Site is located in Dondran in Matara District.
- (2) To the extent practicable (taking into account of cost and time), the Tenderers shall be deemed to have obtained all necessary information as to risks, contingencies and other circumstances that may influence or affect the Tender or to have inspected and examined the Project Site, its surroundings, the above data and other available information, and to have been satisfied before submitting the Tender as to all relevant matters, including (without limitation):
  - 1) the form and nature of the Project Site, including sub-surface conditions,
  - 2) the hydrological and climatic conditions,
  - 3) the extent and nature of the Work and goods necessary for the execution and completion of the Work and remedying of any defects,
  - 4) the laws, procedures and labor practices of the country, and
  - 5) the Contractor's requirement for access, accommodation, facilities, personnel, power, transport, water and other services.

## **CHAPTER 2 TENDER DOCUMENTS**

### **1. COMPOSITION OF TENDER DOCUMENTS**

The Tender Documents are composed of the following:

- (1) Instructions to Tenderers
- (2) Forms
- (3) Conditions of Contract
- (4) Particular Conditions
- (5) Form of Tender
- (6) Tender Data and Contract Data
- (7) Specifications
- (8) Bill of Quantities
- (9) Drawings

The documents are to be taken as mutually explanatory of one another. If an ambiguity or discrepancy is found in the documents, it shall be interpreted in accordance with the above-mentioned sequence as an order of priority.

### **2. ISSUANCE OF TENDER DOCUMENTS**

Tender Documents shall be issued at the Employer's Office of 5<sup>th</sup> floor, Hilton Colombo Residence, 200, Union Place, Colombo 02, Sri Lanka.

### **3. RESPONSIBILITY OF TENDERERS**

- (1) Tenderers shall examine carefully the Tender Documents to understand fully the content of the Work including the amounts and any difficulties or restrictions that may affect the execution and completion of the Work.
- (2) Tenderers shall be liable for any failure or negligence to obtain reliable and necessary information for successful execution or completion of the Work.

### **4. CLARIFICATION OF TENDER DOCUMENTS**

- (1) Any inquiries on the Tender Document or any doubts as to its interpretation shall be written in English and sent to the Consultant by facsimile on or before 17:00 on the \_\_\_ day of (month), 2005
- (2) The Employer shall respond in writing to the inquiry and/or expressed doubt on interpretation. The responses will be sent by facsimile to all

prospective Tenderers who purchased the Tender Documents on the \_\_\_\_  
day of (month), 2005.

- (3) All prospective Tenderers shall send a facsimile to the Consultant for the confirmation of the receipt.
- (4) The responses shall constitute a part of the Tender Documents provided in Chapter 2 Clause 1.

## **5. ADDENDA OF TENDER DOCUMENTS**

- (1) The Consultant may, for any reason, whether at his own initiative or in response to a clarification requested by prospective Tenderers, modify the Tender Documents.
- (2) The Employer will notify in English all prospective Tenderers by facsimile of any addenda indicating such modification on or before the \_\_\_\_day of (month), 2005, i.e., **at least 6 calendar days** before the day of Tender opening.
- (3) The prospective Tenderers shall send the confirmation of receiving the addenda stated above to the Consultant by facsimile.
- (4) The addenda shall constitute a part of the Tender Documents provided in Chapter 2 Clause 1.

## CHAPTER 3 PREPARATION AND SUBMISSION OF TENDER

### 1. PREPARATION OF TENDER

- (1) The Tenderer shall be prepared in accordance with the forms as shown in "SCHEDULE" in this INSTRUCTION TO TENDERERS unless otherwise specified particularly. The Tender shall be also submitted by filling out the forms and documents provided on the Form of Tender. Each of the forms shall be completely filled in indelible ink or typewritten or computer printouts. No interlinings, erasures (or crossing out), addition, or alteration may be allowed. If the documents submitted by the Tenderer do not meet the requirements mentioned above, the Tenderer may be disqualified.
- (2) The Tenderers shall submit the following:
  - 1) Letter of Authority with signature of the representative duly certified by the Tenderer.
  - 2) General Information on Tenderer.

(See the attached "Schedule" in this Part.)
  - 3) Construction schedule together with method statement and labor histogram

(The Work shall be completed by the date appointed in Clause 1, Chapter 1.)
  - 4) Form of Tender, Tender Data and Contract Data
  - 5) Tender Security (See (5) in this Clause below.)
  - 6) Priced Bill of Quantities
- (3) All entries in the Tender including attachments shall be written in English. All units in the Tender shall be in the metric system unless otherwise specified in the Specifications or Drawings.
- (4) Incomplete, vague or conditional Tenderer will not be considered.
- (5) Tenderer shall submit a Tender Security. The details are described in the conditions below:
  - 1) Issuer shall be by the head office or a branch in Sri Lanka of a first class, internationally recognized bank or an insurance company.
  - 2) Form shall be in a form of guarantee issued by the above-mentioned institution.
  - 3) Amount shall be not less than two percent (2%) of the total Tender price.

- 4) Validity shall cover more than 60 days after the opening date of Tender. (May be extended if so requested)
- 5) Timing of Release
  - i) To the unsuccessful Tenderers  
Promptly after the official decision is made that they are unsuccessful.
  - ii) To the successful Tenderer  
After signing the Contract and his submission of a performance security.

## **2. TENDER PRICES**

- (1) All prices shall be quoted in Sri Lanka Rupees (Rs.) without exception and the Tender price shall be stated on the basis of lump sum price.
- (2) Duties and VAT component under this contract shall be borne by the Executing Agency.
- (3) Tender prices shall be firm and final, and not subject to escalation.
- (4) The contract price is also to be made in Sri Lanka Rupees (Rs.). However, all payments from the Employer shall be done by bank transfer from Japan to the bank account designated by the Contractor in Japanese Yen. The conversion from Sri Lanka Rupees to Japanese Yen shall be made according to the exchange rate published on the date of Certificate required for each payment issued by the Employer.

## **3. TERM OF VALIDITY OF TENDER**

The Tenderers shall remain valid and irrevocable for a period of sixty (60) days on and after the date of the Tender opening.

## **4. SUBMISSION OF TENDER**

- (1) The Tenderers shall prepare one (1) original and one (1) copy of their Tender. The Tenderers shall submit the Tender in envelopes that are properly sealed and duly marked as, "ORIGINAL" or "COPY", the name of Tenderer, and the name of the Project. Therefore, the Tenderers shall submit two sets (ORIGINAL and COPY) respectively
- (2) The Tender shall be submitted to the address specified in Chapter 4 herein, not later than the closing time for submission of Tender specified in the same.
- (3) The Tender shall be submitted in person. The Tender through other means such as telex, telegraph, facsimile, e-mail or mail shall not be accepted.

- (4) Any Tender received after the closing time will be returned unopened.
- (5) Alternative Tender shall not be allowed.
- (6) The Tenderer is neither allowed to modify nor withdraw his Tender after the closing time.

**5. INTERPRETATION OF TENDER**

- (1) Should there be any discrepancy between the “ORIGINAL” and the “COPY”, the “ORIGINAL” shall prevail. If there is a difference between the figures entered in words and in numerals in the Tender, the figures entered in words shall prevail.
- (2) Should there be any discrepancy between the Tender price in the Letter of Tender and the total price of the Bill of Quantities, the Tender price in the Letter of Tender shall prevail.



## CHAPTER 4 OPENING OF TENDER

### 1. INTRODUCTION

- (1) The Proposals of all Tender shall be opened at the Employer's office, immediately after the closing time, in the presence of the Tenderers as follow.

Venue: Conference room on the 3<sup>rd</sup> floor in Hilton Colombo Residence

Time & Date: 11:00 a.m. Sri Lanka Standard Time on the \_\_\_ day of (month), 2005

Address: Hilton Colombo Residence, 200, Union Place, Colombo 02, Sri Lanka  
Telephone/Facsimile; +94-11-536-0503

At least one (1) authorized person with a Letter of Authority of the Tenderer shall attend the Tender opening.

### 2. TENDER OPENING PROCEDURES

- (1) All participants of the Tender opening shall register their signatures in an attendant list prepared by the Consultant before the Tender opening.
- (2) The Consultant shall confirm the validity of each authorized person with a Letter of Authority of the Tenderers. In case the document is incomplete or inappropriate, the Tenderers shall forfeit his right to participate in the Tender opening any further and the Tender shall be returned unopened.
- (3) Tenders will be open immediately after closing time and the tender price offered by each Tenderer shall be read aloud and recorded.
- (4) In the event that all Tenderers are not successful, the Employer will prepare another Tender with modifications and exercise a re-Tender.

## **CHAPTER 5 EVALUATION OF TENDER AND AWARD OF CONTRACT**

### **1. EVALUATION OF TENDER**

- (1) The Consultant will ascertain, examine and evaluate the Tender in the light of the following:
  - 1) computations are free of material errors,
  - 2) the submitted documents are substantially responsive to the Tender Documents,
  - 3) the required certificates have been provided,
  - 4) documents have been properly signed, and
  - 5) the Tenders are otherwise generally in order.
- (2) If a Tender does not substantially conform to the Specifications, or contains inadmissible reservations or otherwise is not substantially responsive to the Tender Documents, it shall be rejected.
- (3) The Consultant will examine and evaluate at his discretion the Tender prices submitted by Tenderers.
- (4) If the Tender of the prioritized Tenderer is incomplete, the Consultant will negotiate for the contract with the next lowest priced Tenderer and these procedures will be followed until the Consultant reaches agreement with a Tenderer.
- (5) The Employer intends to select an appropriate contractor for the Work within one month after opening of Tender.

### **2. CLARIFICATION OR ALTERNATION OF TENDER**

In the examination, evaluation and comparison of the Tenders, the Consultant may, at his discretion, ask any tender for a clarification of his Tender. All responses to the requests for clarification shall be in writing, and no change in the total price or the substance of the Tender shall be offered or permitted.

### **3. PROCESS TO BE CONFIDENTIAL**

Information relating to the examination, clarification, and evaluation of tenders, and recommendations for the award of the contract shall not be disclosed to Tenderers or any other persons who are not officially concerned with such process until the notification of award defined in Chapter 5 Clause 5.

#### **4. CONTACT WITH THE EMPLOYER**

- (1) Except for the purpose of clarification of the Tender as provided in Clause 2 of this Chapter, no Tenderers shall contact the Employer and the Consultant on any matter related to the Tender, from the time of the Tender opening to the time of Contract awarding.
- (2) Any attempt by a Tenderer to influence the Employer's and the Consultant's processing or awarding of Tender may result in the disqualification of the Tenderer.

#### **5. LETTER OF ACCEPTANCE**

- (1) The Tenderer whose offer substantially conforms to the Specifications and other conditions of the Tender Documents, and who offers the lowest price shall be designated as the successful Tenderer.
- (2) After completion of evaluation of the Tenders, the Employer shall issue the Letter of Acceptance to successful Tenderer within the period of validity of Tender stated in Chapter 3 Clause 3 hereof by facsimile or registered letter.

#### **6. SIGNING OF CONTRACT**

- (1) At the same time that the Employer notifies the successful Tenderer that his tender has been accepted, the Employer will send the Tenderer the Contract Agreement provided in the Tender Documents, incorporating all arrangements between the parties.
- (2) The following documents shall be considered as integral parts of the Contract:
  - 1) Contract Agreement
  - 2) Tender of the successful Tenderer
  - 3) General Conditions
  - 4) Particular Conditions
  - 5) Specifications
  - 6) Drawings
  - 7) Bill of Quantities and Schedules
  - 8) Instruction to Tenderers and such other documents intended to form the Contract

The documents of the Contract are to be taken as mutually explanatory of one another. If an ambiguity or discrepancy is found in the documents, the interpretation shall be done in accordance with the above-mentioned sequence of the priority.

**7. PERFORMANCE SECURITY**

The successful Tenderer, having received the Letter of Acceptance, shall furnish a performance security amounting to ten percent (10%) of the total contract price within fourteen (14) days following the date of award. The Employer shall have the custody of the performance security.

**8. NOTIFICATION OF THE RESULT OF TENDER**

Upon receiving the performance security from the successful Tenderer, the Employer shall promptly notify the other Tenderers in writing that their Tenders have been unsuccessful.

## **CHAPTER 6 COMMON CONDITIONS**

### **1. SAFETY PROCEDURE**

The Contractor shall:

- (1) comply with all applicable safety regulations in Sri Lanka,
- (2) take care for the safety of all persons entitled to be on the Project Site,
- (3) use reasonable efforts to keep the Project Site and the Work clear of unnecessary obstruction so as to avoid danger to persons entitled to be on the Project Site,
- (4) provide fencing, lighting, guarding and watching of the Work until completion and taking-over, and
- (5) provide any temporary works (including roadways, footways, guards and fences) that may, because of the execution of the Work, be necessary for the use by or protection of the public and of owners and occupants of adjacent land.

### **2. PROTECTION OF THE ENVIRONMENT**

The Contractor shall take all reasonable steps to protect the environment (both on and off the Project Site) and to limit damage and nuisance to people and property resulting from pollution, noise or other aspects of his operations.

**SCHEDULE : GENERAL INFORMATION OF TENDERER**

**1.0 GENERAL INFORMATION**

- (a) Registered Name of Firm :-.....  
*(Copy of Business Registration or Certificate of Incorporation should be attached).*
  
- (b) Head Office Address :- .....  
.....
  
- (c) Telephone Numbers :- .....
  
- (d) Fax Numbers :- .....
  
- (e) E-Mail Address :- .....
  
  
- (f) VAT Registration Number :- .....  
*(Attach copy of Department of Inland Revenue letter assigning VAT No.)*
  
- (g) Type of Organization  
Limited Liability Co.   
Partnership   
Sole Proprietor   
Government Organization
  
- (h) Organization Chart
  
  
- (i) ICTAD Registration Expiry Date .....  
Grade .....  
No. ....
  
  
- (j) NCCASL Membership Expiry Date .....  
No. ....

**2.0 PERSON MANAGING THE AFFAIRS OF THE CONTRACTOR'S ORGANIZATION**

(a) Name of person : .....

(b) Designation / Title : .....

(c) Certified copy of appointment / authority and designation

(d) Telephone Number :-.....

(e) E-mail Address : -.....

(f) Fax No. :-.....

## **Section - 2**

### **FORMS**

Form of Tender Security, Letter of Acceptance, Form of Agreement,  
Forms of Performance Guarantees and Bonds  
And  
Form of Advance Payment Guarantee



## TENDER SECURITY

WHEREAS \_\_\_\_\_ [name of tenderer] (hereinafter called "the Tenderer") has submitted his Tender dated \_\_\_\_\_ [date] for the construction of \_\_\_\_\_ [name of Contract] (hereinafter called "the Tender").

KNOW ALL PEOPLE by these presents that we \_\_\_\_\_ [name of the organization] having our registered office at \_\_\_\_\_ (hereinafter called "Guarantor") are bound unto Japan International Cooperation System (JICS) of Japan (hereinafter called "the Employer") in the sum of Sri Lanka Rupees \_\_\_\_\_ for which payment well and truly to be made to the said Employer. The Guarantor binds itself, its successors, and assigned by these presents.

SEALED with the Common Seal of the said Guarantor this \_\_\_\_ day of \_\_\_\_ 200\_.

### THE CONDITIONS of this obligation are:

- (1) If, after Tender opening, the Tenderer withdraws its Tender during the period of Tender validity specified in Form of Tender; or
- (2) If the Tenderer having notified of the acceptance of its Tender by the Employer during the period of Tender validity:
  - (a) fails or refuses to execute the Form of Agreement in accordance with the Instruction to Tenderers, if required; or
  - (b) fails or refuses to furnish the Performance Security, in accordance with the Instruction to Tenderers; or
  - (c) does not accept the correction of the Tender Price pursuant to Clause 1 and 2, Chapter 5. Evaluation of Tender and award of Contract of the Instruction to Tenderers.

we undertake to pay to the Employer up to amount upon receipt of his first written demand, without the Employer's having to substantiate its demand, provided that in its

demand the Employer will note that the amount claimed by it is due to it owing to the occurrence of one or more of the above conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to \_\_\_\_\_ *[date]*.

Any demand in respect of this guarantee should reach the Guarantor not later than the above date.

DATE \_\_\_\_\_ SIGNATURE OF THE GUARANTOR \_\_\_\_\_

SEAL

WITNESS \_\_\_\_\_

*[signature, name and address]*

## LETTER OF ACCEPTANCE

*[letter head paper of the Employer]*

To: \_\_\_\_\_ \_\_\_\_\_ [date]  
\_\_\_\_\_ *[name of the Contractor]*  
\_\_\_\_\_ *[address of the Contractor]*

This is to notify you that your Tender dated \_\_\_\_\_ for execution of the \_\_\_\_\_ *[name of the Contract and identification number, as given in the Contract Data]* for the Contract price of Rupees ( \_\_\_\_\_ *[amount in numbers and words]*) as corrected in accordance with Instruction to Tenderers.

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

Authorized Signature: \_\_\_\_\_

Name and title of Signatory: \_\_\_\_\_  
\_\_\_\_\_

Name of Agency: \_\_\_\_\_

Attachment: Agreement

## CONTRACT AGREEMENT

**This Agreement** made and entered in to the \_\_\_\_ day of (month), 2005 between Japan International Cooperation System (JICS) of Japan (hereinafter called "the Employer") of the one part, and \_\_\_\_\_ [*Name and Address of the Contractor*] (hereinafter called "the Contractor") of the other part,

WHEREAS, the Government of Japan extends its grant to the Government of the Democratic Socialist Republic of Sri Lanka on the basis of "the Exchange of Notes" signed on the 17th day of January, 2005 between the Governments concerning the execution of the Programme for Efforts to cope with the Damages caused by the Great Earthquake off the Coast of Sumatra, the Republic of Indonesia, and by Indian Ocean Tsunami Disaster (hereinafter referred to as "the Programme"); and

WHEREAS, the Employer, as a competent agent of the Government of the Democratic Socialist Republic of Sri Lanka to secure the smooth and successful implementation of the Program, is desirous to execute and complete the Work for the Project for Reconstruction of Matara Aqueduct Damaged by Tsunami Disaster (hereinafter referred to as "the Project"), in its current portion of the Program; and

WHEREAS, the Contractor is willing to execute and complete the Work and the remedying of any defects therein, to the Employer under the terms and conditions as set forth in this Agreement;

**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 Conditions of Contract hereinafter referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement:
  - (a) The Letter of Acceptance dated \_\_\_\_\_
  - (b) The Letter of Tender dated \_\_\_\_\_

- (c) The Addenda no. \_\_\_\_\_
  - (d) The Conditions of Contract
  - (e) Contract Data
  - (f) The Specification
  - (g) The Drawings
  - (h) The Priced Bill of Quantities, and
  - (i) The completed Schedules.
3. In consideration of the payments to be made by the Employer to the Contractor as hereinafter mentioned, the Contractor hereby covenants with the Employer to execute and complete the Work and remedy any defects therein, in conformity with the provisions of the Contract.
4. The Employer, on behalf of the Government of the Democratic Socialist Republic of Sri Lanka, hereby covenants to pay the Contractor, in consideration of the execution and completion of the Work and the remedying of defects therein. The Contract Price at the times and in the manner prescribed by the Contract.

In Witness whereof the parties hereto have caused this Agreement to be executed the day and year first before written in accordance with their respective laws.

SIGNED by \_\_\_\_\_  
For and on behalf of the Employer in the presence of

SIGNED by \_\_\_\_\_  
For and on behalf of the Contractor in the presence of

Witness: \_\_\_\_\_  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Date: \_\_\_\_\_

Witness: \_\_\_\_\_  
Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Date: \_\_\_\_\_

## PERFORMANCE GUARANTEE

(Unconditional)

NUMBER: \_\_\_\_\_

DATE: \_\_\_\_\_

SUM GUARANTEED: \_\_\_\_\_

To: Japan International Cooperation System (JICS) of Japan (hereinafter called "the Employer), 5<sup>th</sup> Floor, Hilton Colombo Residence, 200, Union Place, Colombo 02, Sri Lanka.

Whereas \_\_\_\_\_ [*name and address of the Contractor*] (hereinafter called "the Contractor) has undertaken, in pursuance of contract No. \_\_\_\_\_ dated \_\_\_\_\_ to execute \_\_\_\_\_ [*name of Contract*] (hereinafter called "the Contract).

And whereas it has been stipulated by the Employer in the said Contract that the Contractor shall furnish the Employer with a Guarantee by a recognized organization for the sum specified therein as security for compliance with his obligations in accordance with the Contract;

And whereas we have agreed to give the Contractor such a Guarantee;

Now therefore we hereby affirm that we are the Guarantor and responsible to you, on behalf of the Contractor, up to a total of \_\_\_\_\_ [*amount of Guarantee*] \_\_\_\_\_ [*amount in words*], such sum being payable in the type and proportion of currencies in which the Contract Price is payable, and we undertake to pay the Employer, upon the Employer's first written demand and without cavil or argument, any sum or sums within the said amount as aforesaid without the Employer needing to prove or to show grounds or reasons for the Employer's demand for the sum specified therein.

We hereby waive the necessity of the Employer demanding the said debt from the Contractor before presenting us with the demand.

We further agree that no change or addition to or other modification of the terms of

the Contract or of the Works to be performed thereunder or of any of the Contract documents which may be made between the Employer and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice of any change, addition or modification.

This guarantee shall be valid until a date 28 days from the date of issue of the Certificate of Completion.

Signature and the Seal of the Guarantor: \_\_\_\_\_

Name of the Organization: \_\_\_\_\_

Address: \_\_\_\_\_

Date: \_\_\_\_\_

Witness: \_\_\_\_\_

## ADVANCE PAYMENT GUARANTEE

NUMBER: \_\_\_\_\_

DATE: \_\_\_\_\_

SUM GUARANTEED: \_\_\_\_\_

To: Japan International Cooperation System (JICS) of Japan (hereinafter called "the Employer), 5<sup>th</sup> Floor, Hilton Colombo Residence, 200, Union Place, Colombo 02, Sri Lanka.

Name of the Contract \_\_\_\_\_

In accordance with the provision of the Conditions of Contract, Clause 51 (Advance Payment), of the above mentioned contract \_\_\_\_\_  
[name and address of contractor] (hereinafter called "the Contractor") shall deposit with the Employer a guarantee acceptable to the Employer to guarantee his proper and faithful performance under the said Contract in and amount of \_\_\_\_\_  
\_\_\_\_\_ [amount of guarantee] \_\_\_\_\_ [amount in words].

We, the \_\_\_\_\_ [the name and address of the organization], as instructed by the Contractor, agree unconditionally and irrevocably to guarantee as primary obligator and not as surety merely, the payment to the Employer on his first demand without whatsoever right of objection on our part and without his first claim to the Contractor, in the amount not exceeding \_\_\_\_\_ [amount of guarantee], such amount to be reduced periodically by the amounts recovered by the Employer from the proceeds of the Contract.

We further agree that no change or addition to or other modification of the terms of the Contract or of the Works to be performed thereunder or of any of the Contract document which may be made between the Employer and the Contractor shall in any way release us from any liability under this guarantee, and we hereby waive notice or any such change, addition or modification.

No drawing may be made by the Employer under this guarantee until we have received notice in writing from the Employer that an advance payment of the



amount listed above has been paid to the Contractor pursuant to the Contract.

This guarantee shall remain valid and in full effect from the date of the advance payment received by the Contractor under the Contract until the Employer receives full repayment of the same amount from the Contractor.

Signature and the Seal of the Guarantor: \_\_\_\_\_

Name of the Organization: \_\_\_\_\_

Address: \_\_\_\_\_

Date: \_\_\_\_\_

Witness: \_\_\_\_\_

**Section - 3**

**CONDITIONS OF CONTRACT**

*Conditions of contract shall be read in conjunction with Contract Data*

### **Section - 3. CONDITIONS OF CONTRACT**

The General Conditions shall be “Conditions of Contract for STANDARD BIDDING DOCUMENT (PROCUREMENT OF WORKS), First Edition-January 2004, published by the Institute for Construction Training and Development (ICTAD) , Publication No. ICTAD/SBD/01.

The General Conditions shall be read in conjunction with the Particular Conditions. Where indicated in the Particular Conditions, the General Conditions shall be amended, and where a discrepancy occurs between the two documents the Particular Conditions shall have priority.

**Section - 4**  
**PARTICULAR CONDITIONS**

## **A - GENERAL**

### **Clause 1 - Definitions**

The Employer:

The Employer is Japan International Cooperation System (JICS), the agent of the Democratic Socialist Republic of Sri Lanka.

The Engineer:

The Engineer is (to be nominated),

“The word ‘Bid’ is synonymous with ‘Tender’, and the words ‘Appendix to Bid’ with Appendix to Tender, ‘and the words ‘Bidding Documents’ with ‘Tender Documents’.”

### **Clause 3 - Language and Laws**

Sub-Clause 3.1: delete it’s entirely, and substitutes following paragraph:

“The Contract shall be governed by the laws of Japan and the language for all purposes for the Contract shall be English.”

## **D – COST CONTROL**

### **Clause 37 - Bill of Quantities**

Sub-Clause 37.2: delete second paragraph, and substitutes following paragraph:

“The Contractor is paid for the lump sum basis. The payment shall be made in accordance with Clause 43.”

### **Clause 42 - Payment Certificates**

Sub-Clause 42.1: delete it’s entirely, and substitutes following paragraph:

“The Contractor shall submit interim statement of performance to the Engineer stipulated in Clause 43 for payment.”

Sub-Clause 42.2: the word of “monthly statement” shall be substituted as “interim statement of performance”

### **Clause 43 - Payments**

Clause 43: delete it’s entirely, and substitutes following paragraph:

The Contract Price shall be quoted in **Sri Lanka Rupees (Rs)** on the basis of lump sum price and shall be firm and final, and not subject to escalation.

The Contract Price will be paid in accordance with the following schedules to the Contractor.

(1) Advance Payment

The amount which corresponds to **thirty percent (30%)** of the Contract Price, shall be paid upon the concluding the Contract and acceptance of the Performance Security from the Contractor **together with an on demand bank guarantee equivalent to the advance payment should be submitted from a Commercial Bank operating in Sri Lanka approved by the Central Bank.**

(2) First Interim Payment

The amount which corresponds to Thirty percent (30%) of the Contract Price shall be paid upon Fifty percent (50%) of completion of the Work under the Contract.

(3) Second Interim Payment

The amount which corresponds to **Thirty percent (30%)** of the Contract Price shall be paid upon Eighty-five percent (85%) of completion of the Work under the Contract.

(4) **Third interim Payment (Practical completion)**

The amount which corresponds to **seven and half percent (7 ½ %)** of the Contract Price shall be paid upon the **practical** completion of the Work under the Contract.

5) **Final payment**

**After the completion of all defects identified during the practical completion and also by the consultant and the client during the 12 months defects liability period together with final certificate issued by the consultant balance 2 ½ percent withheld for the defects liability period shall be released under the contract.**

**Clause 45 - Tax**

Clause 45: delete it's entirely, and substitutes following paragraph:

“Duties and VAT component under this contract shall be borne by the Executing Agency.

**Clause 47 - Price Adjustment**

Clause 47: Not Applicable

**Clause 51 - Advance Payment**

Clause 51: delete it's entirely, and substitutes following paragraph:

“The Employer shall make advance payment to the Contractor in accordance with Clause 43 (1).

**Clause 53 - Dayworks**

Clause 53: Not Applicable

**Section - 5**

**FORM OF TENDER**



## FORM OF TENDER

To: Japan International Cooperation System

5<sup>th</sup> Floor, Hilton Colombo Residence, 200, Union Place, Colombo 2, Sri Lanka

### Tender for Reconstruction of Aqueduct at Matara

Gentleman,

1. Having examined the Conditions of Contract given in this Tender Documents, Specifications, Drawings and Bill 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, Bill of Quantities and Addenda for the sum of Sri Lanka Rupees \_\_\_\_\_ (SL. Rs. \_\_\_\_\_).
2. We acknowledge that the Tender Data forms part of our Tender.
3. We undertake, if our Tender is accepted, to commence the Works as stipulated in the Contract Data, 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 Tender for the period of \_\_\_\_\_ [insert number of days] days from the date fixed for receiving or any extended period and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
5. Unless and until a formal Agreement is prepared and executed this Tender, 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 Tender you may receive.

Date this \_\_\_\_\_ day of \_\_\_\_\_ 200\_ in the capacity of \_\_\_\_\_  
duly authorized to sign tender for and on behalf of \_\_\_\_\_

[IN BLOCK CAPITALS]

Signature: \_\_\_\_\_

Address: \_\_\_\_\_

Witness: \_\_\_\_\_

**Section - 6**

**TENDER DATA AND CONTRACT DATA**

## Section - 6 - 1. TENDER DATA

Instructions to Tenderers

References

### Chapter 1 : Introduction

(1.1) (1) The source of funds is The Government of Japan's Grant Aid.

(1.1) (3) The Employer is

Name: Japan International Cooperation System (JICS)

Address: 5<sup>th</sup> Floor, Hilton Colombo Residence, 200, Union Place,  
Colombo 02, Sri Lanka  
Telephone/Facsimile; +94-11-536-0503

The Executing Agency of the Project is The National Water Supply and Drainage Board in the Democratic Socialist Republic of Sri Lanka.

(1.2) The Tenderers shall be pre-qualified tenderers.

(1.3)(1.4) The Works is reconstruction of aqueduct at Dondra in Matara district damaged by Tsunami Disaster; The Works consists of construction of abutment, installation of steel truss girder, arrangement of ductile water pipes and their ancillary works.

Located at Dondra, Matara District

(1.5) Intended Completion Date is six (6) calendar months from the Notice to Commence.

### Chapter 2 : Tender Documents

(2.2) The office for collection of tender documents is

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### Chapter 3 : Preparation and Submission of Tender

(3.1) (3) Language of the tender documents shall be English.

(3.1) (5) 3) Amount of Tender Security shall be not less than two percent (2%) of the Total Tender Price.

- (3.2) (2) Duties and VAT component under this contract shall be borne by the Executing Agency. However VAT component shall be shown separately at the end of the Tender Price Summary.
- (3.2) (3) Tender prices shall be firm and final, and not subject to escalation.
- (3.3) Tender validity shall be sixty (60) days on and after the date of the Tender opening.
- (3.4) (1) The Tenderers shall prepare one (1) "Original" and one (1) "Copy" of their Tender. The Tenderers shall submit the Tender in envelopes that are properly sealed and duly marked as, "Original" or "Copy", the name of Tenderer, and the name of the Project.
- (3.4) (2) The Tender shall be submitted to the following date/time and address;
- Submission date and time: 10:00 a.m. Sri Lanka Standard Time on the \_\_\_\_ day of \_\_\_\_\_ (month), 2005.
- Address: Conference room on the 3<sup>rd</sup> floor in Hilton Colombo Residence, 200, Union Place, Colombo 02, Sri Lanka
- (3.4) (5) Alternative Tender shall not be allowed.

#### **Chapter 4 : Opening of Tender**

- (4.1) The Proposal of all Tenders shall be opened at the Employer's office in the presence of the Tenderers as follow;
- Opening date and time: 11:00 a.m. Sri Lanka Standard Time on the \_\_\_\_ day of \_\_\_\_\_ (month), 2005.
- Address: Conference room on the 3<sup>rd</sup> floor in Hilton Colombo Residence, 200, Union Place, Colombo 02, Sri Lanka

#### **Chapter 5 : Evaluation of Tender and Award of Contract**

- (5.7) *The Standard Form of Performance Security acceptable to the Employer shall be a Bank Guarantee or a Performance Bond from a reputed Insurance Company operating in Sri Lanka and accepted by the Treasury for issue of Guarantees or from any other organization approved by the Treasury for this purpose.*

The amount of Performance Security is ten percent (10%) of the Total Contract Price. The successful Tenderer, having received the Letter of Acceptance, shall furnish within fourteen (14) days.

## Section - 6 - 2. CONTRACT DATA

*(The information given under Contract Data will supersede Conditions of Contract)*

### Conditions of Contract Clause Reference

- (1.1) The Employer is  
Name: Japan International Cooperation System (JICS)  
Address: 5<sup>th</sup> Floor, Hilton Colombo Residence, 200, Union Place,  
Colombo 02, Sri Lanka  
Telephone/Facsimile; +94-11-536-0503  
The Executing Agency of the Project is The National Water Supply  
and Drainage Board in the Democratic Socialist Republic of Sri  
Lanka.
- (1.1) The Engineer is  
Name: **(To be nominated)**  
Address: \_\_\_\_\_
- (1.1) The Works is reconstruction of aqueduct at Dondra in Matara district  
damaged by Tsunami Disaster; The Works consists of construction  
of abutment, installation of steel truss girder, arrangement of ductile  
water pipes and their ancillary works.  
Located at Dondra, Matara District
- (1.1) Commencement date shall be \_\_\_\_ **Days** from the issuance of the  
Letter of Acceptance.
- (1.1) Intended Completion Date is six (6) calendar months from the Notice  
to Commence.
- (3.1) Language of the Contract shall be English.
- (8.1) Schedule of other contractors: None
- (9.1) Schedule of Key Personnel:  
Minimum persons with qualifications and experience to be defined.  
(a) Technical  
(b) Contract Administration  
(c) Accounting

- (13.1) The minimum insurance covers shall be:
- (a) The maximum deductible for insurance of the Works and of Plant and Material is five percent (5%) of Contract Price.
  - (b) The minimum cover for insurance of the Works and of Plant and Material is hundred and ten percent (110%) of Contract Price.
  - (c) The minimum cover for insurance of other property is Rs. 1.0 million/accident (number of accident shall be unlimited)
- The minimum cover for personal injury or death,
- (d) for the Contractor's workmen is Rs. \_\_\_\_\_ per event.
  - (e) Contractor's employee other than workmen is Rs. \_\_\_\_\_ per event.
  - (f) for third party and employee of the Employer and other persons engaged by the Employer is Rs. \_\_\_\_\_ per event.
- (17.1) Intended Completion Date for the whole Works shall be \_\_\_\_\_  
\_\_\_\_\_.
- (21.1) Site Possession Date shall be \_\_\_\_\_ Days from Letter of Acceptance.
- (24.1) *The appointing Authority is \_\_\_\_\_.*
- (25.2) *Fees and types of reimbursable expenses to be paid to the Adjudicator shall be on a case to case basis and shall be shared by the Contractor and the Employer.*
- Hourly rate: \_\_\_\_\_
- Reimbursable cost: \_\_\_\_\_ (ie, traveling subsistence, accommodation, etc.)
- (25.3) *Composition of the arbitral tribunal shall be a sole arbitrator.*
- (26.1) *The Institute for Construction Training and Development (ICTAD) shall appoint the Adjudicator for the contract and fix the fees and expenses.*
- (27.1) The Contractor shall submit a revised Program for the Works within thirty (30) Days of issuance of the Letter of Acceptance.
- (27.3) Period between Program update is monthly basis.
- (35.1) Defect Liability Period is three hundred and sixty five (365) Days.
- (47) Not Applicable.
- (48.1) Retention from each payment shall be five percent (5%) of the each payment.

The limit of retention shall be five percent (5%) of the Total Contract Price.

- (49.1) The Liquidated Damages for the whole of the Works shall be zero point five percent (0.5%) of the Contract Price per Day, in the currencies and proportions in which the Contract price is payable.

The maximum amount of liquidated damages for the whole of the Works shall be ten percent (10%) of the Total Contract Price.

- (52.1) The Performance Security shall be ten percent (10%) of the Total Contract Price.



**Section - 7**  
**SPECIFICATIONS**

## **GENERAL SPECIFICATIONS**

The General Specifications applicable to this Contract is;

**SPECIFICATIONS FOR WATER SUPPLY SEWERAGE AND STORM WATER DRAINAGE WORKS. 2<sup>nd</sup> Edition (Revised) – 2002 – April**

ICTAD Publication No. SCA/3/2 published by The institute for Construction Training and Development, Ministry of Housing and Plantation Infrastructure, Sri Lanka.

The following Chapters shall be applied to the General Specifications.

- Chapter 1 – General Requirements
- Chapter 2 – Earthworks, Trenching and piling
- Chapter 3 – Concrete Works
- Chapter 4 – Pipes and Fittings
- Chapter 5 – Pipeline Installation, Testing and Disinfection
- Chapter 6 – Not Applicable
- Chapter 7 – Metals
- Chapter 8 – Painting and Protective Coatings
- Chapter 9 to Chapter 18 – Not Applicable

The Works shall be done in accordance with the Specifications mentioned above however the instructions specified in the Contract Drawings shall have priority.

## PARTICULAR SPECIFICATIONS

### GENERAL SPECIFICATIONS

#### 1. General

##### 1.1 Background

For the purpose of contributing to the execution of the Project for Reconstruction of Aqueduct at Dondra in Matara District Damaged by Tsunami Disaster, in its current portion of the execution of the Program for Efforts to cope with the Damages caused by the Great Earthquake off the Coast of Sumatra, the Republic of Indonesia, and by Indian Ocean Tsunami Disaster under Japan's Grant aid to the Government of the Democratic Socialist Republic of Sri Lanka in accordance with the Exchange of Notes signed on the 17<sup>th</sup> day of January, 2005 between the Government of Japan and the Government of the Democratic Socialist Republic of Sri Lanka.

On behalf of the Government of the Democratic Socialist Republic of Sri Lanka, Japan International Cooperation System (JICS) shall be as a competent agent of the Government of the Democratic Socialist Republic of Sri Lanka to secure the smooth and successful implementation of the Programme.

The Executing Agency of the Project shall be the National Water Supply and Drainage Board in the Democratic Socialist Republic of Sri Lanka.

##### 1.2 Scope of Works

The Project is to construct the aqueduct, namely; - Matara Aqueduct.

The Project consists of the following work items;

a. Preparatory Works	:	1 Sum
b. Demolition of Existing Structures	:	Cu.m
c. Excavation and Backfill	:	Cu.m
d. Abutments (PGC pile foundation)	:	2 Nos.
e. Steel Truss Girder (supply and installation)	:	30 L.m
f. Ductile Iron Pipe (supply and installation)	:	60 L.m
g. Miscellaneous Works	:	1 Sum

## TECHNICAL SPECIFICATIONS

### 1. PHC Pile

#### 1.1 Material Specification

##### (1) Material

The pile for the foundation of abutments shall be of Pretensioned Spun High Strength Concrete Pile (herein after called as “PHC Pile”) Grade-B of JIS A 5373 or approved equivalent standards.

The PHC Pile shall be 500mm diameter with wall thickness of 80mm and length of 13.0m. Mechanical properties of PHC piles shall comply with the standards as shown in Table 1.1.

Table 1.1: Mechanical Properties

Type	Effective Prestress (N/cm <sup>2</sup> )	Cracking Moment by Bending (kN/m)	Breaking Moment by Bending (kN/m)	Shearing Strength (kN)
-500mm Type-B	785	147.1	264.8	288.3

The Contractor shall obtain production certificates of the PHC Piles from the manufacturer and such certificates shall be submitted and approved by the Engineer.

##### (2) Shape and Dimensional Tolerances

The shape and dimensional Tolerances of the PHC pipe pile shall comply with the Table 1.2.

Table 1.2: shape and dimensional Tolerances

Diameter	Division		
	On length (mm)	On outside diameter (mm)	On wall thickness (mm)
500mm	± 0.3(%) of length of PHC pile	+ 5 - 2	+ unspecified 0

##### (3) Transport and Storage of PHC Piles

In transporting PHC piles, adequate manner shall be taken to protect them from damage of deform, cracking and etc.

In loading and unloading, all PHC piles shall be handled in such manner that they will develop no excessive deflection.

Where there is possibility of the piles being deformed, they shall re-stack immediately. When being stored, the PHC piles shall not be placed directly on

the ground, but on suitable sleepers or racks and under covering to protect them against rain, salty wind, dirt and etc.

## 1.2 Pile Driving Operation

### (1) Pile Driving Equipment

All details of the driving equipment including number of equipment for each pile driving works shall be approved by the Engineer. In selecting the driving equipment, the Contractor shall take into account various factors, such as the size of PHC pipe piles used, required embed level, soil conditions, and other conditions related to the pile driving operations.

The driving hammer of any type including steam hammers shall meet all the requirements of pile driving operation and shall be to the satisfaction of the Engineer.

The head of PHC pile shall be protected during pile driving by pile caps and cushion block of approved design. Cushion blocks shall be of such material that they will not undergo appreciable change in elastic properties as a result of repeated hammer blows.

### (2) Driving of Piles

Throughout the pile driving operation, piles shall be watched carefully for any tendency to rotate or slant, and any such tendencies, if noticed, shall be corrected immediately to ensure that the piles are driven accurately in the correct positions. When the pile head has been damaged or when insufficient or excessive penetration has taken place during pile driving, the Contractor shall forthwith suspend the operation and notify to the Engineer for his instructions.

### (3) Tolerances of Pile Driving

Piles shall be installed in a precise manner and their heads at specified elevation shall comply with the following tolerances on deviation:

- (a) For pile heads, the maximum permissible deviation of the pile axes shall be 10 cm in any direction.
- (b) The maximum permissible deviation of the finished pile from the vertical shall be  $\pm 1.5$  degrees.
- (c) The maximum permissible deviation of the finished pile from the specified rake shall be  $\pm 3$  degrees.
- (d) The top level of finished piles shall be within the maximum permissible deviation of  $\pm 5$  cm.

### (4) Driving Records

Calibrations shall be marked with paint on all the piles at intervals of 50 cm, except for the section closer to the anticipated point of final set, which section

shall be calibrated at 10 cm. Full records shall be taken as set out below, which records shall be compiled in a form directed by the Engineer. Setting graph shall be prepared from the records and submitted to the Engineer.

1. Pile Number
2. Outside Diameter or Size
3. Unit Length
4. Date and Time of Driving
5. Name of Records Keeper
6. Particulars of Piling Equipment
7. Particulars of Cushions
8. Total Depth of Penetration
9. Total Numbers of Blow for each 50 cm of penetration (10 cm for section closer to anticipated point of final set)
10. Average Penetration per Blow
11. Height of Drop
12. Amount of Rebound
13. Inclination of Pile, if any
14. Abnormality Encountered in Driving
15. Amount of Self-settlement
16. Bearing capacity of each pile by using Hiley Formula or other suitable formula approved by the Engineer

## 2. Ductile Iron Pipe

### 2.1 Material Specification

The ductile iron pipe shall be of flanged type with nominal diameter of 500mm and conform to the requirements of JIS G 5526, 5527 or equivalent standards subject to the approval of the Engineer.

The Contractor shall supply and deliver the ductile iron pipe and necessary numbers of fittings such as various kinds of bend pipes, bolts and nuts, gaskets and etc. taking into account carefully study of the site conditions. The Price shall be deemed to include all materials for the completion of the installation and fixing ductile iron pipes.

### 2.2 Installation and Fixing

Prior to the execution of installation and fixing of ductile iron pipes and their fixture, the Contactor shall investigate the existing conditions of laid pipes and submit the shop drawings which include the connection with the existing pipes to the Engineer for his approval.

## 3. Inscription Board

### 3.1 Size and Material

The inscription board shall be embedded to the seaward side of newly constructing right shore side of abutment having a size of 50cm height by

100cm width. The material shall be stainless steel and characters shall be engraved. Designs arrangement shall be instructed by the Engineer to the Contractor while the implementation of the Works.

**Section - 8**

**BILL OF QUANTITIES**



## **Section - 8: BILL OF QUANTITIES**

1. This Bill of Quantities shall be read in conjunction with such contract documents as, but not limited to, the Conditions of Contract, Specifications, Instructions to tenderers, the Drawings and other pertinent data. The Contractor shall be deemed to have fully acquainted himself with the detailed description of the Work to be done, the way in which he shall carry out and the requirements and standards of the Work.
2. Payment for lump sum items will be made in accordance with relevant payment clauses in the Specifications, or, if not specified, interim payments will be made as approved by the Consultant.
3. The unit rates and lump sum prices and amounts for the various items of works listed in the Bill of Quantities shall be expressed in Sri Lanka Rupees (Rs). The unit rates and lump sum prices and amounts shall include, except insofar as it is otherwise provided under the contract, all labor, construction equipment, materials, erection, maintenance, supervision, insurance, profit, duties together with all general risks, if any, liabilities and obligations set forth or implied in the contract.
4. If there is any discrepancy between the unit rate and the amount entered for any item in the Bill of Quantities, the amount shall be taken as correct.
5. Any additional labor, construction equipment or materials required to make good defective work or used in repair or maintenance shall be at the expense of the Contractor and shall not be taken into account when determining the sum to be paid for each item.
6. All progress payments made by interim certificates are deemed to be provisional payments, and the Employer has power to reduce the paid amount in preceding payment certificates whomsoever any defect is found in or on the said work or to replace the payment from one item to other item if such rearrangement is judged as necessary. The final payment certificate which is provided after the issuance of the Final Certificate is solely deemed as the correct and definitive certificate in quantities and amounts to each item of work and whole of the Work.

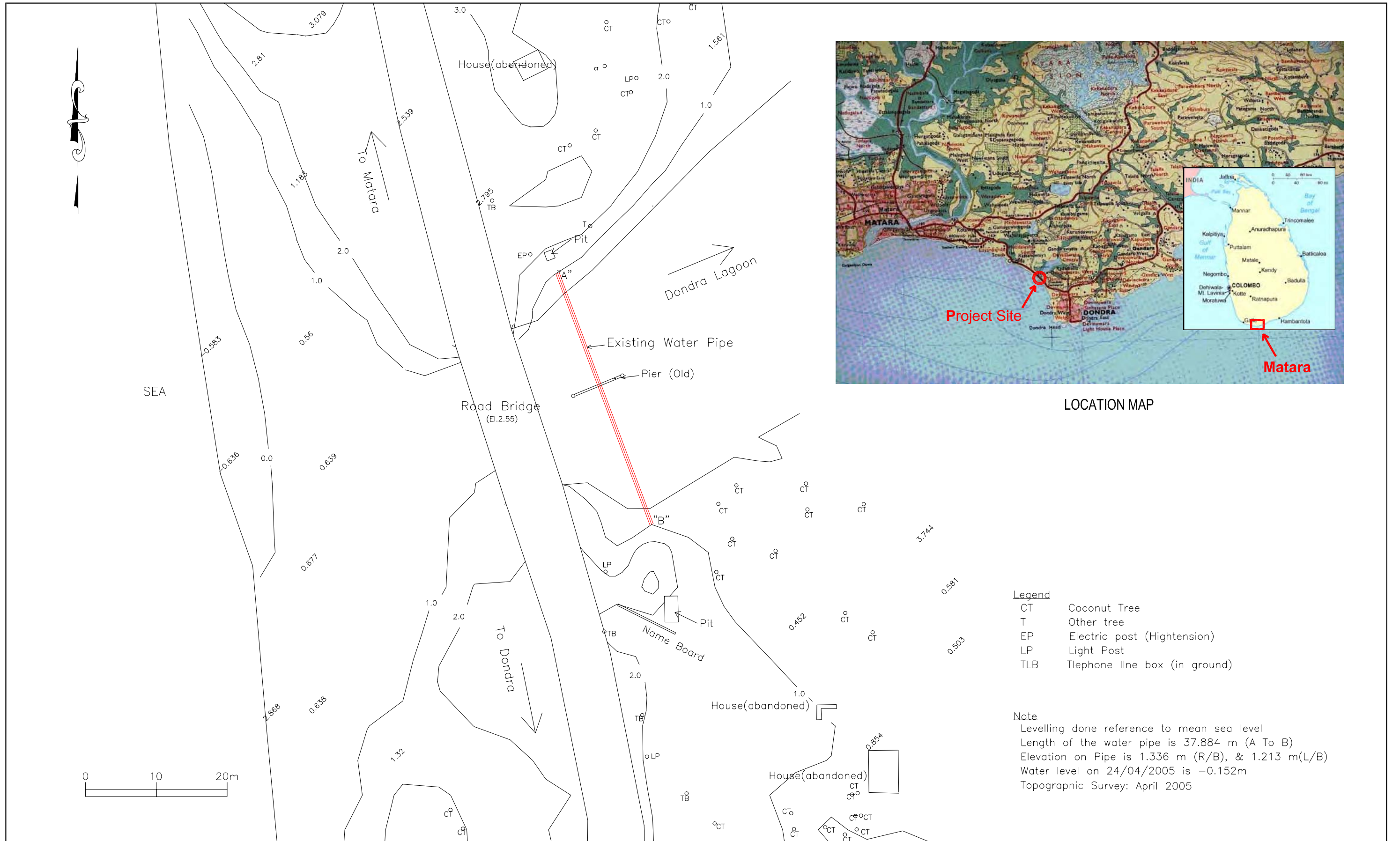
**BILL OF QUANTITIES  
WORK ITEMS**

Bill No.	Pay Item	Unit	Q'ty	Sri Lanka Rupees (Rs)	
				Unit Rate	Amount
<b>1</b>	<b>Preparatory Works</b>				
101	Mobilization and demobilization of equipment	Sum	1		
102	Common temporary works including setting out	Sum	1		
103	Preparation and submission of shop and as-built drawings.	Sum	1		
Sub-Total of Bill No. 1					
<b>2</b>	<b>Demolition of Existing Structures</b>				
201	Demolition, remove and dump of debris for existing abutments	Cu.m	65		
202	- Ditto – but for existing center pier	Cu.m	15		
Sub-Total of Bill No. 2					
<b>3</b>	<b>Excavation and Backfill</b>				
301	Excavation and backfill to form of abutment foundation, excavated material shall be stockpiled and suitable material shall be used for backfill	Cu.m	320		
Sub-Total of Bill No. 3					
<b>4</b>	<b>Abutments</b>				
401	Supply and deliver of PHC pile (500mm dia. L=13.0m) for abutment foundation including pile head treatment	Nos.	8		
402	Driving of PHC pile	Nos.	8		
403	Supply, deliver, cut, bend and assemble of reinforcing bars in position	Kg	1,074		
404	Supply, deliver, fabricate, install and remove of formwork in position	Sq.m	90		
405	Supply, deliver, placing and curing of concrete including blinding concrete at bottom	Cu.m	63		
Sub-Total of Bill No. 4					
<b>5</b>	<b>Steel Truss Girder</b>				
501	Fabricate and deliver of steel truss girder (SS400) including painting, etc.	L.m	30		
502	Install and fix in position of steel truss girder including accessories specified in the Drawings	L.m	30		
503	Fabricate, Deliver and install of steel fence	Nos.	2		
Sub-Total of Bill No. 5					
<b>6</b>	<b>Ductile Iron Pipe</b>				
601	Supply and deliver of ductile iron pipe ( -500mm) (flanged pipe) including necessary numbers and various kinds of bend pipes specified in the Drawings.	L.m	60		

Bill No.	Pay Item	Unit	Q'ty	Sri Lanka Rupees (Rs)	
				Unit Rate	Amount
602	Supply and deliver of fixtures, such as air valve, expansion joints, bolt and nut, gaskets, fixtures and necessary materials specified in the Drawings	Sum	1		
603	Install and fix in position of ductile iron pipe and connection with the existing pipe line	L.m	60		
603	Water pressure test	Sum	1		
Sub-Total of Bill No. 6					
<b>7</b>	<b>Miscellaneous Works</b>				
701	Relocation and restoration of existing electric line	P.S	1		300,000
702	Removal of existing temporary water pipe upon completion of installation of ductile iron pipe	Sum	1		
702	Construction of stone masonry besides abutment	P.S	1		3,000,000
703	Supply and install inscription board	No.	1		
Sub-Total of Bill No. 7					
<b>A. Sub Total Bill No. 1 up to 7</b>					
<b>B. Value Added Tax (15% of A)</b>					
<b>C. Tender Price (A + B)</b>					

**THE PROJECT**  
**FOR**  
**RECONSTRUCTION OF AQUEDUCT AT MATARA**  
**DAMAGED BY TSUNAMI DISASTER**  
**(Matara Aqueduct)**

<i><b>LIST OF DRAWINGS</b></i>	
<b>D-001</b>	LOCATION MAP AND EXISTING AQUEDUCT PLAN
<b>D-002</b>	GENERAL ARRANGEMENT
<b>D-003</b>	GEOLOGICAL LONGITUDINAL SECTION
<b>D-004</b>	GENERAL VIEW OF SUPERSTRUCURE
<b>D-005</b>	MAIN TRUSS (1)
<b>D-006</b>	MAIN TRUSS (2)
<b>D-007</b>	MAIN TRUSS (3)
<b>D-008</b>	CROSS BEAM
<b>D-009</b>	DETAILS OF BEARING SHOE
<b>D-010</b>	PASSAGEWAY
<b>D-011</b>	ABUTMENT (1)
<b>D-012</b>	ABUTMENT (2)
<b>D-013</b>	ABUTMENT (3)
<b>D-014</b>	ABUTMENT (4)
<b>D-015</b>	DETAILS OF PHC PILE
<b>D-016</b>	FENCE (FOR REFERENCE)



LOCATION MAP

- Legend**
- CT Coconut Tree
  - T Other tree
  - EP Electric post (Hightension)
  - LP Light Post
  - TLB Telephone line box (in ground)

**Note**  
 Levelling done reference to mean sea level  
 Length of the water pipe is 37.884 m (A To B)  
 Elevation on Pipe is 1.336 m (R/B), & 1.213 m(L/B)  
 Water level on 24/04/2005 is -0.152m  
 Topographic Survey: April 2005

REV.No.	DATE	DESCRIPTION

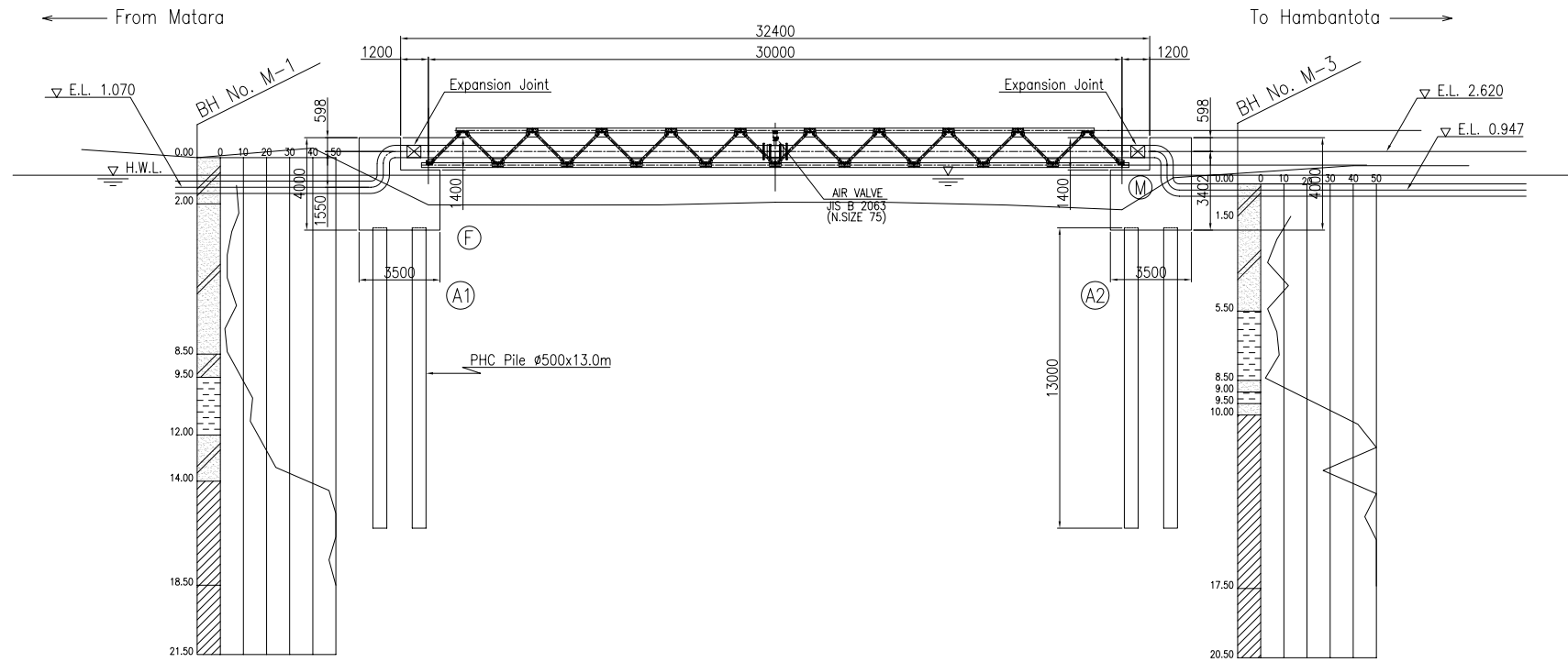
NOTES

CLIENT			
CONSULTANT			
SIGNATURE	PREPARED BY	CHECKED BY	APPROVED BY

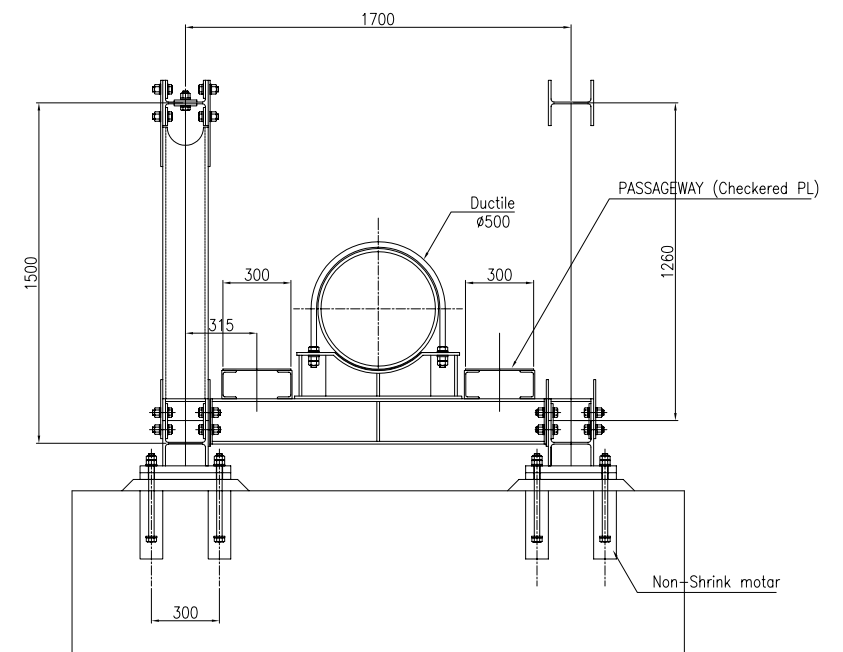
PROJECT NAME:	THE PROJECT FOR RECONSTRUCTION OF AQUEDUCT AT MATARA DAMAGED BY TSUNAMI DISASTER
DRAWING TITLE:	LOCATION MAP AND EXSITING AQUEDUCT PLAN

DRAWING No.	D-001
SCALE	A3 1/500
REV. No.	
SHEET No.	1

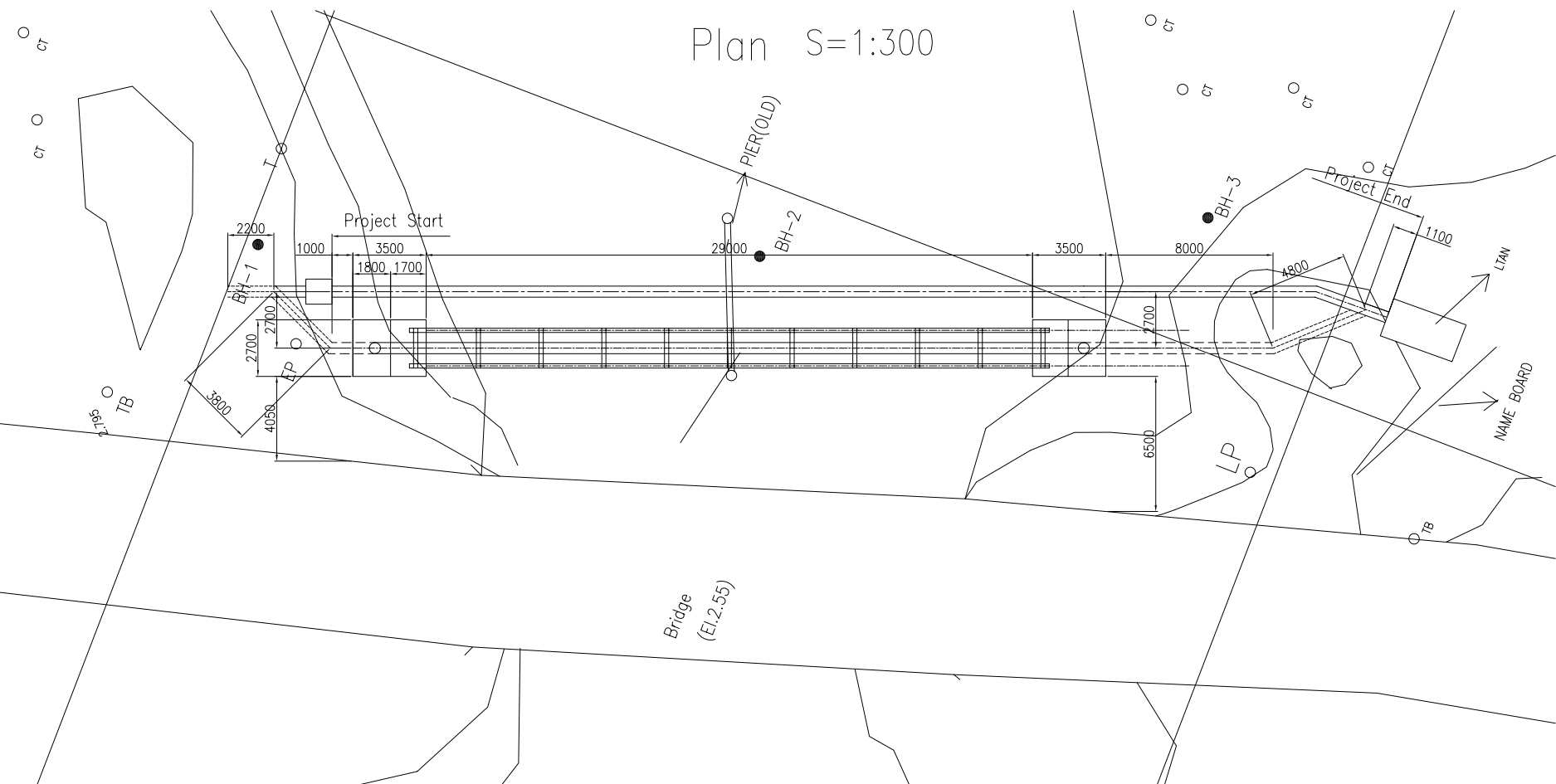
Elevation S=1:300



Section S=30



Plan S=1:300



DESIGN CRITERIA

SUPER STRUCTURE TYPE	SIMPLE SPAN STEEL TRUSS
TOTAL BRIDGE LENGTH	L=32.400m
TRUSS LENGTH	L=30.600m
SPAN LENGTH	30.000m
WIDTH	1.700m
WATER PIPE DIAMETER	ø 500
LIVE LOAD	INSPECTION PASSAGE 1.3kN/m <sup>2</sup>
SUBSTRUCTURE TYPE	RC ABUTMENT
FOUNDATION TYPE	STEEL PILE

MATERIALS

STEEL	UPPER CHORD	H200x200x8x12 (JIS G3192 SS400 OR EQUIVALENT)
	LOWER CHORD	H200x200x8x12 (JIS G3192 SS400 OR EQUIVALENT)
	CROSS BEAM	H200x200x8x12 (JIS G3192 SS400 OR EQUIVALENT)
	HIGH STRENGTH BOLT	M22 (JIS B1168 F8T)
CONCRETE	ABUTMENT	21N/mm <sup>2</sup>
	REINFORCEMENT	SD295 (JIS G3112)
PILE	STEEL PIPE	ø 500x12mm (JIS A5525 SKK400 OR EQUIVALENT)

REV. No.	DATE	DESCRIPTION

NOTES  
Contractor shall be maintain the existing water pipe, during the implementation, until to connect the prooper aqueduct

CLIENT			
CONSULTANT			
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PROJECT NAME:  
THE PROJECT FOR RECONSTRUCTION OF AQUEDUCT AT MATARA DAMAGED BY TSUNAMI DISASTER

DRAWING TITLE:  
**GENERAL ARRANGEMENT**

DRAWING No.	D-002
SCALE	AS SHOWN
REV. No.	
SHEET No.	1

Scale

1 : 200


V : H = 1 : 1

Symbol


N = N value (SPT)


UD = Undisturbed Sample

 Silty Sand

 Silt

Geological Formation

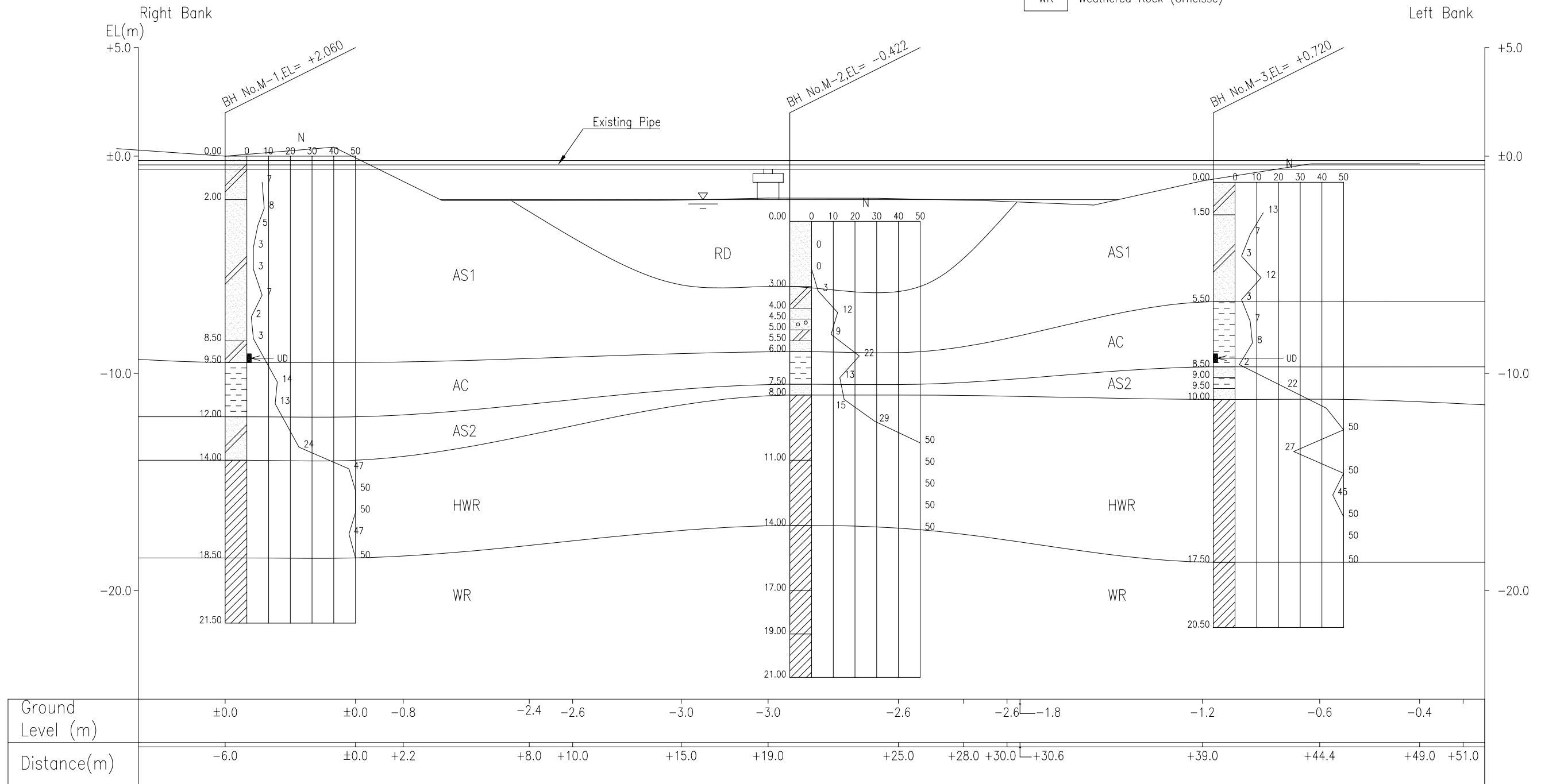
 RD Alluvial Sand (River Deposit)

 AS Alluvial Sand (Silty Sand)

 AC Alluvial Silt (Litolitic Red Soil)

 HWR High Weathered Rock (Sand)

 WR Weathered Rock (Grneisse)



REV. No.	DATE	DESCRIPTION

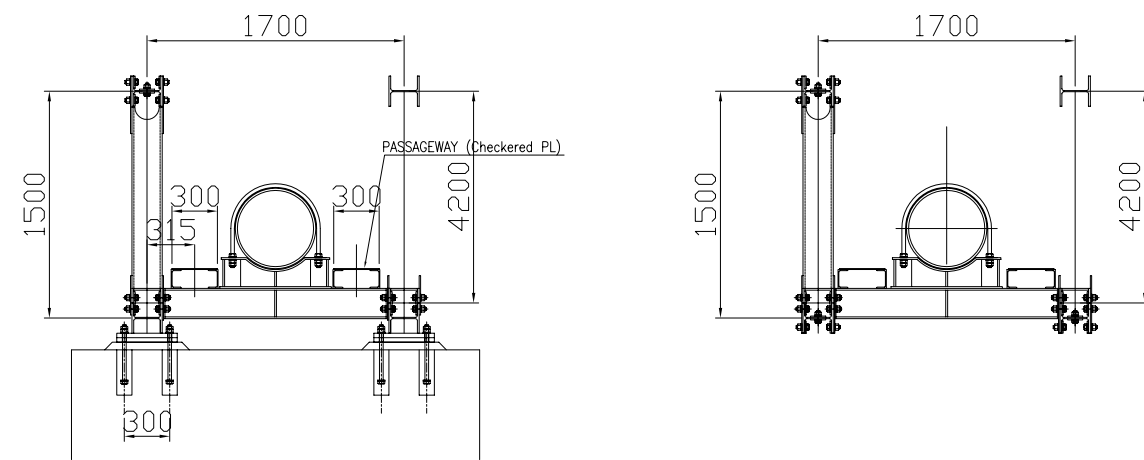
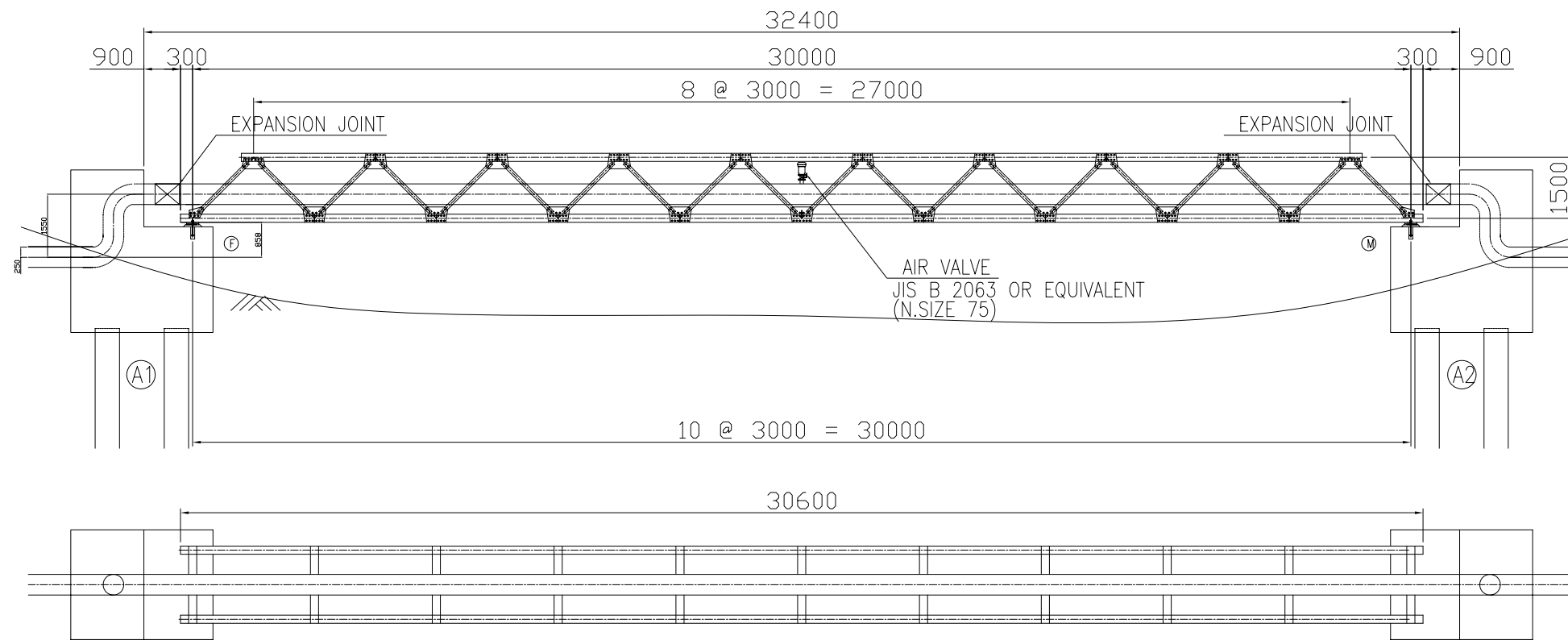
NOTES  
Contractor shall maintain the existing water pipe, during the implementation, until to connect the proper aqueduct

CLIENT			
CONSULTANT			
SIGNATURE	PREPARED BY	CHECKED BY	APPROVED BY

PROJECT NAME:  
THE PROJECT FOR RECONSTRUCTION OF AQUEDUCT AT MATARA DAMAGED BY TSUNAMI DISASTER

DRAWING TITLE:  
**GEOLOGICAL LOGTITUDINAL SECTION**

DRAWING No.	D-003
SCALE	A3 1/200
REV. No.	
SHEET No.	



Characteristics of Expansion Joint

Property (with stopper bolt)			Quality: Synthetic Rubber (Nitrile Rubber)				
Amount of Expansion (mm)	Flexibility (degree)	Eccentricity (mm)	Hardness (JIS)	Tensile Strength (kg/cm <sup>2</sup> )	Elongation (%)	Temperature used (°C)	Characteristics (mm)
60	6	8	30 - 90	40 - 280	200 - 600	< 120	Oil Proof/Water Proof

REV. No.	DATE	DESCRIPTION

NOTES

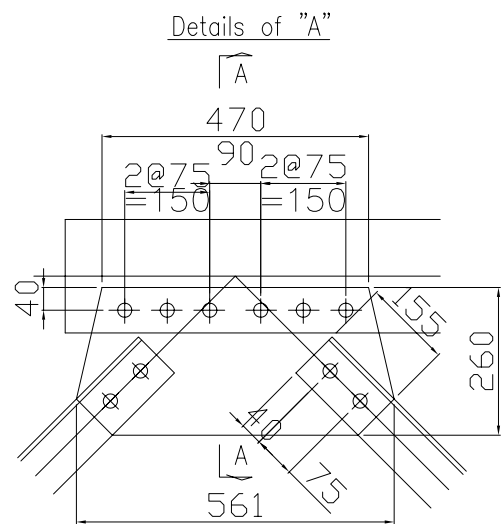
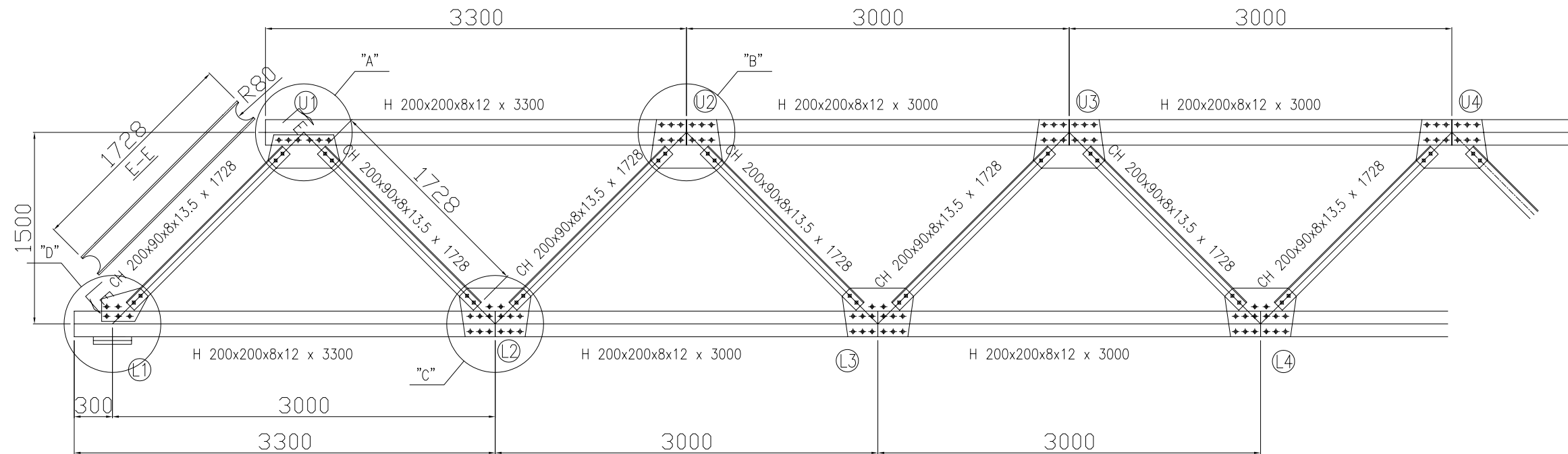
CLIENT			
CONSULTANT			
SIGNATURE	PREPARED BY	CHECKED BY	APPROVED BY

PROJECT NAME:  
**THE PROJECT FOR RECONSTRUCTION OF AQUEDUCT AT MATARA DAMAGED BY TSUNAMI DISASTER**

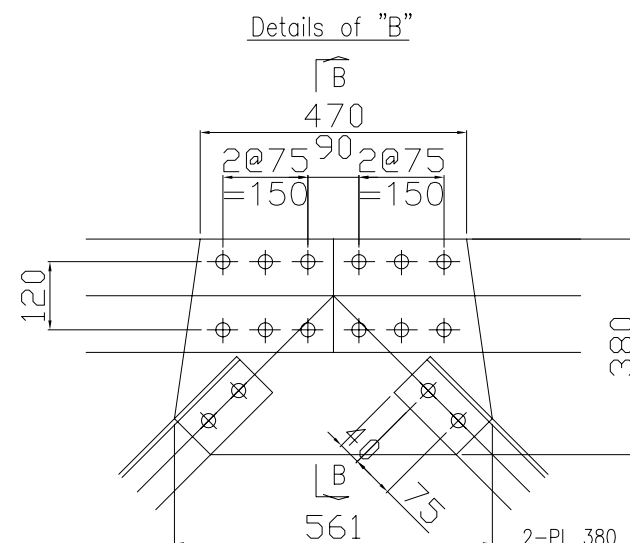
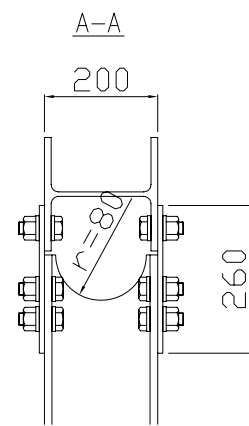
DRAWING TITLE:  
**GENERAL VIEW OF SUPERSTRUCTURE**

DRAWING No.	D-004
SCALE	A3 1/150
REV. No.	
SHEET No.	

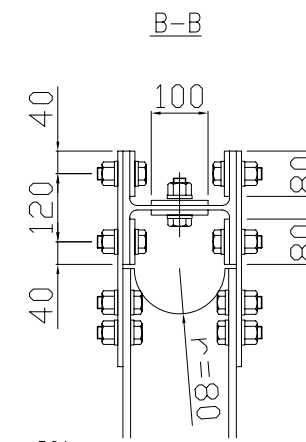




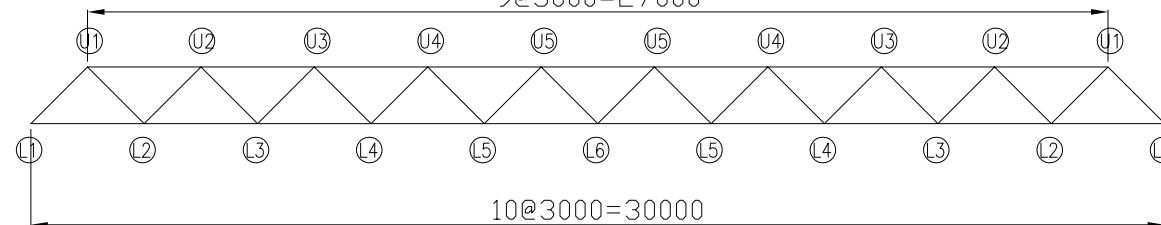
2-PL 260 x 9 x 561  
20-HTB M22 x 65 (F8T)



2-PL 380 x 9 x 561  
4-PL 80 x 9 x 470  
2-PL 100 x 9 x 470  
30-HTB M22 x 70 (F8T)  
8-HTB M22 x 65 (F8T)



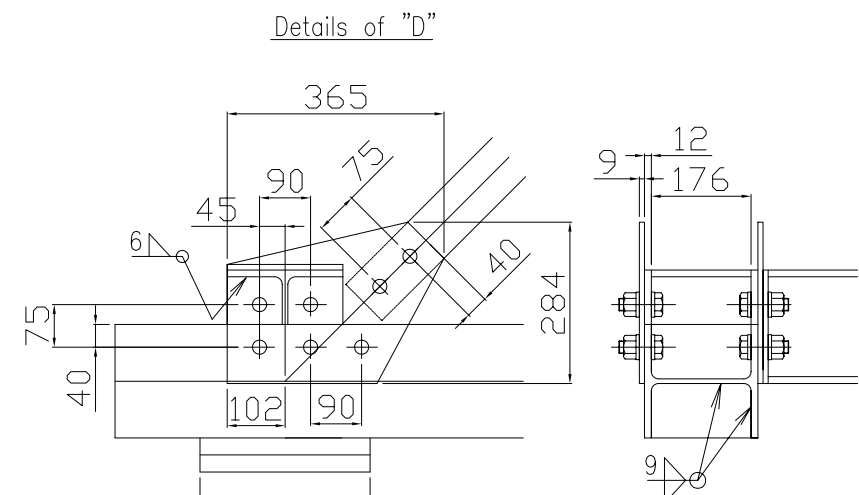
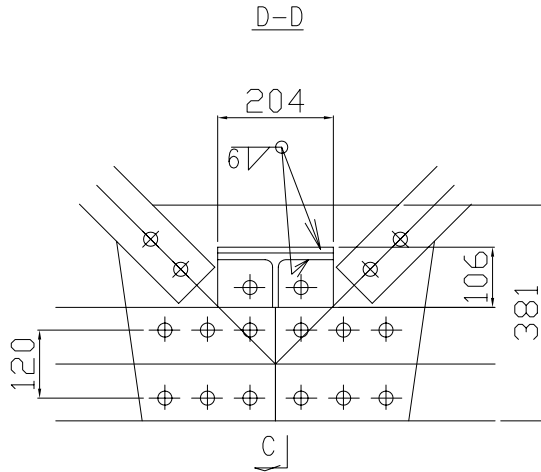
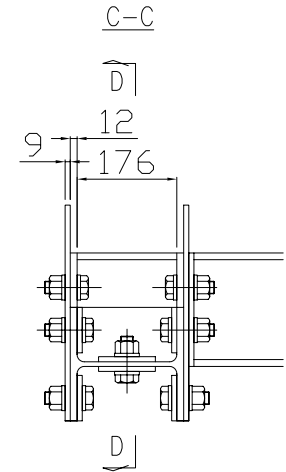
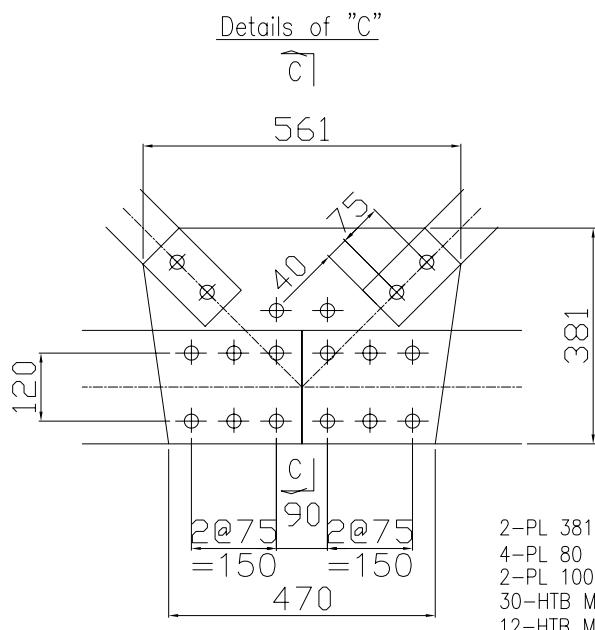
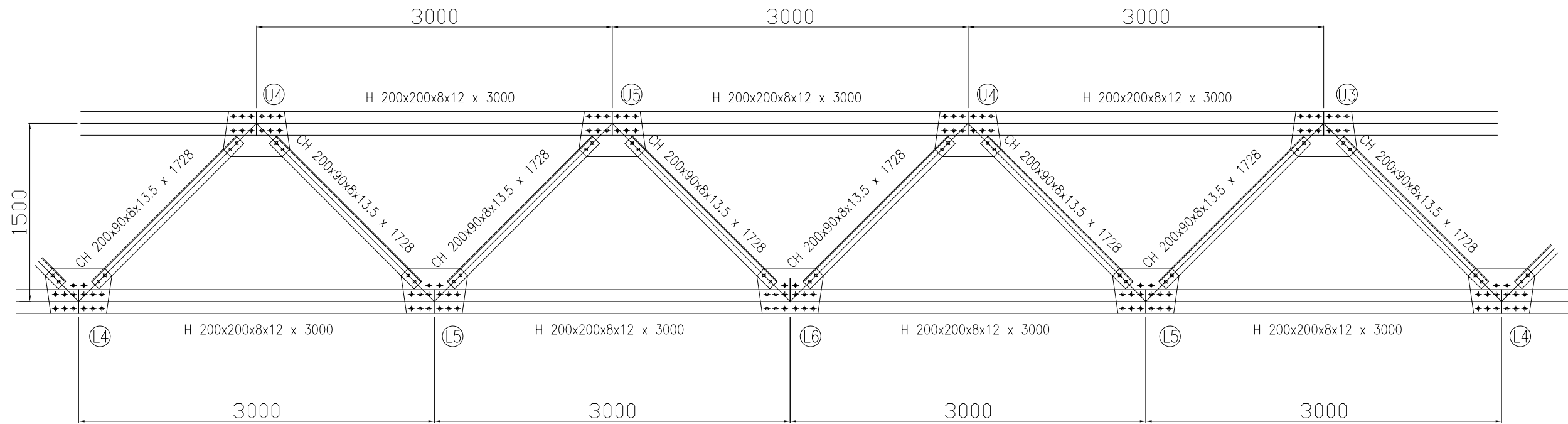
Key Plan  
9@3000=27000



Note.

1. Steel Material shall be SS400, unless otherwise noted on the drawing.

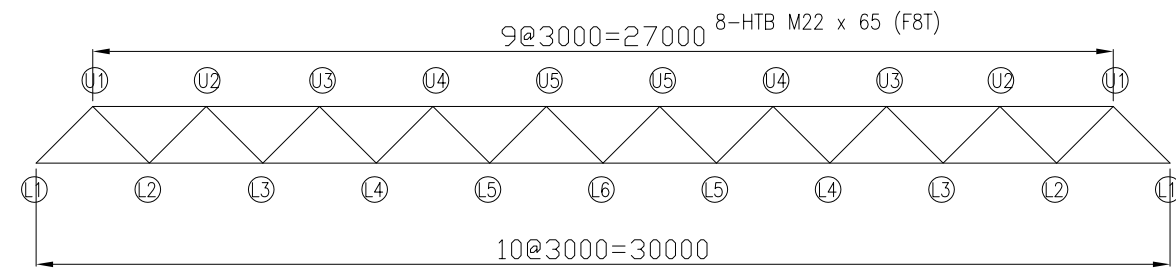
REV. No.	DATE	DESCRIPTION	NOTES	CLIENT	PROJECT NAME:			DRAWING No.
					THE PROJECT FOR RECONSTRUCTION OF AQUEDUCT AT MATARA DAMAGED BY TSUNAMI DISASTER			D-005
								SCALE
								A3 1/40
								REV. No.
								SHEET No.
								/
				CONSULTANT	DRAWING TITLE:			MAIN TRUSS (1)
				SIGNATURE	PREPARED BY	CHECKED BY	APPROVED BY	



- 2-PL 381 x 9 x 561
- 4-PL 80 x 9 x 470
- 2-PL 100 x 9 x 470
- 30-HTB M22 x 70 (F8T)
- 12-HTB M22 x 65 (F8T)

- 1-CT 204x144x12x10 x 176
- 2-PL 106 x 12 x 204 (SM400A)

Key Plan



- 2-PL 284 x 9 x 365
- 10-HTB M22 x 65 (F8T)
- 4-HTB M22 x 70 (F8T)
- 1-CT 204x144x12x10 x 176
- 2-PL 106 x 12 x 204 (SM400A)
- 1-PL 176 x 12 x 96 (SM400A)

Note.  
1. Steel Material shall be SS400, unless otherwise noted on the drawing.

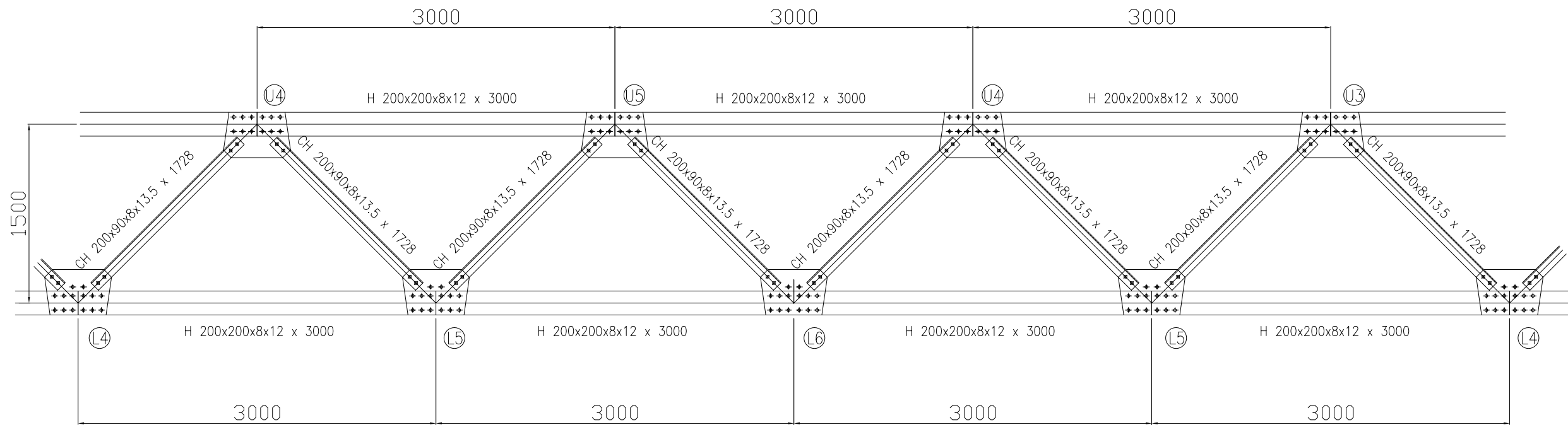
REV. No.	DATE	DESCRIPTION	NOTES

CLIENT	
CONSULTANT	
SIGNATURE	

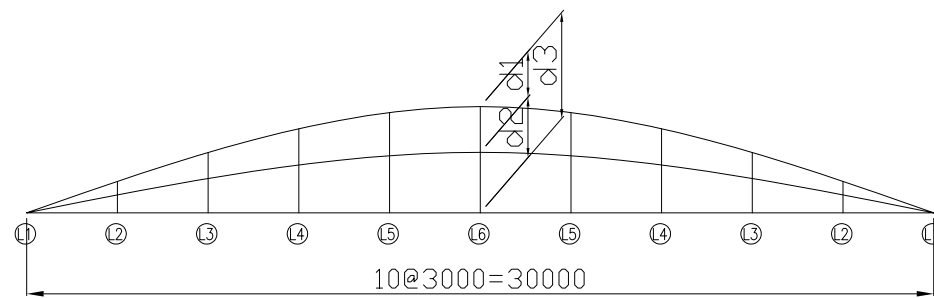
PREPARED BY	CHECKED BY	APPROVED BY

PROJECT NAME:	THE PROJECT FOR RECONSTRUCTION OF AQUEDUCT AT MATARA DAMAGED BY TSUNAMI DISASTER
DRAWING TITLE:	MAIN TRUSS (2)

DRAWING No.	D-006
SCALE	A3 1/40
REV. No.	
SHEET No.	



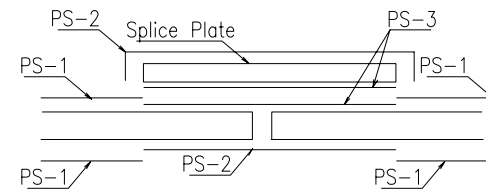
CAMBER



d1: Camber for Dead Load  
d2: Camber for Profile  
d3: Total Camber

d1= 33mm  
d2= 100mm  
d3= 133mm

PAINT SYSTEM

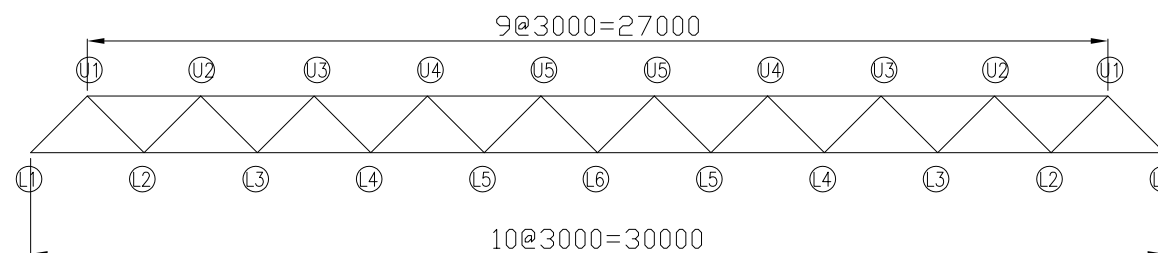


Designation	Paint System	
PS-1 (Shop Paint)	Surface Treatment	Blast Sa2.5
	1st Layer(Shop)	Inorganic Zincrich Paint 75μm
	2nd Layer(Shop)	Mist Coat
	3rd Layer(Shop)	Epoxy Resin Paint under coat 60μm
	4th Layer(Shop)	Epoxy Resin Paint under coat 60μm
	5th Layer(Shop)	Polyurethane Resin Paint 30μm
6th Layer(Shop)	Polyurethane Resin Paint top coat 25μm	

Designation	Paint System	
PS-2 (Shop Paint)	Surface Treatment	Blast Sa2.5
	1st Layer(Shop)	Inorganic Zincrich Paint 50μm

Designation	Paint System	
PS-3 (Shop Paint), (Site Paint)	Surface Treatment	Blast Sa2.5
	1st Layer(Shop)	Inorganic Zincrich Paint 75μm
	2nd Layer(Shop)	Mist Coat
	3rd Layer(Site)	Epoxy Resin Paint under coat 60μm
	4th Layer(Site)	Epoxy Resin Paint under coat 60μm
	5th Layer(Site)	Epoxy Resin Paint under coat 60μm
	6th Layer(Site)	Polyurethane Resin Paint 30μm
7th Layer(Site)	Polyurethane Resin Paint top coat 25μm	

Key Plan



REV. No.	DATE	DESCRIPTION

NOTES

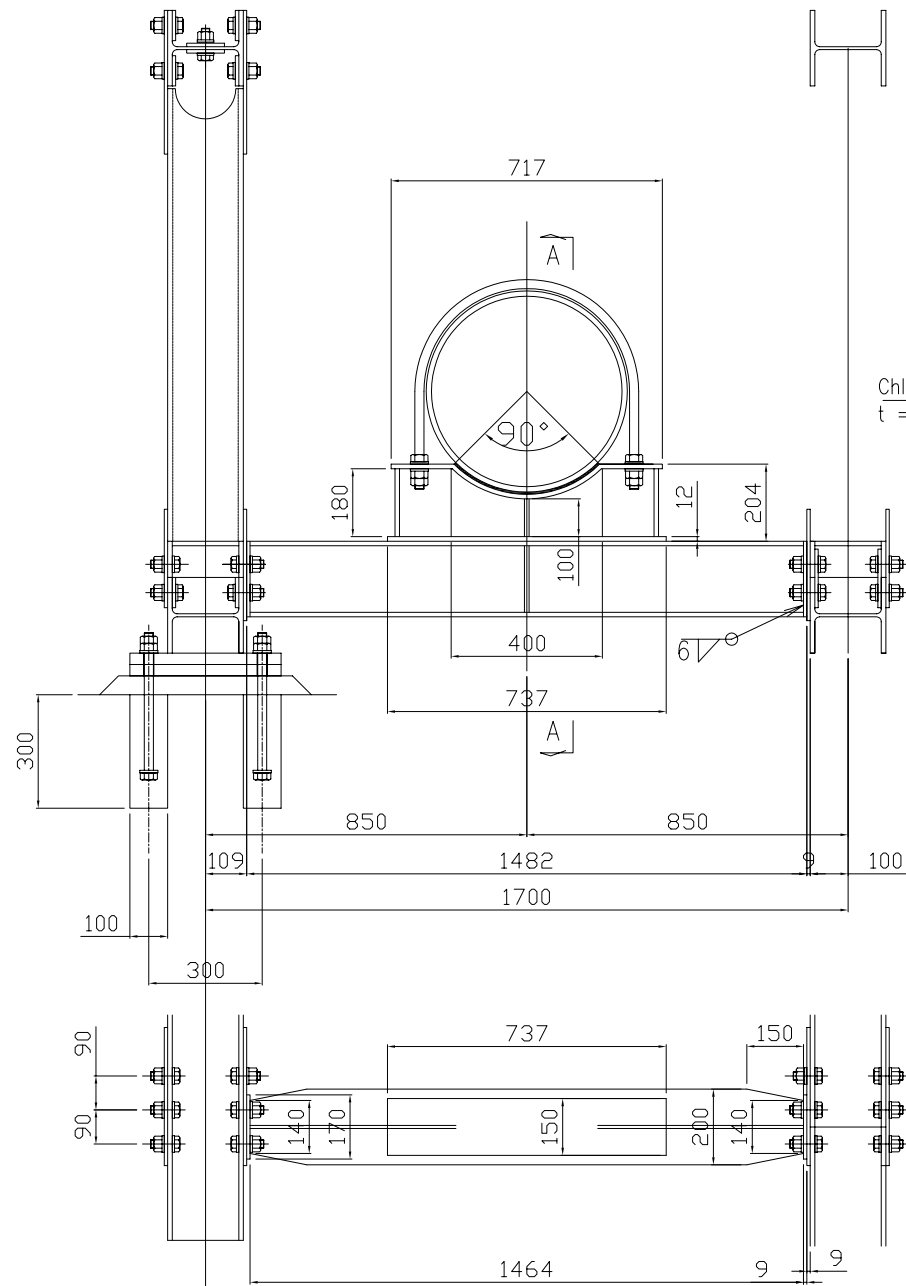
CLIENT			
CONSULTANT			
SIGNATURE	PREPARED BY	CHECKED BY	APPROVED BY

PROJECT NAME:	THE PROJECT FOR RECONSTRUCTION OF AQUEDUCT AT MATARA DAMAGED BY TSUNAMI DISASTER
DRAWING TITLE:	MAIN TRUSS (3)

DRAWING No.	D-007
SCALE	A3 1/40
REV. No.	
SHEET No.	

END CROSS BEAM

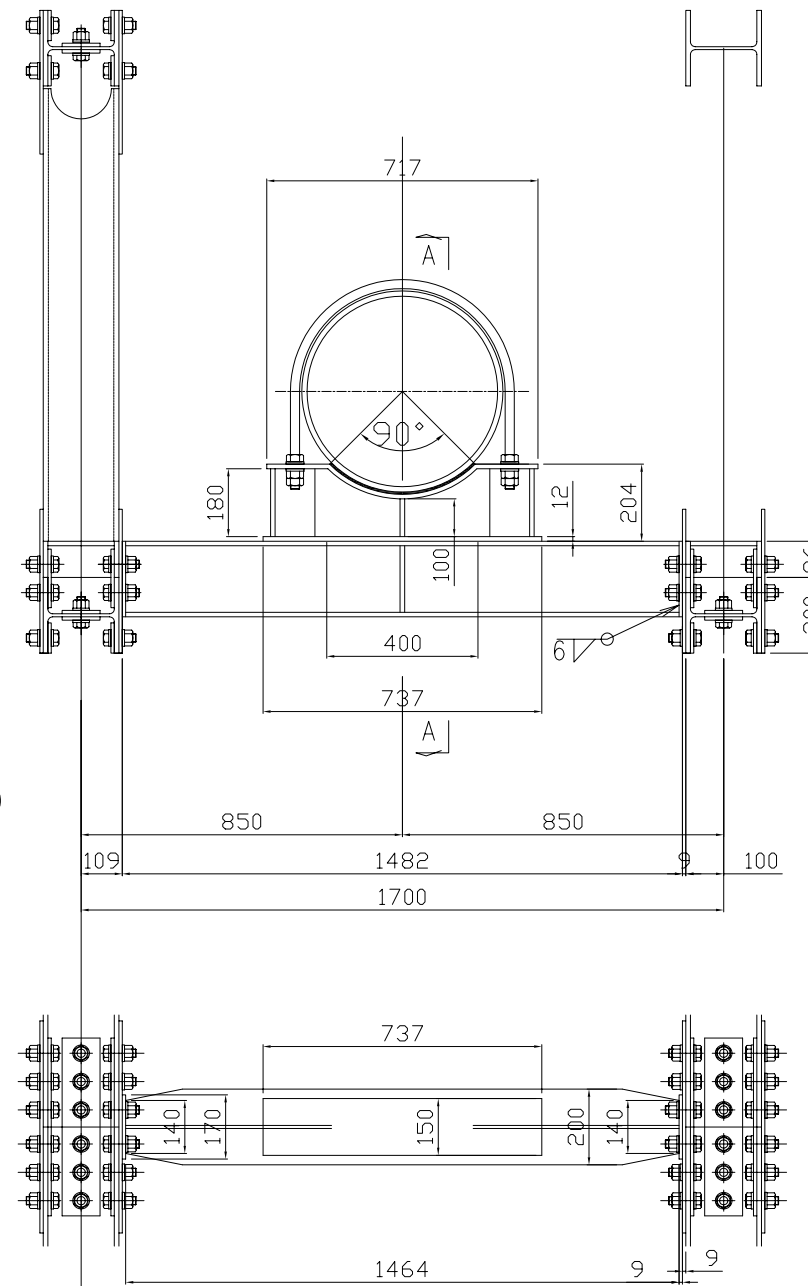
①



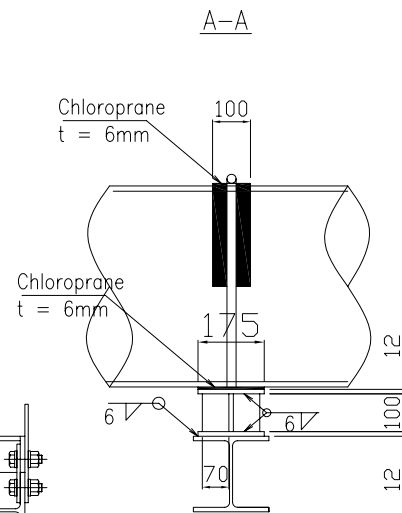
1-H 200x200x8x12 x 1464  
2-PL 170 x 9 x 200 (SM400A)

INTERMEDIATE CROSS BEAM

②, ③, ④, ⑤, ⑥



1-H 200x200x8x12 x 1464  
2-PL 170 x 9 x 200 (SM400A)



- 1-PL 150 x 12 x 737 (SM400A)
- 1-PL 180 x 12 x 400 (SM400A)
- 1-PL 175 x 12 x 751 (SM400A)
- 2-PL 160 x 12 x 180 (SM400A)
- 2-PL 100 x 12 x 70 (SM400A)
- \* 1-U Bolt M24 x 1887 ( 6-Nut, 4-Washer)
- 1-Chloroprene Rubber 175 x 6 x 418
- 1-Chloroprene Rubber 100 x 6 x 836

Note.

1. Steel Material shall be SS400, unless otherwise noted on the drawing.
2. Indicated material "\*" material shall be galvanized.

REV. No.	DATE	DESCRIPTION

NOTES

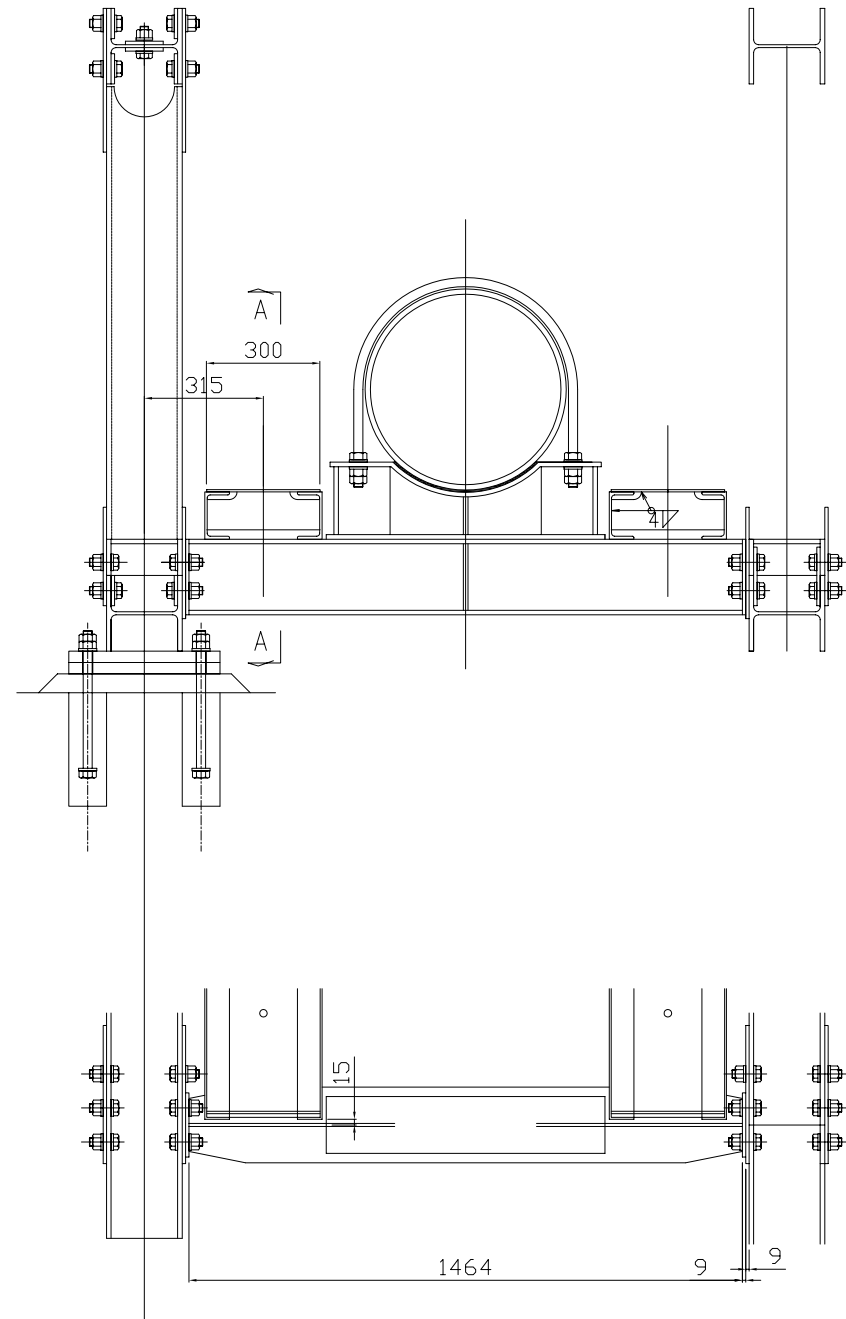
CLIENT			
CONSULTANT			
SIGNATURE	PREPARED BY	CHECKED BY	APPROVED BY

PROJECT NAME:	THE PROJECT FOR RECONSTRUCTION OF AQUEDUCT AT MATARA DAMAGED BY TSUNAMI DISASTER
DRAWING TITLE:	CROSS BEAM

DRAWING No.	D-008
SCALE	A3 1/40
REV. No.	
SHEET No.	

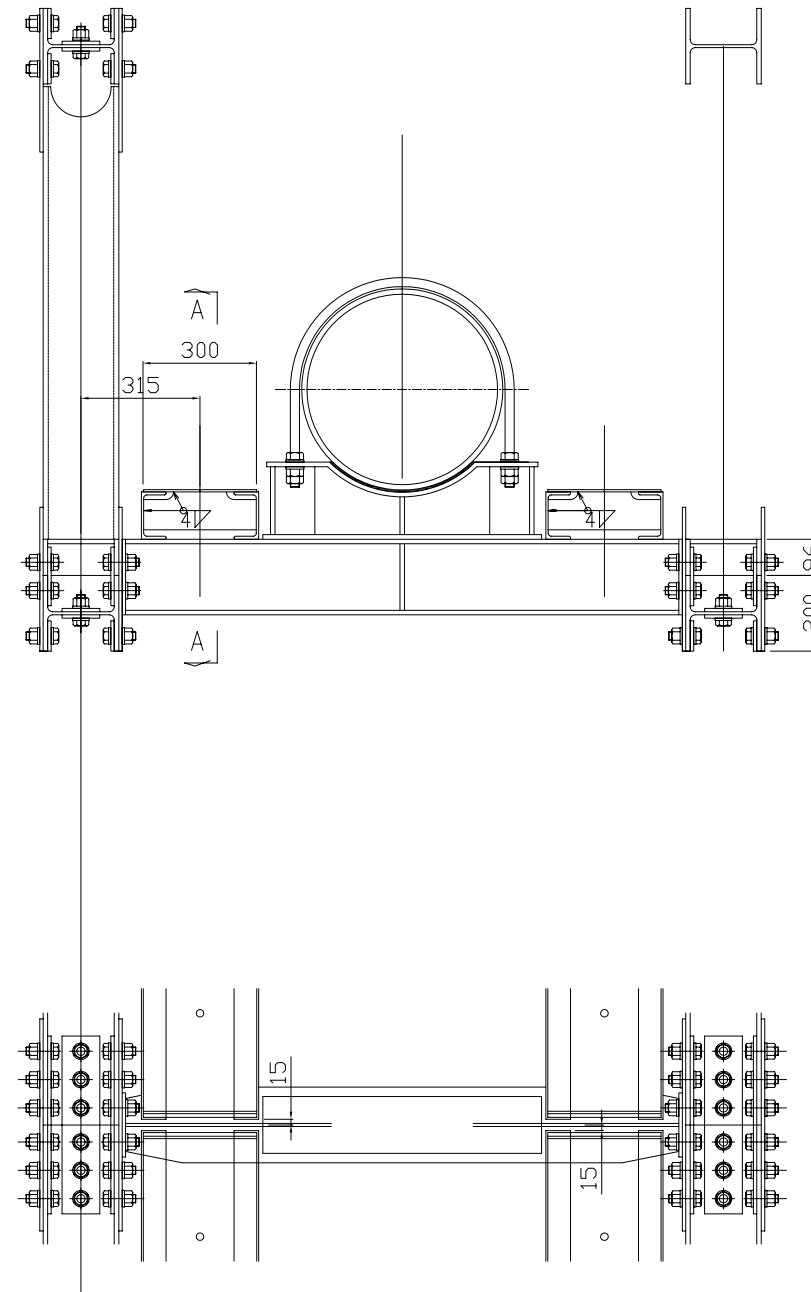


END CROSS BEAM  
①



- \* 2-CH 125x65x6x8 x 2970
- \* 1-Checker PL 300 x 6 x 2960
- \* 4-BN M12 x 40 (2-Spring Washer)
- \* 7-FB 100 x 6 x 298

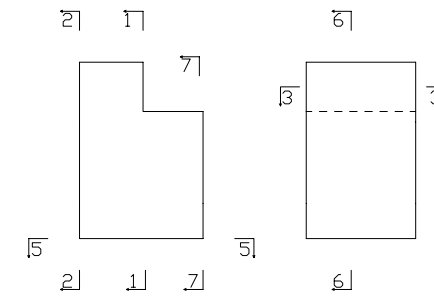
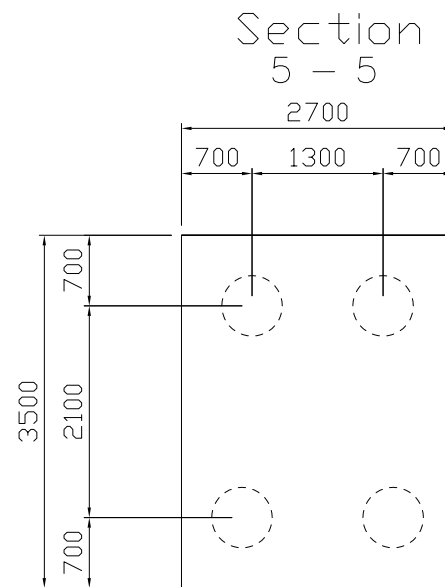
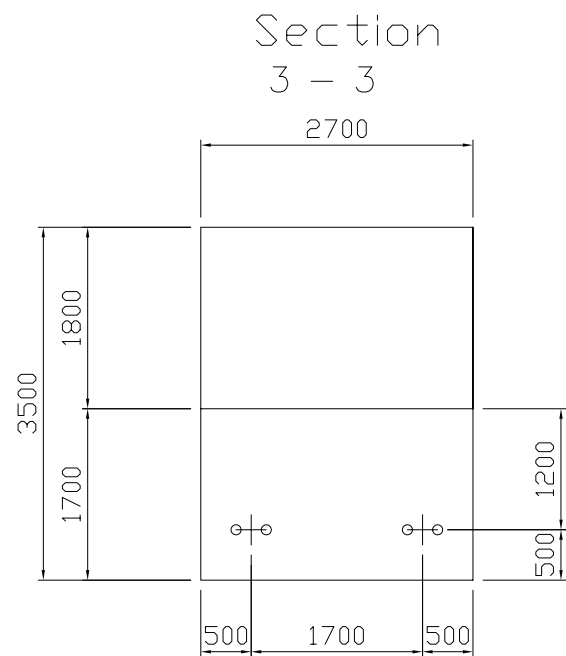
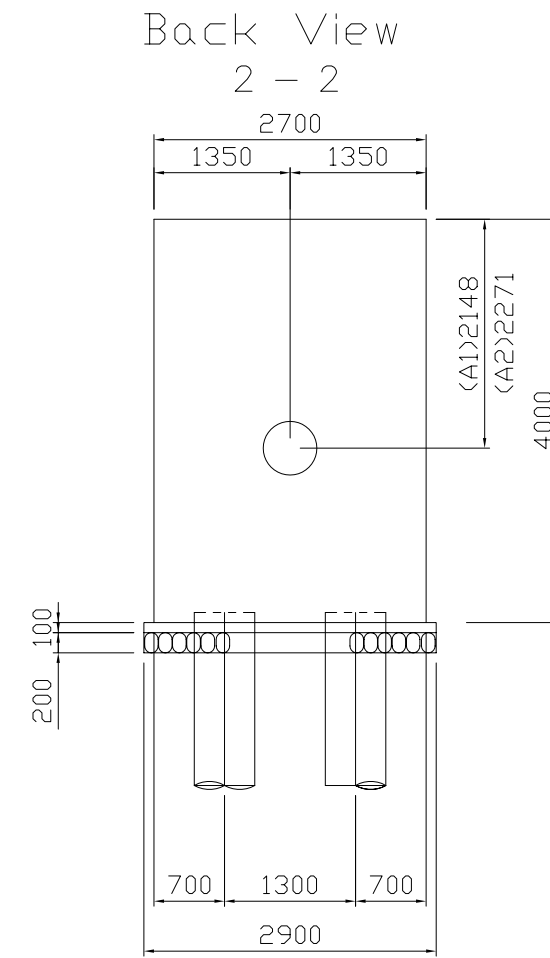
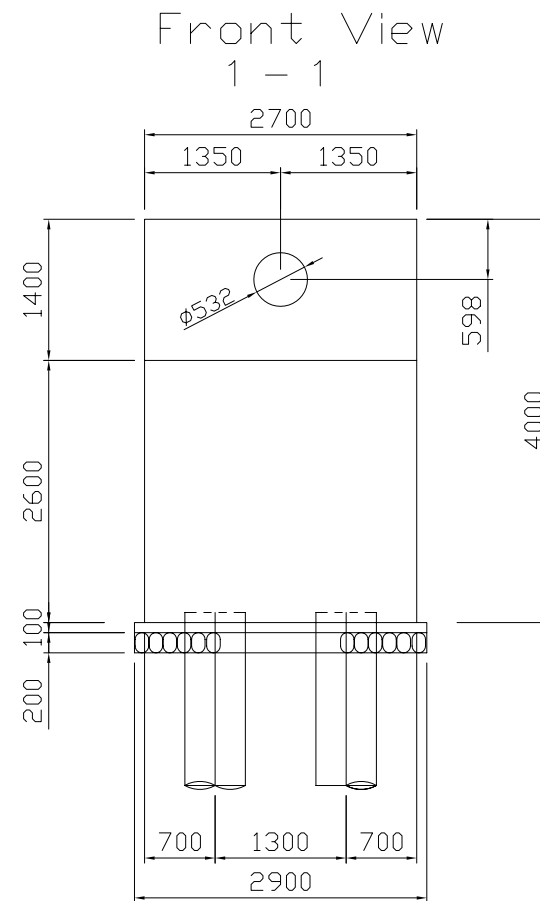
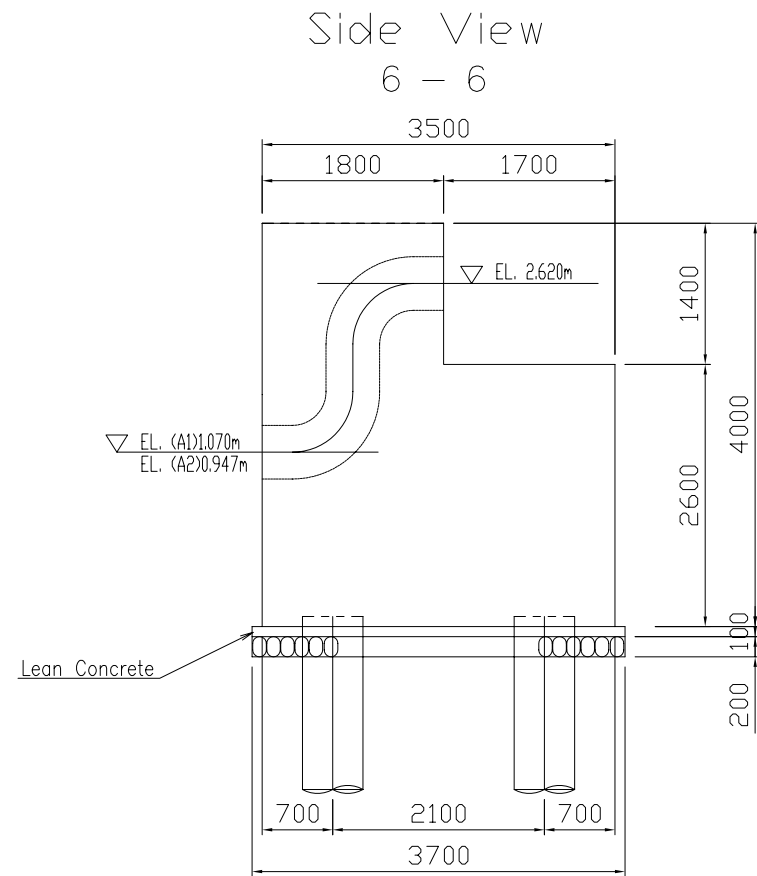
INTERMEDIATE CROSS BEAM  
②, ③, ④, ⑤, ⑥



Note.

1. Steel Material shall be SS400, unless otherwise noted on the drawing.
2. Indicated marked "\*" material shall be galvanized.

REV. No.	DATE	DESCRIPTION	NOTES	CLIENT	PROJECT NAME:			DRAWING No.
					THE PROJECT FOR RECONSTRUCTION OF AQUEDUCT AT MATARA DAMAGED BY TSUNAMI DISASTER			D-010
								SCALE
								A3 1/40
								REV. No.
								SHEET No.
								/
					PREPARED BY	CHECKED BY	APPROVED BY	
					DRAWING TITLE:			PASSAGEWAY



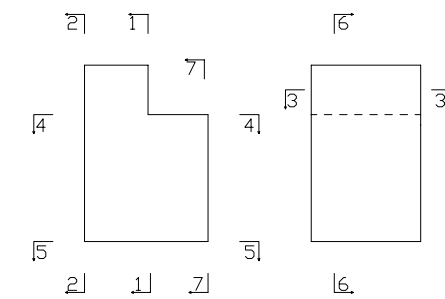
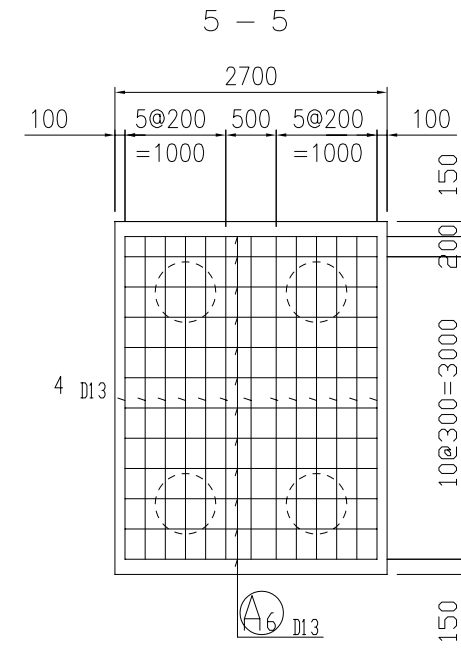
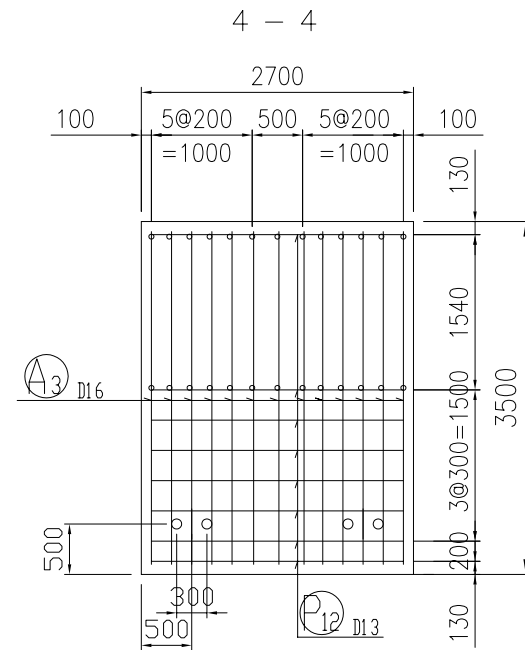
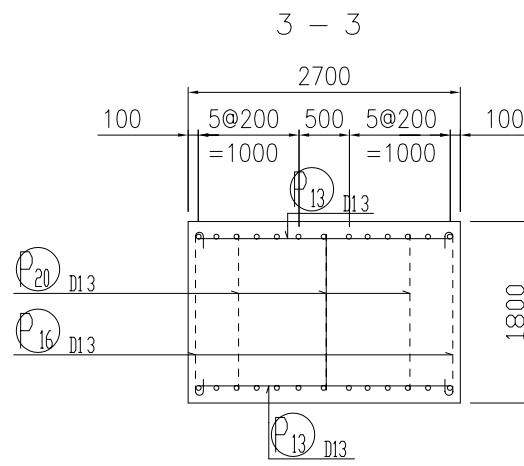
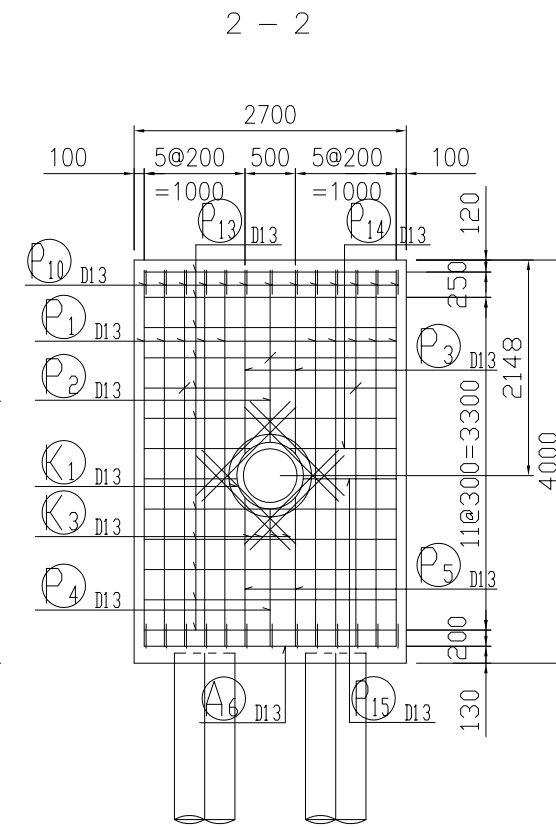
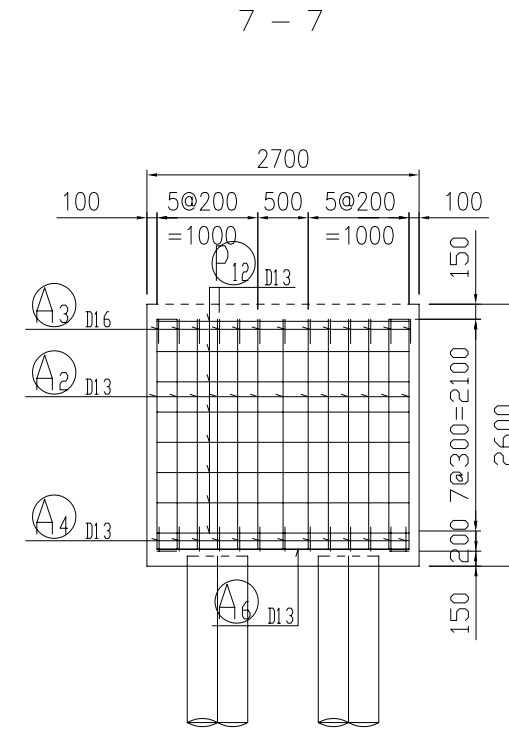
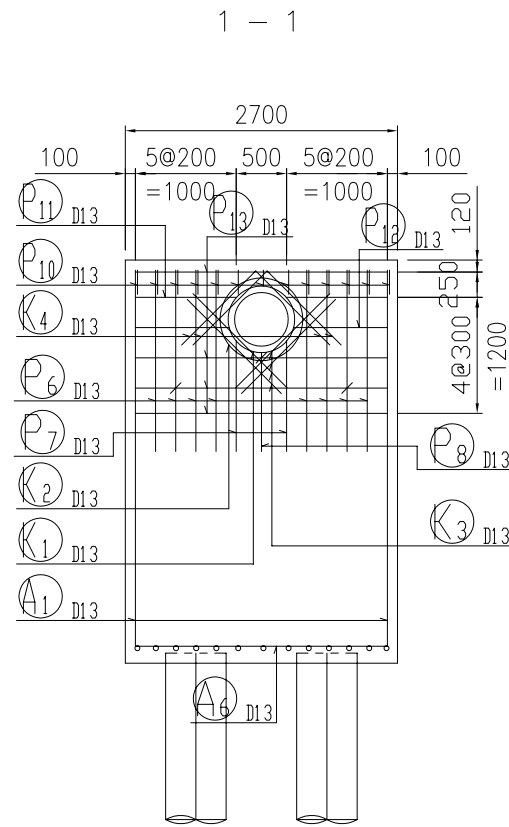
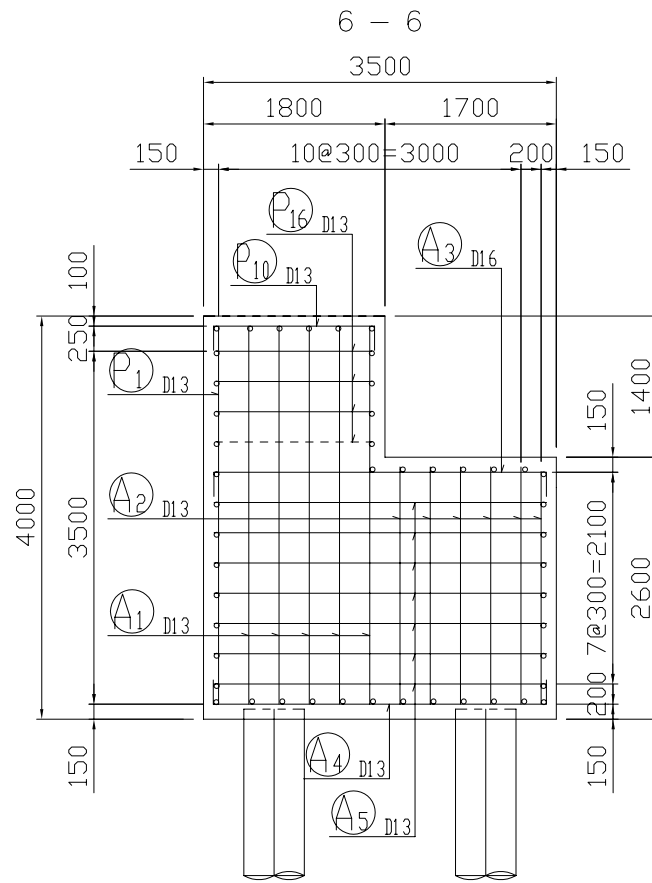
REV. No.	DATE	DESCRIPTION	NOTES

CLIENT	
CONSULTANT	
SIGNATURE	

PREPARED BY	CHECKED BY	APPROVED BY

PROJECT NAME:	THE PROJECT FOR RECONSTRUCTION OF AQUEDUCT AT MATARA DAMAGED BY TSUNAMI DISASTER
DRAWING TITLE:	ABUTMENT (1)

DRAWING No.	D-011
SCALE	A3 1/75
REV. No.	
SHEET No.	



REV. No.	DATE	DESCRIPTION

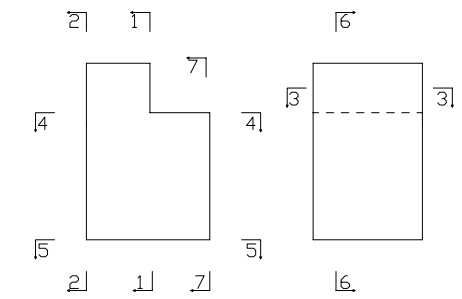
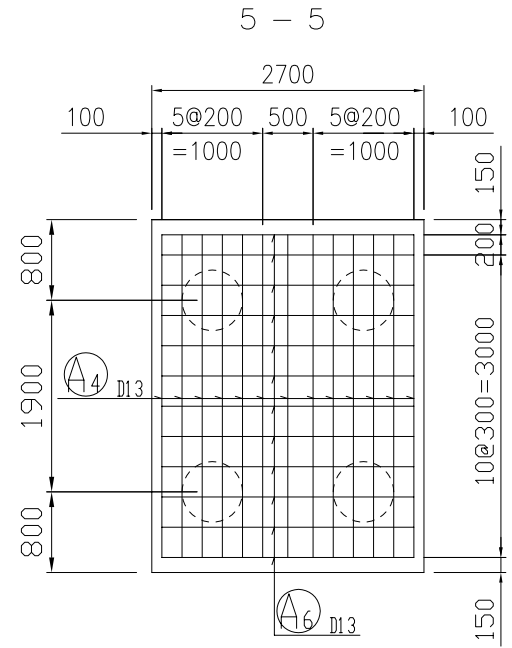
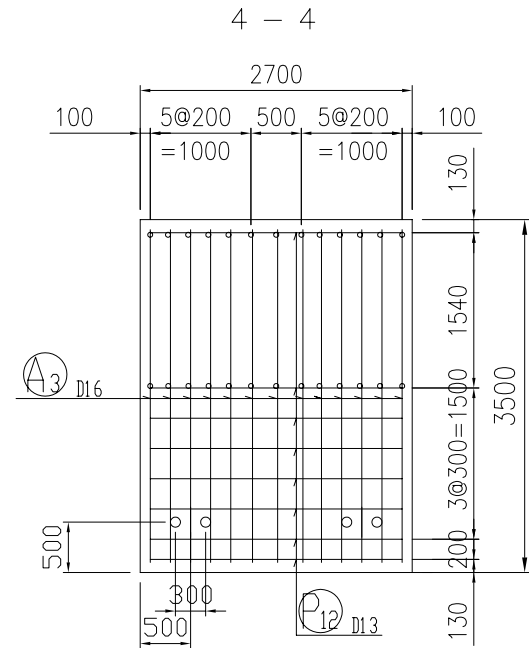
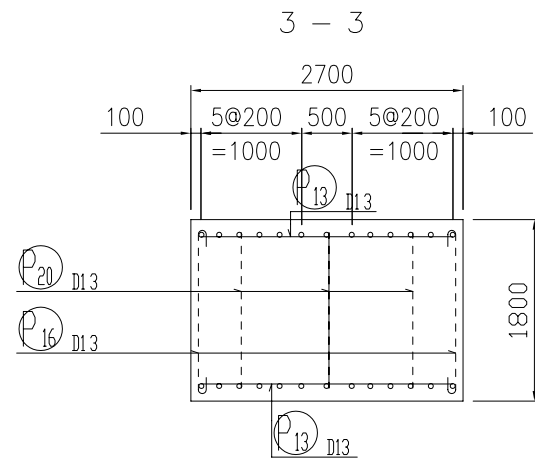
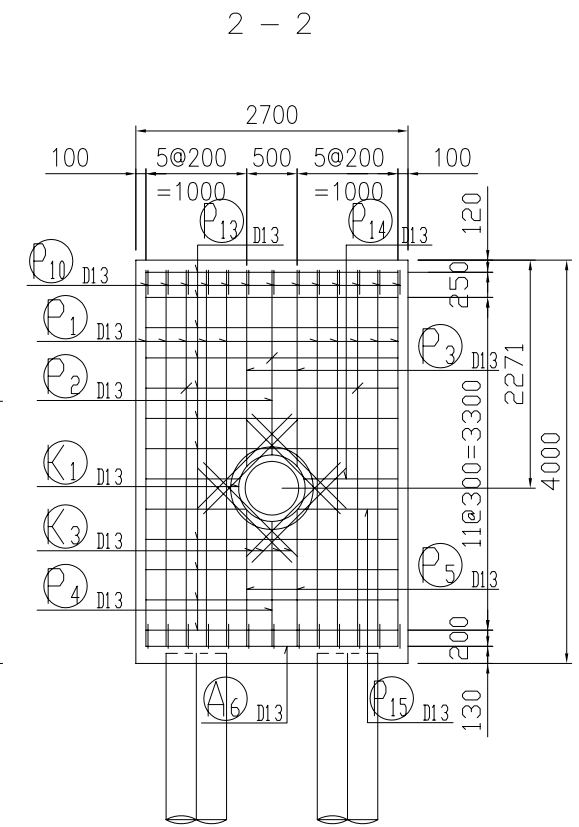
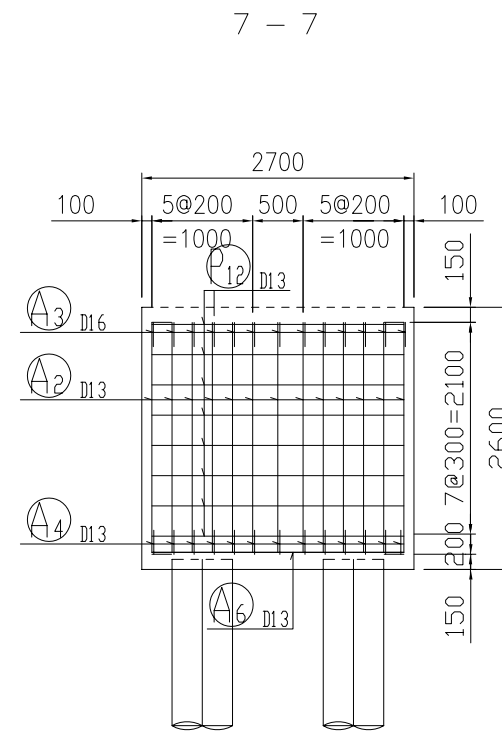
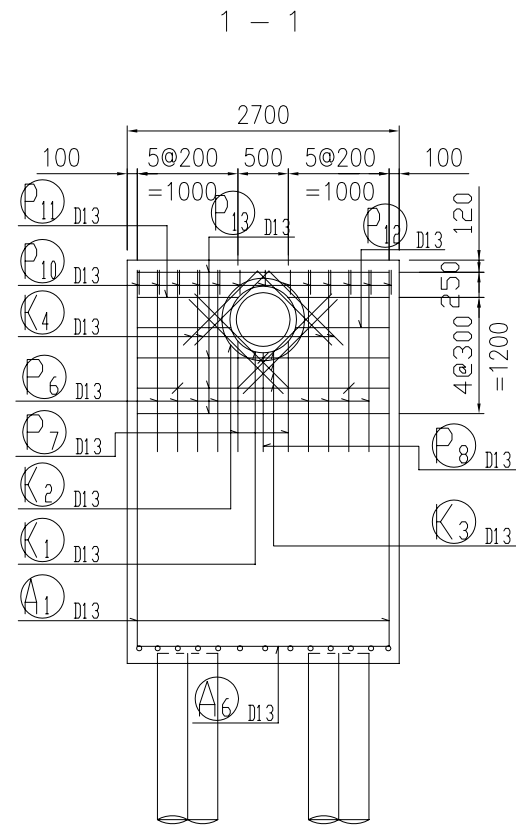
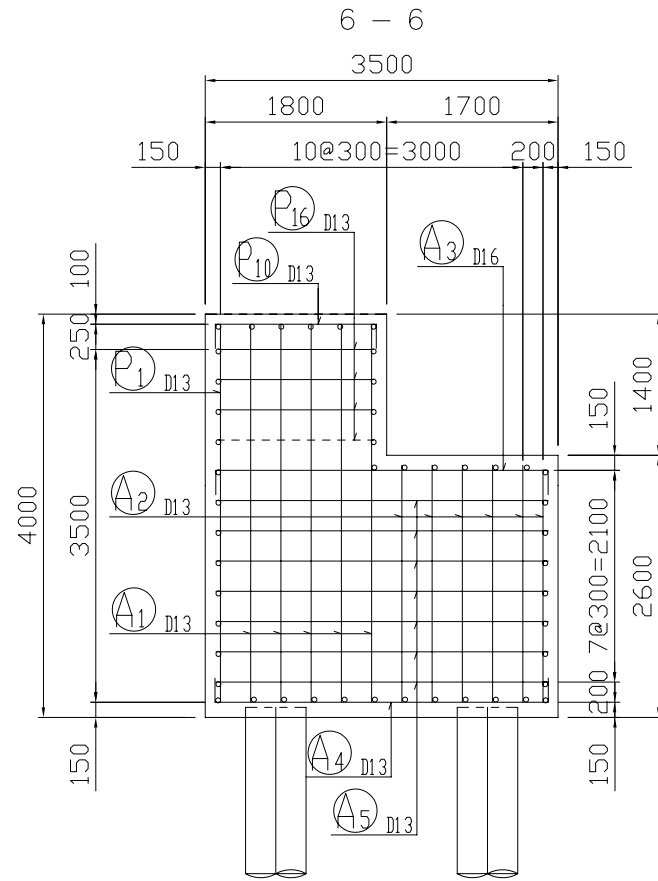
NOTES

CLIENT			
CONSULTANT			
SIGNATURE	PREPARED BY	CHECKED BY	APPROVED BY

PROJECT NAME:	THE PROJECT FOR RECONSTRUCTION OF AQUEDUCT AT MATARA DAMAGED BY TSUNAMI DISASTER
DRAWING TITLE:	ABUTMENT (2)

DRAWING No.	D-012
SCALE	A3 1/75
REV. No.	
SHEET No.	1





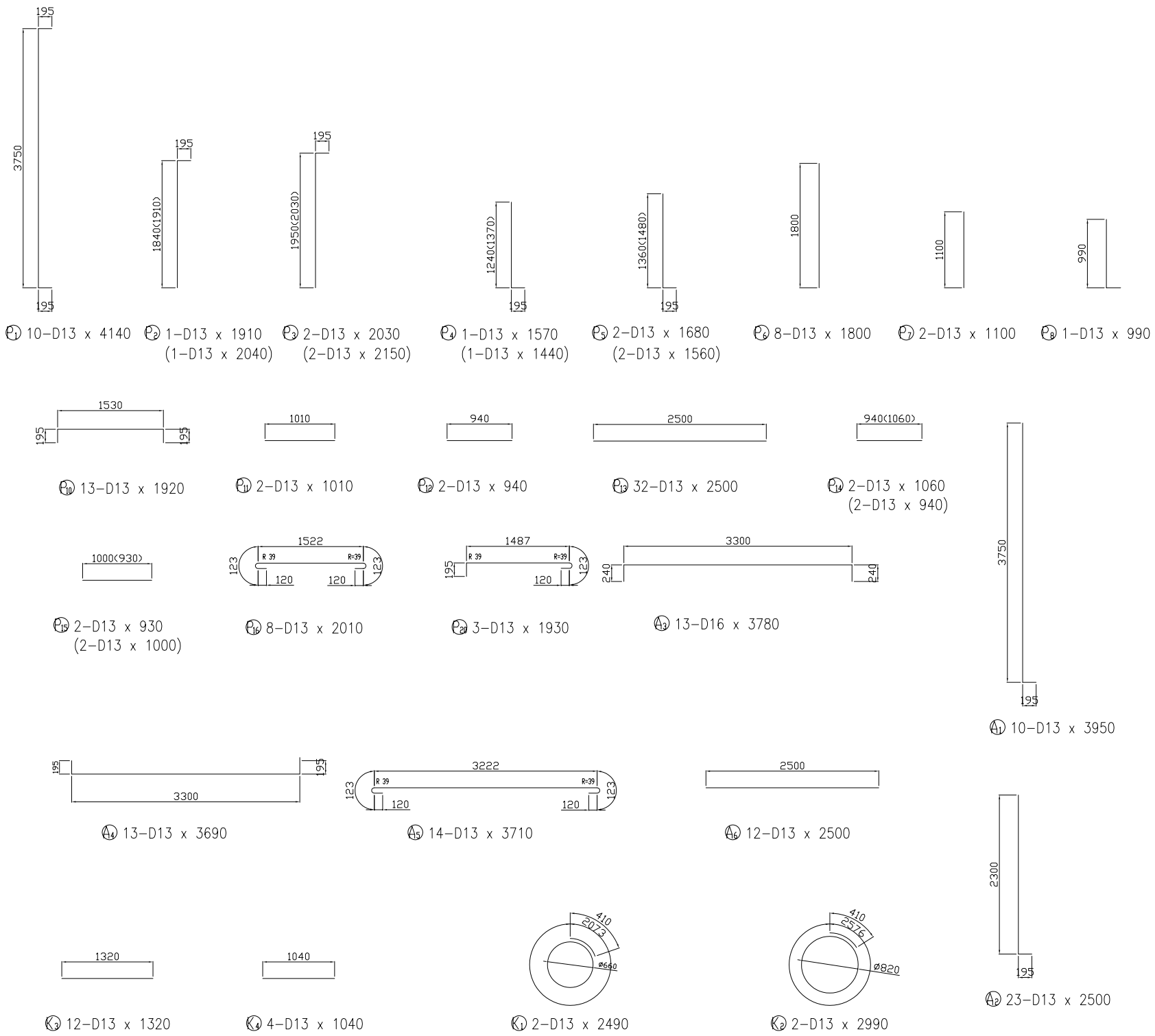
REV. No.	DATE	DESCRIPTION	NOTES

CLIENT	
CONSULTANT	
SIGNATURE	

PREPARED BY	CHECKED BY	APPROVED BY

PROJECT NAME:	THE PROJECT FOR RECONSTRUCTION OF AQUEDUCT AT MATARA DAMAGED BY TSUNAMI DISASTER
DRAWING TITLE:	ABUTMENT (3)

DRAWING No.	D-013
SCALE	A3 1/75
REV. No.	
SHEET No.	



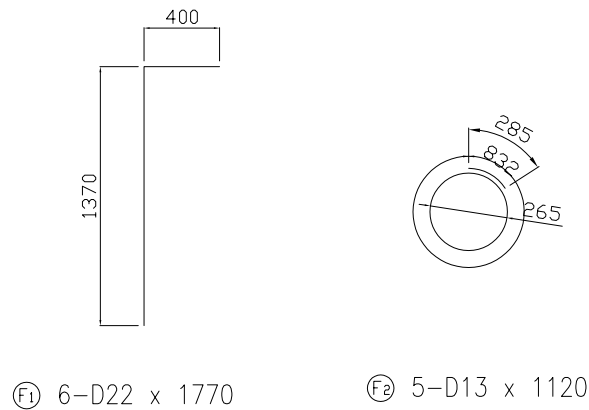
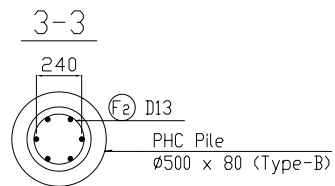
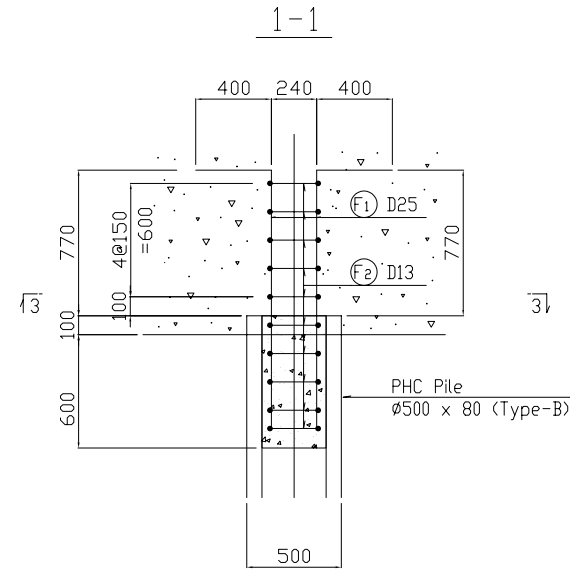
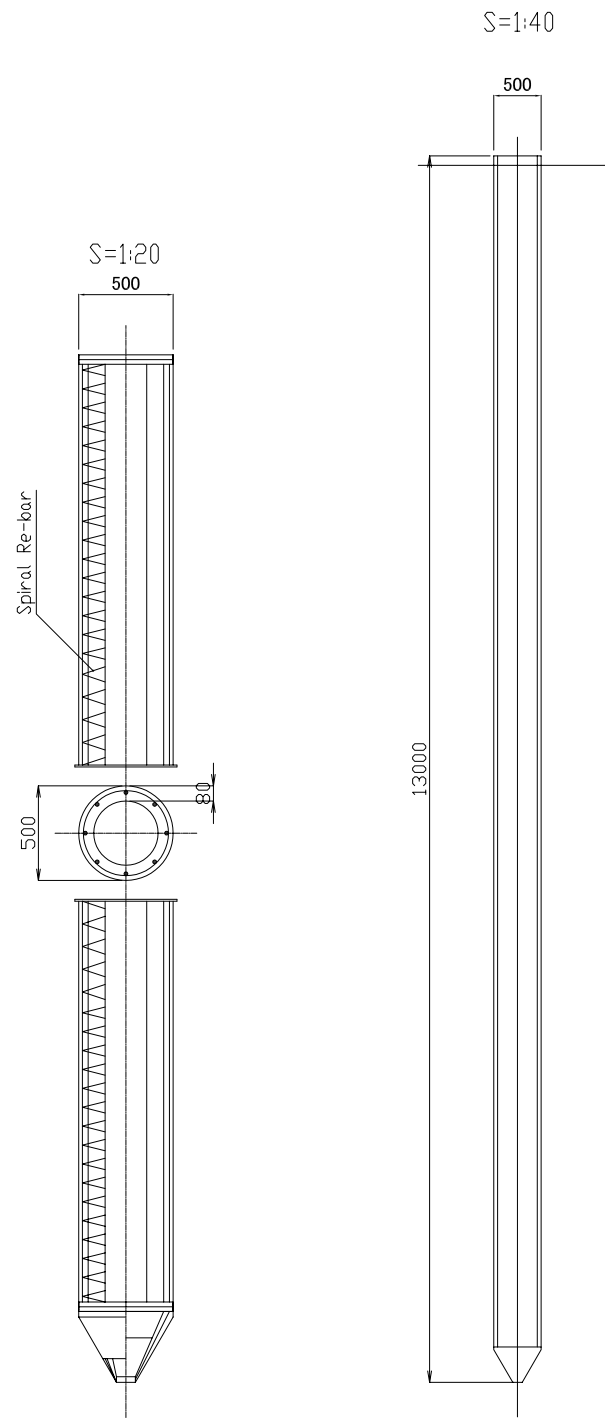
Schedule of Reinforcing Bar							
ID No.	Size	Length (mm)	Number	kg/m	Weight (kg)	Remarks	
P1	D13	4140	10	0.995	41	┌┐	
P2	D13	1910 (2040)	1	0.995	2	┌┐	
P3	D13	2030 (2150)	2	0.995	4	┌┐	
P4	D13	1570 (1440)	1	0.995	1	┌┐	
P5	D13	1680 (1560)	2	0.995	3	┌┐	
P6	D13	1800	8	0.995	14	┌┐	
P7	D13	1100	2	0.995	2	┌┐	
P8	D13	990	1	0.995	1	┌┐	
P10	D13	1920	13	0.995	25	┌┐	
P11	D13	1010	2	0.995	2	┌┐	
P12	D13	940	2	0.995	2	┌┐	
P13	D13	2500	32	0.995	80	┌┐	
P14	D13	1060 (940)	2	0.995	2	┌┐	
P15	D13	930 (1000)	2	0.995	2	┌┐	
P16	D13	2010	8	0.995	16	┌┐	
P20	D13	1930	3	0.995	6	┌┐	
A1	D13	3950	10	0.995	39	┌┐	
A2	D13	2500	23	0.995	57	┌┐	
A3	D16	3780	13	1.560	77	┌┐	
A4	D13	3690	13	0.995	48	┌┐	
A5	D13	3710	14	0.995	52	┌┐	
A6	D13	2500	12	0.995	30	┌┐	
K1	D13	1320	12	0.995	16	○	
K2	D13	1040	4	0.995	4	○	
K3	D13	2490	2	0.995	5	┌┐	
K4	D13	2990	2	0.995	6	┌┐	
A1 Abutment Total					537	kg	
A1 Abutment Total					537	kg	
					D13	920	kg
					D16	154	kg
					Total	1074	kg
Concrete Volume					A1	31.4	m3
					A2	31.4	m3
					Total	62.8	m3

Notes.  
1. ( ) : indicates A2 abutment

REV. No.	DATE	DESCRIPTION	NOTES	CLIENT	PROJECT NAME:	DRAWING No.
					THE PROJECT FOR RECONSTRUCTION OF AQUEDUCT AT MATARA DAMAGED BY TSUNAMI DISASTER	D-014
						SCALE
						A3 1/75
						REV. No.
						SHEET No.
						/

ABUTMENT (4)

pretensioned spun high strength concrete pile  
(PHC PILE)



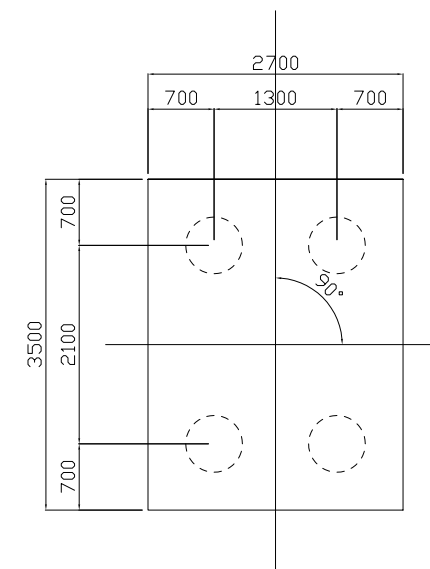
Schedule of Reinforcing Bar per 1 Pile

ID No.	Size	Length (mm)	Number	kg/m	Weight (kg)	Remarks
F1	D25	1770	6	3.980	42	—
F2	D13	1120	10	0.995	11	○
				Total	53	kg

PHC Pile Weight per 1 Abutment

Diameter or Size	thickness (mm)	Length (mm)	Number	kg/m	Weight (kg)
Ø500	80	12600	4	274.3	13825

Location of PHCPile

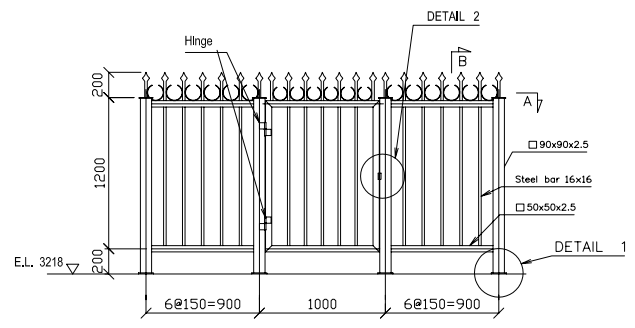


REV. No.	DATE	DESCRIPTION	NOTES

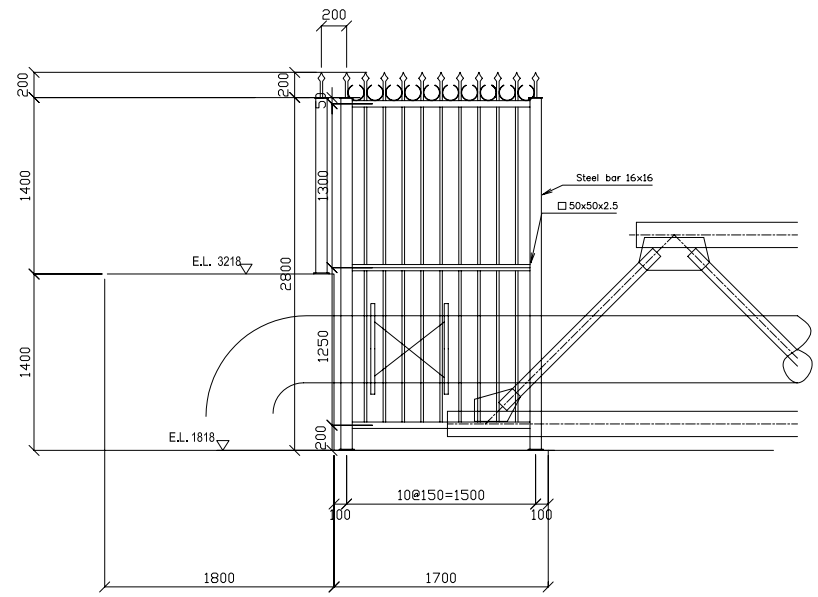
CLIENT	CONSULTANT	PREPARED BY	CHECKED BY	APPROVED BY

PROJECT NAME:	DRAWING TITLE:
THE PROJECT FOR RECONSTRUCTION OF AQUEDUCT AT MATARA DAMAGED BY TSUNAMI DISASTER	DETAILS OF PHC PILE

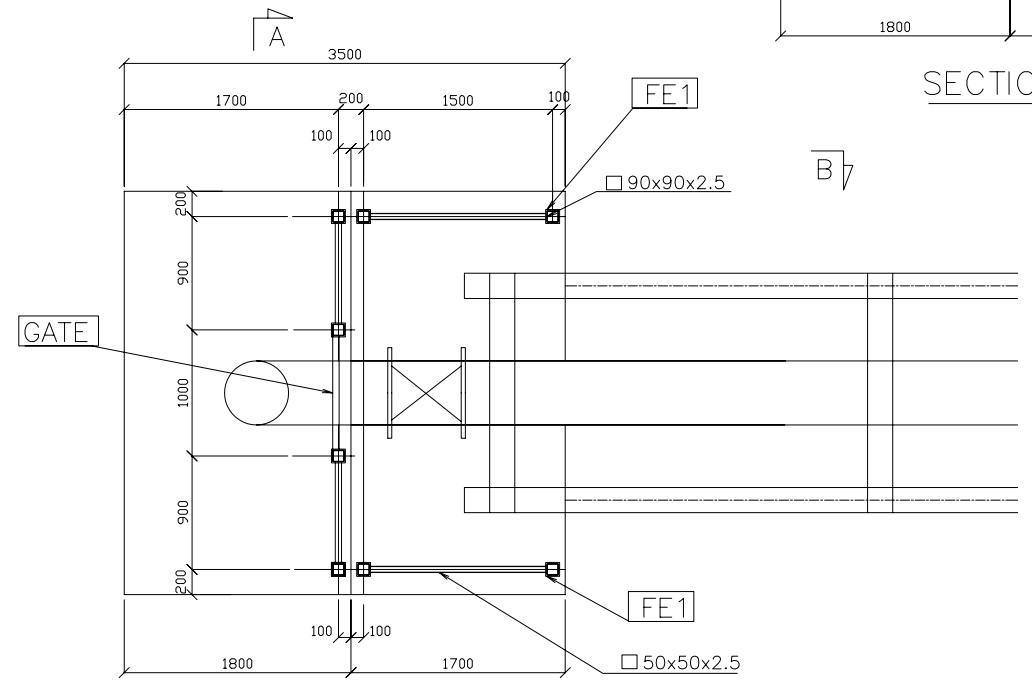
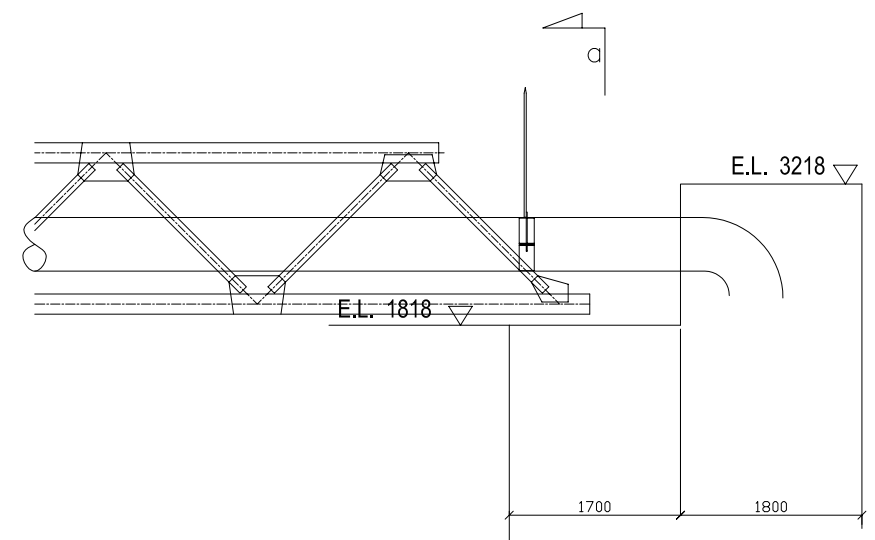
DRAWING No.	SCALE	REV. No.	SHEET No.
D-015	A3 1/40		



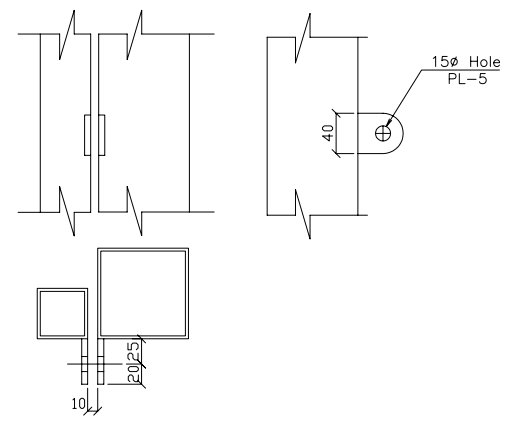
SECTION A



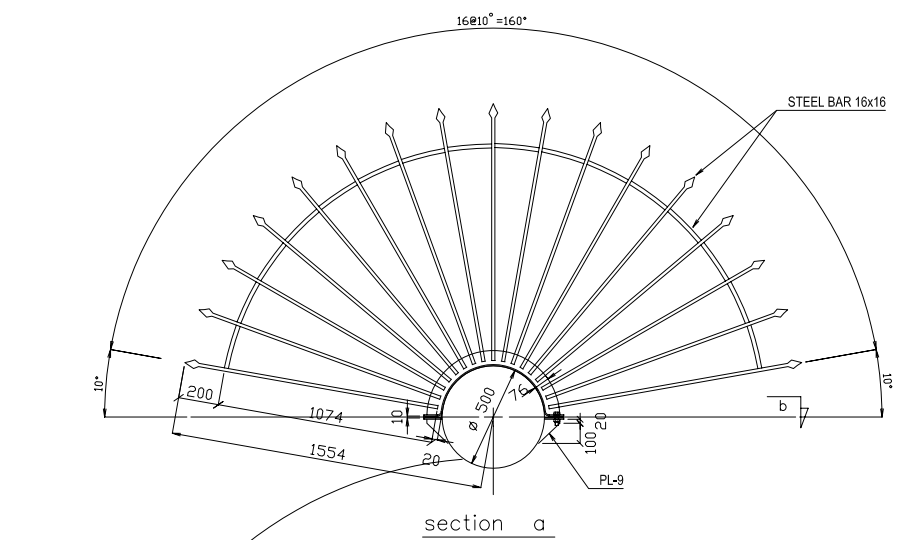
SECTION B



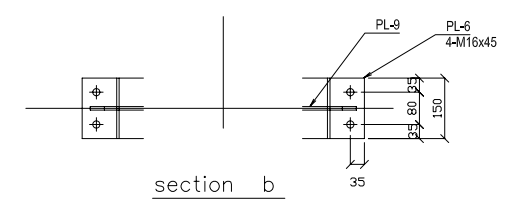
FRAMING PLAN



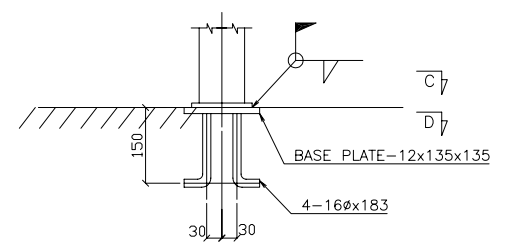
DETAIL 2



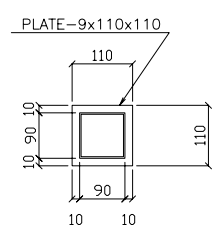
section a



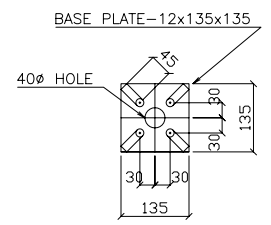
section b



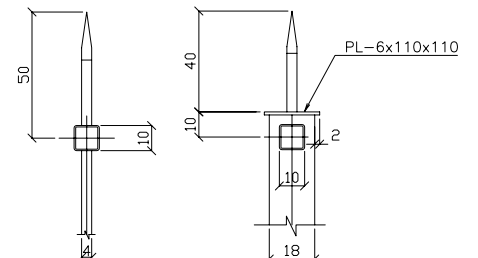
DETAIL 1



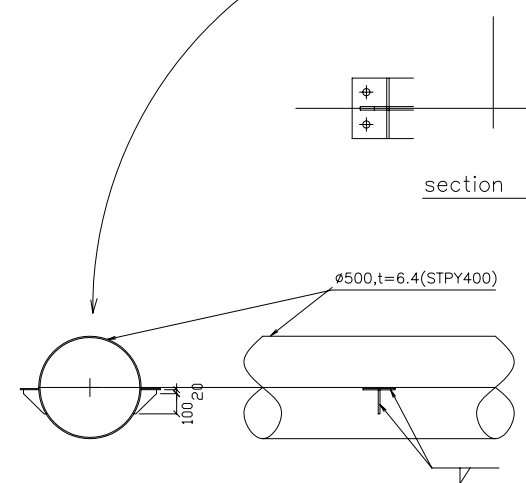
SECTION C



SECTION D



DETAIL 3



REV. No.	DATE	DESCRIPTION	NOTES

CLIENT	CONSULTANT	SIGNATURE

PREPARED BY	CHECKED BY	APPROVED BY

PROJECT NAME:	DRAWING No.
THE PROJECT FOR RECONSTRUCTION OF AQUEDUCT AT MATARA DAMAGED BY TSUNAMI DISASTER	D-016
	SCALE
	-
DRAWING TITLE:	REV. No.
FENCE (FOR REFERENCE)	-
	SHEET No.
	1