ANNEX I
APPLICATION FOR ADMISSION

For the purposes set forth in the call for INTERNATIONAL PUBLIC TENDER No. 01/2025. for the execution of the Work: "**SANTA FE – CÓRDOBA INTERPROVINCIAL AQUEDUCT. STAGE I: CORONDA – SAN FRANCISCO. PHASE I – BLOCKS "B" AND "C"**", called by the BIPROVINCIAL EXECUTIVE UNIT - SANTA FE - CÓRDOBA INTERPROVINCIAL AQUEDUCT, who undersigns……. Identity Document (Type and No.) ..... with address (I) Telephone in the capacity of Legal Representative of the company (II)…….with address of origin in (III) …….. requests that this presentation be considered, (define the item/items quoted) for which purposes all the documentation required in Art. 8 of the Term of Conditions is attached in a duly sealed envelope. Likewise, it declares that all the information supplied is provided as a Sworn Statement and that as a guarantee of the Bid, a guarantee (IV) … equivalent to one percent (1%) of the Official Budget amount for the quoted item/items is attached, with a validity period extending until the fulfillment of the obligations arising from document. –

Technical Director	Bidder
Technical Director Name, professional degree Professional registration number Signature and clarification seal Legal address.	Bidder Name, signature and clarification seal Legal address

Observations

I. The electronic address of the Legal Representative where the Bidder will be notified during the entire Bidding stage.
II. Registered address of the Legal Representative of the Bidder within the Province of Santa Fe. -
III. Name with which the Bidder presents itself to this Tender. If it is an associative contract, designate the adopted name and that of each of the companies that constitute it.
IV. Indicate the address of Origin of the Bidding Company. In the case of associative contracts, indicate the one established for it and for each of the members.
V. Guarantee Established in accordance with Art. 19 of the Tender Terms and Conditions. -

ANNEX II
SWORN STATEMENT OF LEGAL ADDRESS

INTERNATIONAL PUBLIC TENDER No.01/2025

PROJECT: **SANTA FE – CÓRDOBA INTERPROVINCIAL AQUEDUCT. STAGE I: CORONDA – SAN FRANCISCO. PHASE I – BLOCKS "B" AND "C**".

LOCATION:

The undersigned, on behalf and representing the Company/ies .....make this sworn statement of legal address, establishing it at street: .....No.....Floor.....Office...Telephone …….. in the City of Santa Fe – Province of Santa Fe.
The electronic address is set in the following email box……...
Likewise, we are obliged to reliably communicate to the BIPROVINCIAL EXECUTIVE UNIT, SANTA FE – CÓRDOBA INTERPROVINCIAL AQUEDUCT, within 24 hours of any change of address.

Bidder
Name, signature and clarification seal
Legal Address

ANNEX III SWORN STATEMENTS

INTERNATIONAL PUBLIC TENDER No. 01/2025

PROJECT: SANTA FE – CÓRDOBA INTERPROVINCIAL AQUEDUCT. STAGE I: CORONDA – SAN FRANCISCO. PHASE I – BLOCKS "B" and "C".

LOCATION:

The undersigned, on behalf of and representing the Construction Company/ies, declare under oath:

- That they waive the Federal Jurisdiction or any other exception that may apply to them and submit to the jurisdiction of the Courts of the City of Santa Fe with administrative litigation matters.
- That the bank account has not been closed by order of the Central Bank of the Argentine Republic during the course of the last year, even if it had been re-enabled.
- That they have not been declared bankrupt or in preventive bankruptcy or, if they were, they prove that they are duly authorized to participate in this public tender.
- That the Bidder is not subject to any civil, commercial or criminal disqualification in force, by a final court ruling passed into res judicata and that there is no disqualification of the aforementioned that weighs on the natural persons that make up their corporate bodies, when the Bidder is a legal person.
- That they formally accept the retention of pension contributions from the monthly certification.
- That they do not have any sanctions imposed by the Registry of Constructors of the Nation, the Registry of Bidders of the Province of Santa Fe, by the Official Registry of State Suppliers and Contractors (ROPyCE) and the Registry of Public Works Constructors (RCO) of the Province of Córdoba or other provincial registry of Construction Constructors in the last five (5) years.
- That they are not included in any of the causes that prevent them from contracting with the Provincial States of Santa Fe and Córdoba.
- That they are not disqualified by judicial conviction.
- That they have not been convicted or declared a tax or social security evader or debtor, of the National and/or Provincial Treasury by a firm judicial or administrative decision.
- That they are not listed as delinquent child support obligors, as established by the legislation of the domicile of the Bidder.
- That they are fully aware of the clauses that :The Bidders must be familiar with the terms and conditions of this Document, the Technical Specifications Document, and the entire Bidding Document and the conditions under which the Work will be carried out, the prices of materials, labor, taxes and fees in force, as well as any other information that may influence the work, its cost, pace and duration.

- That the Bidding Documents have been studied in full, that they have made their own calculations of the costs of all the works and equipment involved and that they have based their Bid on them.
- That they have full knowledge of the sites that will be affected by the works, with a comprehensive interpretation of all the tasks necessary for their execution and interferences to be overcome, having evaluated the risks inherent to the contract.

Bidder

Name, signature and clarification seal

Legal Address

ANNEX IV

LIST OF EQUIPMENT, INSTRUMENTS AND VEHICLES TO BE USED IN THE WORK

DESCRIPTION	MODEL	POWER	STATE	OWN OR RENTED	Observations

Bidder

Name, signature and clarification seal

Legal Address

ANNEX V – PART ONE
BUSINESS BACKGROUND

Public Tender No. …….

Work: ……...

Company: …….

Technical Background – Works carried out and/or in progress								
Order No.	Work	Main Characteristics	Unit	Quantity	Start Date	End Date	Contract Amount ($)	Base Month Year

…… ……

Signature and Name Clarification of the Bidder

Signature and Name Clarification of the Technical Representative

Note: Bidders may modify the format of this form according to their needs, but they must not alter the content indicated in the header.

ANNEX V – SECOND PART

BASIC PRODUCTION DATA

Public Tender No. ……..

Work: ……...

Company: ……

Selected Period: From …./…../……. To …./…../…….

No.	PRINCIPAL / NAME	DENOMINATION	WORK TERM	CONTRACT AMOUNT	AMOUNT BILLED IN TWELVE (12) CONSECUTIVE MONTHS OF WORKS (*)											
					1	2	3	4	5	6	7	8	9	10	11	12
TOTAL ($)																
MONTHLY AVERAGE ($)																

NOTES: THE WORKS DETAILED MUST HAVE BEEN CARRIED OUT WITHIN THE LAST TEN (10) YEARS

BIDDERS MAY MODIFY THE FORMAT OF THIS FORM ACCORDING TO THEIR NEEDS, BUT THEY MUST NOT ALTER THE CONTENT INDICATED IN THE HEADER.

(*) Indicate the monthly certification amount per row using basic contract values. The subtotal will be the sum certified for the selected period.

…… ……

Signature and Name Clarification of the Bidder

Signature and Name Clarification of the Technical Representative

ANNEX VI: FIRST PART
EXPERIENCE OF THE COMPANY IN SIMILAR WORKS

PUBLIC BIDDING No. .....

WORK: .....

COMPANY: .....

Technical Background – Works carried out and/or in progress									
Order No.	Work	Principal	Main Characteristics	Unit	Quantity	Start Date	End Date	Contract Amount ($) (pesos)	Base Month Year

…… ……

Signature and Name Clarification of the Bidder

Signature and Name Clarification of the Technical Representative

NOTE: Bidders may modify the format of this form according to their needs but must not alter the content indicated in the header.

ANNEX VI: SECOND PART
CERTIFICATE FROM THE PRINCIPAL FOR COMPLETED SIMILAR PROJECTS

WORK: .....
COMPANY: .....
CONTRACTING AGENCY……
CONTRACT DATE: ……...
WORK AMOUNT: ……...
TERM: ……..

Contract Additions: ……..
Time Extensions: ……

CONDUCT CONCERNING CONTRACTUAL PROVISIONS

	Very Good	Good	Average	Poor
A- Compliance with Service Orders				
B- Presence of the Technical Representative on Site				
C- Compliance with Deadlines				
D- Quality of Work				
E- Demonstrated Technical Capacity				
F- Volume of Work Executed				

Note: only works involving similar tasks that are accompanied by this Annex, either in original or duly legalized copy, will be considered for the evaluation.

In Point F, the project must be quantitatively expressed through its most representative indicators, surface units (m2), volumes (m3), extension (km), etc.

Place and Date:

……..

Signature and Clarification - Head of the Technical Department or Equivalent Authority (Corresponding Stamp)

……

ANNEX VII

CURRICULUM VITAE OF KEY PERSONNEL

- **TECHNICAL DIRECTOR / TECHNICAL MANAGER OF THE COMPANY**
- **TECHNICAL REPRESENTATIVE ON SITE**
- **OCCUPATIONAL HEALTH AND SAFETY OFFICER**
- **ENGINEERING CONSULTANTS**

The details of the Consulting Company and the specialist consultants in the following areas must be presented, who must have proven experience in works of this type:

- Concrete structures
- Hydraulics of pipelines
- Electromechanics
- Automation and Remote Management

The consultants must have a minimum of 10 years' experience as specialists in the area.
The principal will evaluate the proposed engineering consultants and determine at their discretion whether they are suitable.

- **OTHERS (Executive Project / Detailed Engineering / Consulting during the execution of works, etc.)**

For each of them, the following information must be completed:

1) PERSONAL DATA AND TASKS TO BE PERFORMED

- Last name and First name:
- Nationality:
- I.D. No.:
- Place and Date of Birth:
- Home Address:
- Telephone:

2) TRAINING DATA

2.1) Degree

- Undergraduate:
- Graduate

2.2) Theoretical Capacity in TOPICS RELATED to the requested tasks

● Courses:

● Teaching and Research Activity:

● Scholarships, Publications and Conferences:

3) WORK BACKGROUND Specify:

● Job title and description

● Types of tasks performed: coordinator, designer, inspector, etc.

● Employment dates (from / to)

● Work: name, location, principal, type of work, execution period, brief description of the work and its main characteristics, date of completion.

3.1) On TOPICS RELATED to the requested Tasks:

● Technical Assistance (diagnostics, basic studies, preliminary projects, projects, specifications, etc.):

● Direction, Supervision and Construction Inspector:

3.2) On TOPICS NOT RELATED to the requested Tasks:

● Technical Assistance (diagnostics, basic studies, preliminary projects, projects, specifications, etc.):

● Direction, Supervision and Construction Inspector:

4) OTHER REFERENCES (that may be of interest):

I hereby declare the truthfulness of the information provided above; I also declare that I am authorized to practice the profession during the current year; and I commit to providing my professional services in accordance with the applicable Regulations and this Document.

Place and date.....

Signature and clarification of the Bidder: ……

Signature and clarification of the Technical Director: ……

Signature and clarification of the Professional: ……

ANNEX VIII

SWORN STATEMENT OF WORKS IN EXECUTION, CONTRACTED AND AWARDED THROUGHOUT THE COUNTRY

WORK DATA	Amount (1)			Term (in months)					Committed Am			
	Total	Cert.	Balance (A)	Acc/ Contract	Extension	Total	Elapsed	Balance (B)	Monthly A/B=C	Annual C*12		
Place												
Designation												
Principal												
Contract Date Redet. Date												
Place												
Designation												
Principal												
Contract Date Redet.Date												
Place												
Designation												
Principal												
Contract Date Redet. Date												
Place												
Designation												
Principal												
Contract Date Redet. Date												
Place												
Designation												
Principal												
Contract Date Redet. Date												
Place												
Designation												
Principal												
Contract Date Redet. Date												
												Total

CERTIFICATE No.: **TERM:** **BASE I:** **COMPANY:**
DATE:

I DECLARE UNDER OATH, YES / NO, HAVING CONSTRUCTION CONTRACTS TERMINATED BEFORE BY THE PROVINCIAL GOVERNMENT DUE TO REASONS ATTRIBUTABLE TO THIS CONTRACTOR, IN ACCORDANCE TO DECREE No. 195/06 (Cross out what does not apply)

(1) Declare amounts of contracts and additional amounts separated in separate lines and indicate the DATES of the redeterminations.
(2) For works with a term of up to 12 months, the amount of the work committed will be the Balance of (A).
(3) In observations, the company must declare the works it carries out in Temporary Joint Ventures, clarifying: Associated company and percentage of participation in it and total amount of the Contract.
(4) The base month corresponds to: THE MONTH PRIOR TO THE CONTRACT DATE OR THE MONTH PRIOR TO THE AWARD DATE

ANNEX IX
PRESENTATION OF FINANCIAL STATEMENTS

STATEMENT OF FINANTIAL POSITION (BALANCE SHEET) AS OF .... /... /... COMPARATIVE WITH THE TWO PREVIOUS YEARS.

ASSETS

CURRENT ASSETS

Cash and banks (Note...) Investments (Note...)

Credits (Note...)

Consumer goods or goods for sale (Note...) Other assets (Note...)

Total, current assets

NON-CURRENT ASSETS

Investments (Annex...) Fixed assets (Annex...) Intangible assets (Note...) Other assets (Note...)

Total, non-current assets

TOTAL ASSETS

LIABILITIES

CURRENT LIABILITIES

Debts (Note...)

Provisions (Note...)

Specific funds (Note...)

Total, current liabilities

NON-CURRENT LIABILITIES

(SEE EXEMPLIFICATION OF CURRENT LIABILITIES)

TOTAL LIABILITIES

THIRD PARTY SHAREHOLDERS IN CONTROLLED COMPANIES

SUBTOTAL

NET WORTH

(according to respective statement)

TOTAL LIABILITIES, THIRD PARTY PARTICIPATION AND NET WORTH

SIGNIFICANT IMPLICIT FINANCIAL COMPONENTS

Properly segregated

FINANCIAL AND HOLDING RESULTS

Reported in detail

INCOME STATEMENT

For the year ended on .../.../... compared to the previous two.

Net sales (Appendix...)

Cost of goods (services) sold (Appendix...)

Gross profit (loss)

Marketing expenses (Appendix...)

Administration expenses (Appendix...)

Result of permanent investments

Other income and expenses

Financial and holding results (a)

Generated by assets

Interests

Exchange rate differences

Results from exposure to inflation

Other holding results

Generated by liabilities

Interests

Exchange rate differences

Results from exposure to inflation

Other holding results

Income tax

Third-party participation in controlled companies

Ordinary profit (loss)

Extraordinary results (Note...)

Profit (loss) for the year

(a) When segregating, the summary criterion must be considered in the presentation that must prevail in the basic statements.

STATEMENT OF NET WORTH EVOLUTION

For the annual period ended on .../.../... comparative with the previous two.

Category	Owners' contributions					Accumulated results						Total	
	Subscribed capital	Capital adjustments	Irrevocable contributions	Share premium	Total	Reserved Earnings			Deferred results	Unallocated results	Total	Current year	Previous year
						Legal reserve	Other reserves	Total					
Balances at the beginning of the year													
Balance modification (note.)													
Balances at the beginning of the year modified													

Subscription of ... ordinary shares (1)													
Capitalization of irrevocable contributions (1)													
Distribution of unallocated results (1)													
- Legal Reserve													
- Other Reserves													
- Cash dividends (or in kind)													
- Share dividends													
Release of reserves (1)													
Irrevocable contributions (1)													
Absorption of accumulated losses (1)													
Increase/Release of deferred results (2)													
Profit (Loss) for the year													
Balances at year-end													

(1) Approved by .....of ..... / ..... / ....

(2) "Deferred results" will be presented separately according to their different nature.

CASH FLOW STATEMENT (Indirect method)

For the year ended .../.../... comparative with the two previous years

Cash changes	**Current**	**Previous**
Cash at the beginning of the year		
Modification from previous years (Note ...)		
Modified cash at the beginning of the year (Note ...)		
Cash at the end of the year (Note ...)		
Net increase (decrease) in cash		
Causes of cash changes		
Operating activities		
Ordinary profit (loss) for the year		
Plus (minus) Interest earned and lost, dividends earned, and income tax accrued in the year		
Adjustments to arrive at net cash flow from operating activities:		
Depreciation of fixed assets, intangible assets and investment properties		
Results from investments in related entities		
Result from sale of fixed assets, intangible assets and investment properties		
Result from measurement at net realizable value of investment properties		
...		
Changes in operating assets and liabilities:		
(Increase) Decrease in trade receivables		
(Increase) Decrease in other receivables		
(Increase) Decrease in biological assets		
Increase (Decrease) in trade payables		
...		
Interest payments (2)		
Income tax payments (3)		

Dividend collections (4)

Dividend payments (2)

Interest collections (4)

Net cash flow generated (used) before extraordinary operations

Extraordinary gain (loss) for the year

Adjustments to arrive at net cash flow from extraordinary activities

Residual value of assets written off by Claim

Accrued earnings in the year and not collected

Earnings collected in the year and accrued in prior years

Net cash flow generated by (used in) extraordinary activities (5)

Net cash flow generated by (used in) operating activities

Investing activities (6)

Proceeds from sales of fixed assets

Proceeds from sales of investment properties

Payments for purchases of fixed assets

Payments for purchases of investment properties

Payments for purchase of Company XX

...

Net cash flow generated by (used in) investing activities

Financing activities (6)

Proceeds from the issuance of negotiable bonds

Cash contributions from owners

Loan payments

Net cash flow generated by (used in) financing activities

Net increase (decrease) in cash

(1) The items included in this line are necessary to be able to present separately the interest, dividends and taxes paid and the interest and dividends collected during the year.

(2) They could have been classified as financing activities.

(3) When the income tax or part of it can be identified with cash flows associated with investment or financing activities, it must be classified within these activities.

(4) They could have been classified as investment activities.

(5) Only this line may be presented but referencing a note where its composition is explained.

(6) Ordinary items must be separated from extraordinary items.

CASH FLOW STATEMENT (Direct method)

For the year ended on .../.../... comparative with two previous years

Cash changes	**Current**	**Previous**
Cash at the beginning of the year		
Modification from previous years		
Modified cash at the beginning of the year		
Cash at the end of the year		
Net increase (decrease) in cash		

Causes of cash changes		
Operating activities		
Receipts from sales of goods and services		
Payments to suppliers of goods and services		
Employee payments and social security expenses		
Other tax payments		
Interest payments (1)		
Income tax payments (2)		
Dividend received (3)		
Dividend payments (1)		
Interest received (3)		
...		
Net cash flow generated (used in) before extraordinary operations		
Insurance claim payments received...		
Net cash flow generated (used in) by extraordinary activities		
Net cash flow generated by (used in) operating activities		

Investing activities (4)

Proceeds from sales of fixed assets

Proceeds from sales of investment properties

Payments for purchases of fixed assets

Payments for purchases of investment properties

Payments for purchase of Company XX

...

Net cash flow generated by (used in) investing activities

Financing activities (4)

Proceeds from the issuance of negotiable bonds

Cash contributions from owners

Loan payments

...

Cash flow Net cash generated by (used in) financing activities

Cash net increase (decrease)

(1) They could have been classified as financing activities.
(2) When the income tax or part of it can be identified with cash flows associated with investment or financing activities, it should be classified within these activities.
(3) They could have been classified as investment activities.
(4) Ordinary items should be separated from extraordinary items.

ANNEX X
"BID MAINTENANCE DECLARATION" FORM

Date: [indicate the date (day, month and year) of submission of the bid]

Tender No.: [indicate the number of the bidding process]

To: BIPROVINCIAL EXECUTIVE UNIT – SANTA FE - CÓRDOBA INTERPROVINCIAL AQUEDUCT

We, the undersigned, declare that:

We understand that, according to its conditions, the bids must be supported by a Declaration of Bid Maintenance.

We accept that we will automatically be declared ineligible to participate in any contract bidding with the Principal for a period of two (2) years counted from the date of opening of bids if we violate our obligation(s) under the conditions of the bid if:

As Bidders:

We withdraw our bid during the period of bid maintenance. We falsify the information provided as a sworn statement.

We do not correct formal defects, once notified within the term set for such purpose.

We do not allow the inspection or verification tasks requested by the Commission for the Study and Evaluation of Bids to be carried out, once notified within the term set for such purpose.

After having been designated as the successful bidder of the tender during the bid validity period:

We do not sign the Contract, in accordance with the Provisions of this Document.

We do not provide the Contract Compliance Guarantee, in accordance with the Provisions of this Document.

We do not accept the correction of the price of our bid due to arithmetic errors, in accordance with this Document, for an amount equivalent to at least one percent (1%) of the amount of the Official Budget.

We understand that this Bid Maintenance Statement will expire if we are not selected. Signed: [insert signature of person whose name and capacity are indicated].

In the capacity of [indicate legal capacity of person signing the Bid Maintenance Statement]

Name: [insert full name of person signing the Bid Maintenance Statement]

Duly authorized to sign the bid by and on behalf of: [insert full name of Bidder]

Dated the day of 202_ [insert date of signature] [Note: In the case of a Joint Venture or Consortium, the Bid Maintenance Statement must be in the name of the Joint Venture or Consortium submitting the Bid and also of each of the companies comprising it].

ANNEX XI
BID FORM

PUBLIC TENDER No.:

PROJECT: SANTA FE – CÓRDOBA INTERPROVINCIAL AQUEDUCT. STAGE I: CORONDA – SAN FRANCISCO. PHASE I – BLOCKS "B" and "C".

LOCATION:

The undersigned, on behalf and representing the Company/ies ……..…….....establishing legal and special address at No....., …… street, …….....Neighborhood Floor..... Office.....Telephone ……Section …….., of the City of Santa Fe, Province of Santa Fe, familiar with all the project documentation for the project mentioned, offer to carry out all the work corresponding to ITEM …… and necessary for it, including the provision of all specialized labor and their assistants, technical direction, Technical Representation, provision of equipment, tools, vehicles of different types, machines, application materials for consumption, electric energy, construction water, fuels, etc. that are necessary to satisfy qualitatively and quantitatively the requirements of the work in accordance with the plans, sheets, specifications, the best construction standards and practices, its purpose and the term established for its construction and according to the bases of this tender, ITEM No. ……° for the sum of pesos ($), which include VAT, as well as all other taxes, rates, contributions, levies, etc. in force and applicable to the case.

Such sum, free of taxes, amounts to the total of pesos…… ($.).

This quotation is firm and valid for a term of one hundred and eighty (180) days. We declare under oath to have full knowledge and acceptance of the background and conditions that govern this tender.

Bidder

Name, signature and clarification seal

Legal address

ANNEX XII – PART ONE COST WEIGHTING STRUCTURE

BLOCK B

Indexes

1	F1	Decree 1295/2002 Article 15 Paragraph m) Steels – Ribbed Steel
2	F2	Decree 1295/2002 Article 15 Paragraph i) Electric motors and air conditioning equipment
3	F3	46212-31 - Differential switch
4	F4	41241-1 - Iron wire rods
5	F5	Decree 1295/2002 Article 15 - paragraph b) - Masonry
6	F6	15310-1 - Sands
7	F7	15320-1 - Stones
8	F8	Decree 1295/2002 Article 15 Paragraph k) - Asphalts, fuels and lubricants
9	F9	46340-21 - Sintenax type cable
10	F10	PRFV-1201 - PRFV pipes, diameters greater than 1200 mm
11	F11	Decree 1295/2002 Article 15 - paragraph h) - PVC pipes for various installations
12	F12	28111- Metal structures for construction (includes: Aluminum openings, Iron sheet openings and Aluminum curtains)
13	F13	Decree 1295/2002 Article 15 Paragraph n) - Cement
14	F14	33360-1 - Diesel oil
15	F15	Decree 1295/2002 Article 15 - paragraph v) - Electric pumps
16	F16	Decree 1295/2002 Article 15 - paragraph j) - Depreciation of Equipment
17	F17	Decree 1295/2002 Article 15 - paragraph p) - General Expenses
18	F18	83107-1 - Scaffolding rental
19	F19	37510-1 - Concrete
20	F20	Decree 1295/2002 Article 15 - paragraph g) Electrical Installations
21	F21	Decree 1295/2002 Article 15 - paragraph r) - Sanitary Installations
22	F22	Decree 1295/2002 Article 15 - paragraph a) Labor
23	F23	46121-1 - Transformers
24	F24	Decree 1295/2002 Article 15 Paragraph t) - Flow Meters
25	F25	35110-3 - Latex Paint
26	F26	34740-1 - Plastic Resins
27	F27	Decree 1295/2002 Article 15 Paragraph e) - Chemical Products
28	F28	34730-1 - Vinyl Chloride Polymers
29	F29	88700-1 - Light and driving force for construction
30	F30	71240-21 - Truck with Trailer
31	F31	41273-12 - 0.100 m cast iron pipe
32	F32	Decree 1295/2002 Article 15 - paragraph u) Bronze valves

Item	Concept	Factor Weighting Structure	Incidence %
Work: Santa Fe Córdoba Interprovincial Aqueduct - Block "B"			
1.1.1.1	Preliminary Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.096%
1.1.2.1	Excavation of Shored Trenches for Pipe Installation without Dewatering	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	2.671%
1.1.2.2	Excavation of Shored Trenches for Pipe Installation with Dewatering	0.30xF14 + 0.30xF15 + 0.30xF16 + 0.10xF22	0.700%
1.1.2.3	Backfilling of Trenches with Selected Soil	0.30xF6 + 0.30xF14 + 0.30xF16 + 0.10xF22	6.072%
1.1.2.4	Backfilling of Trenches with Natural Soil	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	3.136%
1.1.3.1	Supply, Transport and Installation of GRP Pipe PN10 DN 1700 mm	0.50xF10 + 0.30xF16 + 0.10xF22 + 0.10xF30	1.034%
1.1.3.2	Supply, Transport and Installation of GRP Pipe PN6 DN 1700 mm	0.50xF10 + 0.30xF16 + 0.10xF22 + 0.10xF30	57.197%
1.1.3.3	Cleaning and Disinfection	0.30xF16 + 0.30xF17 + 0.30xF22 + 0.10xF27	0.499%
1.1.4.1	Special Crossing under Provincial Route No. 6	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.195%
1.1.4.2	Special Crossing under the Railway	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.130%
1.1.4.3	Special Crossing over the "Secundario Larrechea" Canal	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.463%
1.1.4.4	Special Crossing over the Colastiné Stream	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	1.780%
1.1.5.1	Supply, Transport and Installation of a Triple Effect Air Valve DN 150 mm Non Slam mounted on a GRP Pipe 1700 mm	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	1.889%
1.1.5.2	Transport and Installation of DN 300 mm Drain Valve mounted on 1700 mm GRP pipe	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.941%
1.1.5.3	Supply, Transport and Installation of Butterfly Isolation Valve DN 1200 mm, mounted on Steel Pipe DN 1200 mm, for GRP Pipe Ø1700 mm, including Triple Effect Air Valves DN 300 mm	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.592%
1.1.6.1	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	0.60xF9 + 0.10xF14 + 0.10xF16 + 0.20xF26	0.770%
1.1.6.2	Transient Protection System using Unidirectional Tanks	0.40xF1 + 0.20xF19 + 0.10xF22 + 0.30xF32	0.707%
1.2.1.1	Preliminary Work	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.157%
1.2.2.1	Excavation of Shored Trenches for Pipe Installation without Dewatering	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	1.353%
1.2.2.2	Excavation of Shored Trenches for Pipe Installation with Dewatering	0.30xF14 + 0.30xF15 + 0.30xF16 + 0.10xF22	0.029%
1.2.2.3	Backfilling of Trenches with Selected Soil	0.30xF6 + 0.30xF14 + 0.30xF16 + 0.10xF22	1.148%
1.2.2.4	Backfilling of Trenches with Natural Soil	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	1.772%
1.2.3.1	Supply, Transport and Placement of HDPE Pipe PE100 PN6 DN 355 mm	0.20xF14 + 0.20xF16 + 0.10xF22 + 0.50xF26	2.659%
1.2.3.2	Supply, Transport and Placement of HDPE Pipe PE100 PN6 DN 280 mm	0.20xF14 + 0.20xF16 + 0.10xF22 + 0.50xF26	0.816%

1.2.3.3	Supply, Transport and Placement of PEAD Pipe PE100 PN6 DN 250 mm	0.20xF14 + 0.20xF16 + 0.10xF22 + 0.50xF26	0.920%
1.2.3.4	Cleaning and disinfection	0.30xF16 + 0.30xF17 + 0.30xF22 + 0.10xF27	0.089%
1.2.4.1	Special Crossing under Bridge Abutment over Highway AU 01 i at kilometer point 3+175m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.118%
1.2.4.2	Special Crossing under Bridge Abutment over Highway AU 01 at kilometer point 9+850m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.145%
1.2.4.3	Special Crossing under Access and Egress Roads and Bridge Abutment over Highway AU 01 at kilometer point 13+055m; 13+088 and 13+108m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.262%
1.2.4.4	Special Crossing under Provincial Route No. 80 at kilometer point 13+542m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.149%
1.2.4.5	Special Crossing under Bridge Abutment over Highway AU 01 i at kilometer point 20+915m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.094%
1.2.4.6	Special Crossing under Bridge Abutment over Highway AU 01 at kilometer point 26+371m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.098%
1.2.4.7	Special Crossing under Canal Arroyo Primero Coronda at kilometer point 0+345m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.158%
1.2.4.8	Special Crossing under Arroyo Colastiné at kilometer point 7+486m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.176%
1.2.4.9	Special Crossing under Canal at kilometer point 13+566m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.027%
1.2.4.10	Special Crossing under Canal at kilometer point 22+849m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.064%
1.2.4.11	Special Crossing under Ditch at kilometer point 30+345m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.087%
1.2.4.12	Special Crossing under RP 64 in Section of Joint R1.0	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.064%
1.2.5.1	Supply, Transport and Placement of Triple Effect Air Valve DN 100 mm mounted on HDPE Pipe DN 355 mm	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.341%
1.2.5.2	Supply, Transport and Placement of Triple Effect Air Valve DN 80 mm mounted on HDPE Pipe DN 280 mm and DN 250 mm	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.375%
1.2.5.3	Supply, Transport and Placement of Drain Valve DN 150 mm mounted on HDPE Pipe DN 355 mm	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.344%
1.2.5.4	Supply, Transport and Placement of DN 100 mm Drain Valve mounted on HDPE Pipe DN 280 mm and DN 250 mm	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.500%
1.2.5.5	Supply, Transport and Placement of Triple Acting Air Valve DN 100 mm and Butterfly Isolation Valve DN 350 mm mounted on HDPE Pipe DN 355 mm	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.109%
1.2.5.6	Supply, Transport and Placement of DN 80 mm Triple Effect Air Valve and DN Isolation Valve 250 mm mounted on	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.092%
1.2.5.7	Supply, Transport and Placement of Drain Valve DN 150 mm and Butterfly Isolation Valve DN 350 mm mounted on HDPE Pipe DN 355mm	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.089%

1.2.5.8	Supply, Transport and Installation of DN 100 mm Drain Valve and DN 250 mm Butterfly Isolation Valve mounted on DN 280 mm HDPE Pipe	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.055%
1.2.6.1	Breaking and Repair of Pavements	0.30xF8 + 0.20xF14 + 0.30xF16 + 0.20xF22	0.084%
1.2.6.2	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	0.60xF9 + 0.10xF14 + 0.10xF16 + 0.20xF26	1.233%
1.3.1.1	Preliminary Work	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.013%
1.3.2.1	Excavation of Shored Trenches for Pipe Installation without Dewatering	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.258%
1.3.2.2	Excavation of Shored Trenches for Pipe Installation with Dewatering	0.30xF14 + 0.30xF15 + 0.30xF16 + 0.10xF22	0.021%
1.3.2.3	Backfilling of Trenches with Selected Soil	0.30xF6 + 0.30xF14 + 0.30xF16 + 0.10xF22	0.229%
1.3.2.4	Backfilling of Trenches with Natural Soil	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.351%
1.3.3.1	Supply, Transport and Installation of PE100 PN6 DN 160 mm HDPE Pipe	0.20xF14 + 0.20xF16 + 0.10xF22 + 0.50xF26	0.307%
1.3.3.2	Cleaning and Disinfection	0.30xF16 + 0.30xF17 + 0.30xF22 + 0.10xF27	0.006%
1.3.4.1	Special Crossing under Provincial Route No. 6	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.063%
1.3.5.1	Supply, Transport and Installation of Triple Effect Air Valve DN 80 mm mounted on DN 160 mm HDPE Pipe	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.172%
1.3.5.2	Supply, Transport and Installation of DN 80 mm Drain Valve mounted on DN 160 mm HDPE Pipe	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.276%
1.3.5.3	Supply, Transport and Installation of DN 80 mm Triple Effect Air Valve and DN 150 mm Isolation Valve mounted on DN 160 mm HDPE Pipe	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.059%
1.3.6.1	Repair of Roads and Sidewalks	0.30xF8 + 0.20xF14 + 0.30xF16 + 0.20xF22	0.001%
1.3.6.2	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	0.60xF9 + 0.10xF14 + 0.10xF16 + 0.20xF26	0.305%
1.4.1.1	Preliminary Work	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.001%
1.4.2.1	Excavation of Shored Trenches for Pipe Installation without Dewatering	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.001%
1.4.2.2	Excavation of Shored Trenches for Pipe Installation with Dewatering	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.002%
1.4.2.3	Backfilling of Trenches with Selected Soil	0.30xF6 + 0.30xF14 + 0.30xF16 + 0.10xF22	0.001%
1.4.2.4	Backfilling of Trenches with Natural Soil	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.003%
1.4.3.1	Supply, Transport and Installation of PE100 PN6 DN HDPE Pipe 75 mm	0.20xF14 + 0.20xF16 + 0.10xF22 + 0.50xF26	0.001%
1.4.3.2	Cleaning and disinfection	0.30xF16 + 0.30xF17 + 0.30xF22 + 0.10xF27	0.000%
1.4.4.1	Special crossing under Provincial Route No. 64 at kilometer point 0+010m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.015%
1.4.5.1	Supply, Transport and Placement of DN 50 mm Drain Valve and DN 65 mm Isolation Valve mounted on DN 75 mm HDPE Pipe	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.037%
1.4.6.1	Repair of Roads and Sidewalks	0.30xF8 + 0.20xF14 + 0.30xF16 + 0.20xF22	0.000%
1.4.6.2	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	0.60xF9 + 0.10xF14 + 0.10xF16 + 0.20xF26	0.004%

1.5.1.1	Preliminary Work	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.009%
1.5.2.1	Excavation of Shored Trenches for Pipe Installation without Dewatering	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.019%
1.5.2.2	Excavation of Shored Trenches for Pipe Installation with Dewatering	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.029%
1.5.2.3	Backfilling of Trenches with Selected Soil	0.30xF6 + 0.30xF14 + 0.30xF16 + 0.10xF22	0.031%
1.5.2.4	Backfilling of Trenches with Natural Soil	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.049%
1.5.3.1	Supply, Transport and Installation of PEAD PE100 PN6 Pipe DN 140 mm	0.20xF14 + 0.20xF16 + 0.10xF22 + 0.50xF26	0.053%
1.5.3.2	Cleaning and disinfection	0.30xF16 + 0.30xF17 + 0.30xF22 + 0.10xF27	0.001%
1.5.4.1	Special Crossing under the junction of Highway Au01 with Provincial Route No. 80 at kilometer point 0+375	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.031%
1.5.4.2	Special Crossing under Provincial Route No. 80 at kilometer point 1+275	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.031%
1.5.5.1	Supply, Transport and Installation of Triple Effect Air Valve DN 80 mm mounted on PEAD DN 140 mm pipe	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.031%
1.5.5.2	Supply, Transport and Installation of Drain Valve DN 80 mm mounted on PEAD DN 140 mm pipe	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.063%
1.5.5.3	Transport and Installation of Triple Effect Air Valve DN 80 mmm and Isolation Valve DN 125 mm mounted on HDPE Pipe DN 140 mm	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.029%
1.5.6.1	Repair of Roads and Sidewalks	0.30xF8 + 0.20xF14 + 0.30xF16 + 0.20xF22	0.003%
1.5.6.2	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	0.60xF9 + 0.10xF14 + 0.10xF16 + 0.20xF26	0.067%
1.6.1.1	Preliminary Work	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.006%
1.6.2.1	Excavation of Shored Trenches for Pipe Installation without Dewatering	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.012%
1.6.2.2	Excavation of Shored Trenches for Pipe Installation with Dewatering	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.019%
1.6.2.3	Backfilling of Trenches with Selected Soil	0.30xF6 + 0.30xF14 + 0.30xF16 + 0.10xF22	0.018%
1.6.2.4	Backfilling of Trenches with Natural Soil	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.033%
1.6.3.1	Supply, Transport and Installation of HDPE Pipe PE100 PN6 DN 90 mm	0.20xF14 + 0.20xF16 + 0.10xF22 + 0.50xF26	0.017%
1.6.3.2	Cleaning and disinfection	0.30xF16 + 0.30xF17 + 0.30xF22 + 0.10xF27	0.001%
1.6.4.1	Special Crossing under National Route No. 11 at kilometer point 1+240m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.022%
1.6.5.1	Supply, Transport and Installation of Triple Effect Air Valve DN 80 mm 50 mm mounted on HDPE pipe DN 90 mm	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.014%
1.6.5.2	Supply, Transport and Installation of DN 50 mm Drain Valve mounted on DN 90 mm HDPE Pipe	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.060%
1.6.5.3	Supply, Transport and Installation of DN 50 mm Triple Effect Air Valve and DN 80 mm Isolation Valve mounted on DN 90 mm HDPE Pipe	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.026%
1.6.6.1	Repair of Roads and Sidewalks	0.30xF8 + 0.20xF14 + 0.30xF16 + 0.20xF22	0.006%

1.6.6.2	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	0.60xF9 + 0.10xF14 + 0.10xF16 + 0.20xF26	0.049%
2.1.1.1	Preliminary Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.005%
2.1.2.1	Excavation for the Execution of the Cisterns and Related Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.007%
2.1.2.2	Filling and Compaction Around Structures	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.002%
2.1.2.3	Covering with topsoil	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.004%
2.1.3.1	Blinding Concrete H-15	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.010%
2.1.3.2	Structural Concrete H-30	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.342%
2.1.3.3	Steel Bars for Reinforced Concrete ADN 420	0.40xF1 + 0.20xF4 + 0.30xF22 + 0.10xF30	0.169%
2.1.4.1	Waterproof Cover and Plaster	0.40xF13 + 0.30xF17 + 0.20xF18 + 0.10xF22	0.007%
2.1.4.2	Pipes, Accessories and Hydraulic Control, Regulation and Isolation Devices	0.40xF1 + 0.10xF22 + 0.20xF24 + 0.30xF32	0.083%
2.1.4.3	Architectural Work	0.30xF5 + 0.30xF6 + 0.30xF12 + 0.10xF25	0.042%
2.1.4.4	Maneuvering Areas, Vehicle Circulation and Parking Lots - Gravel	0.30xF6 + 0.30xF16 + 0.30xF17 + 0.10xF30	0.009%
2.1.4.5	Perimeter Sidewalks	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF32	0.004%
2.1.4.6	Electrical Installation and Lighting	0.20xF3 + 0.30xF9 + 0.40xF20 + 0.10xF25	0.004%
2.1.5.1	Distribution Center PLC	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.106%
2.1.5.2	Distribution Center PLC Communication System	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.009%
2.1.5.3	Distribution Center PLC Programming	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.002%
2.1.6.1	Linking to elevated tank	0.250xF1 + 0.250xF15 + 0.250xF22 + 0.250xF26	0.562%
2.2.1.1	Preliminary Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.003%
2.2.2.1	Excavation for the Execution of the Cisterns and Related Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.005%
2.2.3.1	Blinding Concrete H-15	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.001%
2.2.3.2	Structural Concrete H-30	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.053%
2.2.3.3	ADN 420 Steel Bars for Reinforced Concrete	0.40xF1 + 0.20xF4 + 0.30xF22 + 0.10xF30	0.026%
2.2.4.1	Supply, Transport and Placement of 60 m³ GRP Tanks	0.50xF10 + 0.30xF16 + 0.10xF22 + 0.10xF30	0.091%
2.2.4.2	Pipes, Accessories and Hydraulic Control, Regulation and Isolation Devices	0.40xF1 + 0.10xF22 + 0.20xF24 + 0.30xF32	0.108%
2.2.4.3	Architectural Work	0.30xF5 + 0.30xF6 + 0.30xF12 + 0.10xF25	0.042%
2.2.4.4	Maneuvering Areas, Vehicle Circulation and Parking Lots - Gravel	0.30xF6 + 0.30xF16 + 0.30xF17 + 0.10xF30	0.009%
2.2.4.5	Perimeter Sidewalks	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF32	0.005%
2.2.4.6	Electrical Installation and Lighting	0.20xF3 + 0.30xF9 + 0.40xF20 + 0.10xF25	0.004%
2.2.5.1	Distribution Center PLC	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.106%
2.2.5.2	Distribution Center PLC Communication System	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.009%
2.2.5.3	Distribution Center PLC Programming	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.002%
2.2.6.1	Linking to elevated tank	0.250xF1 + 0.250xF15 + 0.250xF22 + 0.250xF26	0.183%
2.3.1.1	Preliminary Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.005%
2.3.2.1	Excavation for Execution of the Cistern and Related Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.009%
2.3.2.2	Filling and Compaction Around Structures	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.002%
2.3.2.3	Covering with topsoil	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.004%
2.3.3.1	Blinding Concrete H-15	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.012%

2.3.3.2	Structural Concrete H-30	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.316%
2.3.3.3	Steel Bars for Reinforced Concrete ADN 420	0.40xF1 + 0.20xF4 + 0.30xF22 + 0.10xF30	0.156%
2.3.4.1	Waterproof Cover and Plaster	0.40xF13 + 0.30xF17 + 0.20xF18 + 0.10xF22	0.011%
2.3.4.2	Pipes, Accessories and Hydraulic Control, Regulation and Isolation Devices	0.40xF1 + 0.10xF22 + 0.20xF24 + 0.30xF32	0.151%
2.3.4.3	Architectural Work	0.30xF5 + 0.30xF6 + 0.30xF12 + 0.10xF25	0.042%
2.3.4.4	Maneuvering Areas, Vehicle Circulation and Parking Lots - Gravel	0.30xF6 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.014%
2.3.4.5	Perimeter Sidewalks	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.005%
2.3.4.6	Electrical Installation and Lighting	0.20xF3 + 0.20xF9 + 0.40xF20 + 0.20xF23	0.004%
2.3.5.1	Distribution Center PLC	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.106%
2.3.5.2	Distribution Center PLC Communication System	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.009%
2.3.5.3	Distribution Center PLC Programming	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.002%
2.3.6.1	Linking to elevated tank	0.250xF1 + 0.250xF15 + 0.250xF22 + 0.250xF26	0.609%
2.4.1.1	Preliminary Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.003%
2.4.2.1	Excavation for Execution of Cisterns and Related Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.005%
2.4.3.1	Blinding Concrete H-15	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.005%
2.4.3.2	Structural Concrete H-30	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.053%
2.4.3.3	Steel Bars for Reinforced Concrete ADN 420	0.40xF1 + 0.20xF4 + 0.30xF22 + 0.10xF30	0.026%
2.4.4.1	Supply, Transport and Placement of 50 m³ GRP Cisterns	0.50xF10 + 0.30xF16 + 0.10xF22 + 0.10xF22	0.084%
2.4.4.2	Pipes, Accessories and Hydraulic Control, Regulation and Isolation Devices	0.40xF1 + 0.10xF22 + 0.20xF24 + 0.30xF32	0.051%
2.4.4.3	Architectural Work	0.30xF5 + 0.30xF6 + 0.30xF12 + 0.10xF25	0.042%
2.4.4.4	Maneuvering Yards, Vehicle Circulation and Parking Lots - Gravel	0.30xF6 + 0.30xF16 + 0.30xF17 + 0.10xF30	0.009%
2.4.4.5	Perimeter Sidewalks	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF32	0.005%
2.4.4.6	Electrical Installation and Lighting	0.20xF3 + 0.30xF9 + 0.40xF20 + 0.10xF25	0.004%
2.4.5.1	Distribution Center PLC	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.106%
2.4.5.2	Distribution Center PLC Communication System	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.009%
2.4.5.3	Distribution Center PLC Programming	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.002%
2.4.6.1	Linking to elevated tank	0.250xF1 + 0.250xF15 + 0.250xF22 + 0.250xF26	0.183%
2.5.1.1	Preliminary Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.003%
2.5.2.1	Excavation for Execution of Cisterns and Related Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.005%
2.5.3.1	Blinding Concrete H-15	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.005%
2.5.3.2	Structural Concrete H-30	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.053%
2.5.3.3	ADN 420 Steel Bars for Reinforced Concrete	0.40xF1 + 0.20xF4 + 0.30xF22 + 0.10xF30	0.026%
2.5.4.1	Supply, Transport and Placement of 50 m³ GRP Cisterns	0.50xF10 + 0.30xF16 + 0.10xF22 + 0.10xF30	0.084%
2.5.4.2	Pipes, Accessories and Hydraulic Control, Regulation and Isolation Devices	0.40xF1 + 0.10xF22 + 0.20xF24 + 0.30xF32	0.075%
2.5.4.3	Architectural Work	0.30xF5 + 0.30xF6 + 0.30xF12 + 0.10xF25	0.042%
2.5.4.4	Maneuvering Yards, Vehicle Circulation and Parking Lots - Gravel	0.30xF6 + 0.30xF16 + 0.30xF17 + 0.10xF30	0.009%
2.5.4.5	Perimeter Sidewalks	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF32	0.003%
2.5.4.6	Electrical Installation and Lighting	0.20xF3 + 0.30xF9 + 0.40xF20 + 0.10xF25	0.004%

2.5.5.1	Distribution Center PLC	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.106%
2.5.5.2	Distribution Center PLC Communication System	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.009%
2.5.5.3	Distribution Center PLC Programming	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.002%
2.5.6.1	Linking to elevated tank	0.250xF1 + 0.250xF15 + 0.250xF22 + 0.250xF26	0.183%

FR= 0.045135xF1 + 0.00157xF3 + 0.000808xF4 + 0.000631xF5 + 0.023272xF6 + 0.000282xF8 + 0.016916xF9 + 0.292454xF10 + 0.000631xF12 + 0.00007xF13 + 0.06794xF14 + 0.006091xF15 + 0.24457xF16 + 0.040497xF17 + 0.001776xF18 + 0.025432xF19 + 0.002376xF20 + 0.106587xF22 + 0.001537xF23 + 0.000937xF24 + 0.000227xF25 + 0.03256xF26 + 0.000596xF27 + 0.000301xF29 + 0.058845xF30 + 0.02796xF32

ANNEX XII – SECOND PART COST WEIGHTING STRUCTURE

BLOCK C

Indexes

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2	F2	Decree 1295/2002 Article 15 Paragraph i) Electric motors and air conditioning equipment
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4	F4	41241-1 - Iron wire rods
5	F5	Decree 1295/2002 Article 15 - paragraph b) - Masonry
6	F6	15310-1 - Sands
7	F7	15320-1 - Stones
8	F8	Decree 1295/2002 Article 15 Paragraph k) - Asphalts, fuels and lubricants
9	F9	46340-21 - Sintenax type cable
10	F10	PRFV-1201 - PRFV pipe, diameters greater than 1200 mm
11	F11	Decree 1295/2002 Article 15 - paragraph h) - PVC pipes for various installations
12	F12	28111- Metal structures for construction (includes: Aluminum openings, Iron sheet openings and Aluminum curtains)
13	F13	Decree 1295/2002 Article 15 Paragraph n) - Cement
14	F14	33360-1 - Diesel oil
15	F15	Decree 1295/2002 Article 15 - paragraph v) - Electric pumps
16	F16	Decree 1295/2002 Article 15 - paragraph j) - Depreciation of Equipment
17	F17	Decree 1295/2002 Article 15 - paragraph p) - General expenses
18	F18	83107-1 - Scaffolding rental
19	F19	37510-1 - Concrete
20	F20	Decree 1295/2002 Article 15 - paragraph g) Electrical installations
21	F21	Decree 1295/2002 Article 15 - paragraph r) - Sanitary Installations
22	F22	Decree 1295/2002 Article 15 - paragraph a) Labor
23	F23	46121-1 - Transformers
24	F24	Decree 1295/2002 Article 15 Paragraph t) - Flow Meters
25	F25	35110-3 - Latex Paint
26	F26	36320-3 - Polyethylene Pipes and Tubes
27	F27	Decree 1295/2002 Article 15 Paragraph e) - Chemical Products
28	F28	34730-1 - Vinyl Chloride Polymers
29	F29	88700-1 - Light and driving force for construction
30	F30	71240-21 - Truck with Trailer
31	F31	41273-12 - 0.100 m cast iron pipe
32	F32	Decree 1295/2002 Article 15 - paragraph u) Bronze valves

Item	Concept	Factor Weighting Structure	Incidence %
Work: Santa Fe Córdoba Interprovincial Aqueduct - Block "C"			
1.1.1.1	Preliminary Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.082%
1.1.2.1	Excavation of Shored Trenches for Pipe Installation without Dewatering	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.964%
1.1.2.2	Excavation of Shored Trenches for Pipe Installation with Dewatering	0.30xF14 + 0.30xF15 + 0.30xF16 + 0.10xF22	0.025%
1.1.2.3	Backfilling of Trenches with Selected Soil	0.30xF6 + 0.30xF14 + 0.30xF16 + 0.10xF22	0.945%
1.1.2.4	Backfilling of Trenches with Natural Soil	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	1.234%
1.1.3.1	Supply, Transport and Placement of PEAD Pipe PE100 PN6 DN 400 mm	0.30xF14 + 0.10xF16 + 0.10xF22 + 0.50xF26	3.663%
1.1.3.2	Cleaning and disinfection	0.30xF16 + 0.30xF17 + 0.30xF22 + 0.10xF27	0.067%
1.1.4.1	Special Crossing under Provincial Route No. 80 at kilometer point 10+010m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.077%
1.1.4.2	Special Crossing under Provincial Route No. 10 at kilometer point 12+060m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.069%
1.1.4.3	Special Crossing under Railway at kilometer point 15+358m and 15+455m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.090%
1.1.4.4	Special Crossing under Secondary Canal Los Llanos at the entrance to Gálvez at kilometer point 14+304m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.035%
1.1.5.1	Supply, Transport and Installation of Triple Effect Air Valve DN 100 mm mounted on HDPE Pipe DN 400 mm	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.356%
1.1.5.2	Supply, Transport and Installation of Drain Valve DN 150 mm mounted on HDPE Pipe DN 400 mm	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.344%
1.1.6.1	Repair of Roads and Sidewalks	0.40xF8 + 0.20xF14 + 0.20xF16 + 0.20xF22	0.026%
1.1.6.2	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	0.60xF9 + 0.10xF14 + 0.10xF16 + 0.20xF26	0.613%
1.2.1.1	Preliminary Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.072%
1.2.2.1	Excavation of Shored Trenches for Pipe Installation without Dewatering	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.290%
1.2.2.2	Excavation of Shored Trenches for Pipe Installation with Dewatering	0.30xF14 + 0.30xF15 + 0.30xF16 + 0.10xF22	0.019%
1.2.2.3	Backfilling of Trenches with Selected Soil	0.30xF6 + 0.30xF14 + 0.30xF16 + 0.10xF22	0.167%
1.2.2.4	Backfilling of Trenches with Natural Soil	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.413%
1.2.3.1	Supply, Transport and Placement of PEAD Pipe PE100 PN6 DN 90 mm	0.30xF14 + 0.10xF16 + 0.10xF22 + 0.50xF26	0.189%
1.2.3.2	Cleaning and disinfection	0.30xF16 + 0.30xF17 + 0.30xF22 + 0.10xF27	0.005%
1.2.4.1	Special Crossing under Provincial Route No. 6 at kilometer point 0+024m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.027%
1.2.4.2	Special Crossing under Provincial Route No. 80 at kilometer point 11+575m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.027%

1.2.4.3	Special Crossing under Provincial Route No. 50-S at kilometer point 11+850m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.027%
1.2.4.4	Special Crossing under Railway at kilometer point 11+802m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.012%
1.2.4.5	Special Crossing under Secondary Canal Los Llanos at kilometer point 3+483m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.024%
1.2.4.6	Special Crossing under Secondary Canal Los Llanos at kilometer point 3+509m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.022%
1.2.4.7	Special Crossing under Ditch at kilometer point 11+560m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.018%
1.2.4.8	Special Crossing under Secondary Canal San Eugenio at kilometer point 11+777m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.031%
1.2.5.1	Supply, Transport and Installation of Triple Effect Air Valve DN 50 mm and Gate Isolation Valve DN 80 mm Mounted on HDPE Pipe DN 90 mm	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.027%
1.2.5.2	Supply, Transport and Installation of Triple Effect Air Valve DN 50 mm mounted on HDPE Pipe DN 90 mm	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.174%
1.2.5.3	Supply, Transport and Installation of Drain Valve DN 50 mm mounted on HDPE Pipe DN 90 mm	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.287%
1.2.6.1	Repair of Roads and Sidewalks	0.40xF8 + 0.20xF14 + 0.20xF16 + 0.20xF22	0.001%
1.2.6.2	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	0.60xF9 + 0.10xF14 + 0.10xF16 + 0.20xF26	0.540%
1.3.1.1	Preliminary Work	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.213%
1.3.2.1	Excavation of Shored Trenches for Pipe Installation without Dewatering	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	1.446%
1.3.2.2	Excavation of Shored Trenches for Pipe Installation with Dewatering	0.30xF14 + 0.30xF15 + 0.30xF16 + 0.10xF22	1.832%
1.3.2.3	Backfilling of Trenches with Selected Soil	0.30xF6 + 0.30xF14 + 0.30xF16 + 0.10xF22	5.006%
1.3.2.4	Backfilling of Trenches with Natural Soil	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	1.832%
1.3.3.1	Supply, Transport and Placement of GRP Pipe PN10 DN 1700 mm	0.40xF10 + 0.20xF16 + 0.20xF22 + 0.20xF30	14.382%
1.3.3.2	Supply, Transport and Placement of GRP Pipe PN6 DN 1700 mm	0.40xF10 + 0.20xF16 + 0.20xF22 + 0.20xF30	35.446%
1.3.3.3	Cleaning and disinfection	0.30xF16 + 0.30xF17 + 0.30xF22 + 0.10xF27	0.426%
1.3.4.1	Special Crossing under Provincial Route No. 64	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.205%
1.3.4.2	Special Crossing under Provincial Route No. 10	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.239%
1.3.4.3	Special Crossing under Railway	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.129%
1.3.5.1	Supply, Transport and Placement of Triple Effect Air Valve DN 150 mm Non Slam mounted on GRP Pipe 1700 mm	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.817%
1.3.5.2	Supply, Transport and Placement of Drain Valve DN 300 mm mounted on GRP Pipe 1700 mm	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.729%
1.3.5.3	Supply, Transport and Placement of Butterfly Type Isolation Valve, mounted on Steel Pipe DN 1200mm, for GRP Pipe Ø1700 mm, including Triple Effect Air Valves DN 300 mm	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.586%
1.3.6.1	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	0.60xF9 + 0.10xF14 + 0.10xF16 + 0.20xF26	0.657%
1.4.1.1	Preliminary Work	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.033%
1.4.2.1	Excavation of Shored Trenches for Pipe Installation without Dewatering	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.117%

1.4.2.2	Excavation of Shored Trenches for Pipe Installation with Dewatering	0.30xF14 + 0.30xF15 + 0.30xF16 + 0.10xF22	0.000%
1.4.2.3	Backfilling of Trenches with Selected Soil	0.30xF6 + 0.30xF14 + 0.30xF16 + 0.10xF22	0.074%
1.4.2.4	Backfilling of Trenches with Natural Soil	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.158%
1.4.3.1	Supply, Transport and Placement of PEAD PE100 PN6 DN 50 mm Pipe	0.30xF14 + 0.10xF16 + 0.10xF22 + 0.50xF26	0.032%
1.4.3.2	Cleaning and disinfection	0.30xF16 + 0.30xF17 + 0.30xF22 + 0.10xF27	0.001%
1.4.4.1	Special Crossing under Provincial Route No. 64 in 0+031m	0.40xF1 + 0.20xF17 + 0.20xF19 + 0.20xF22	0.017%
1.4.5.1	Supply, Transport and Placement of Triple Effect Air Valve DN 50 mm and Gate Isolation Valve DN 50 mm mounted on PEAD DN 50 mm Pipe	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.031%
1.4.5.2	Supply, Transport and Placement of Triple Effect Air Valve DN 50 mm mounted on PEAD DN 50 mm Pipe	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.081%
1.4.5.3	Supply, Transport and Placement of Drain Valve DN 50 mm mounted on PEAD DN 50 mm Pipe	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.134%
1.4.6.1	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	0.60xF9 + 0.10xF14 + 0.10xF16 + 0.20xF26	0.244%
1.5.1.1	Preliminary Work	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.002%
1.5.2.1	Trench Excavation for Pipe Installation without Dewatering	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.008%
1.5.2.2	Trench Excavation for Pipe Installation with Dewatering	0.30xF14 + 0.30xF15 + 0.30xF16 + 0.10xF22	0.000%
1.5.2.3	Backfilling of Trenches with Selected Soil	0.30xF6 + 0.30xF14 + 0.30xF16 + 0.10xF22	0.004%
1.5.2.4	Backfilling of Trenches with Natural Soil	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.012%
1.5.3.1	Supply, Transport and Placement of HDPE Pipe PE100 PN6 DN 75 mm	0.30xF14 + 0.10xF16 + 0.10xF22 + 0.50xF26	0.003%
1.5.3.2	Cleaning and disinfection	0.30xF16 + 0.30xF17 + 0.30xF22 + 0.10xF27	0.000%
1.5.4.1	Supply, Transport and Placement of DN 50 mm Drain Valve and DN 65 mm Gate Isolation Valve mounted on DN 75 mm HDPE Pipe	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.036%
1.5.5.1	Breaking and Repair of Pavements	0.40xF8 + 0.20xF14 + 0.20xF16 + 0.20xF22	0.042%
1.5.5.2	Repair of Roads and Sidewalks	0.40xF8 + 0.20xF14 + 0.20xF16 + 0.20xF22	0.000%
1.5.5.3	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	0.60xF9 + 0.10xF14 + 0.10xF16 + 0.20xF26	0.011%
1.6.1.1	Preliminary Work	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.006%
1.6.2.1	Trench Excavation for Pipe Installation without Dewatering	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.019%
1.6.2.2	Trench Excavation for Pipe Installation with Dewatering	0.30xF14 + 0.30xF15 + 0.30xF16 + 0.10xF22	0.000%
1.6.2.3	Backfilling of Trenches with Selected Soil	0.30xF6 + 0.30xF14 + 0.30xF16 + 0.10xF22	0.015%
1.6.2.4	Backfilling of Trenches with Natural Soil	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.025%
1.6.3.1	Supply, Transport and Installation of PEAD Pipe PE100 PN6 DN 90 mm	0.30xF14 + 0.10xF16 + 0.10xF22 + 0.50xF26	0.015%
1.6.3.2	Cleaning and disinfection	0.30xF16 + 0.30xF17 + 0.30xF22 + 0.10xF27	0.001%
1.6.4.1	Supply, Transport and Installation of Drain Valve DN 50 mm and Gate Isolation Valve DN 80 mm mounted on PEAD Pipe DN 90 mm	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.034%

1.6.4.2	Supply, Transport and Installation of Triple Effect Air Valve DN 50 mm mounted on HDPE Pipe DN 90 mm	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.013%
1.6.4.3	Supply, Transport and Installation of Drain Valve DN 50 mm mounted on HDPE Pipe DN 90 mm	0.30xF1 + 0.20xF19 + 0.10xF22 + 0.40xF32	0.024%
1.6.5.1	Repair of Roads and Sidewalks	0.40xF8 + 0.20xF14 + 0.20xF16 + 0.20xF22	0.003%
1.6.5.2	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	0.60xF9 + 0.10xF14 + 0.10xF16 + 0.20xF26	0.043%
2.1.1.1	Preliminary Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.002%
2.1.2.1	Excavation for the Execution of the Cisterns and Related Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.003%
2.1.3.1	Blinding Concrete H-15	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.004%
2.1.3.2	Structural Concrete H-30	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.052%
2.1.3.3	Steel Bars for Reinforced Concrete ADN 420	0.40xF1 + 0.30xF4 + 0.20xF22 + 0.10xF30	0.026%
2.1.4.1	Supply, Transport and Placement of Vertical GRP Cisterns of 25 m³	0.40xF10 + 0.20xF16 + 0.20xF22 + 0.20xF30	0.059%
2.1.4.2	Pipes, Accessories and Hydraulic Control, Regulation and Isolation Devices	0.10xF1 + 0.30xF22 + 0.30xF24 + 0.30xF32	0.061%
2.1.4.3	Architectural Work	0.40xF5 + 0.20xF6 + 0.20xF12 + 0.20xF25	0.042%
2.1.4.4	Maneuvering Areas, Vehicle Circulation and Parking Lots - Gravel	0.30xF7 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.005%
2.1.4.5	Perimeter Sidewalks	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.005%
2.1.4.6	Electrical Installation and Lighting	0.20xF3 + 0.20xF9 + 0.40xF20 + 0.20xF23	0.004%
2.1.5.1	Distribution Center PLC	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.104%
2.1.5.2	Distribution Center PLC Communication System	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.009%
2.1.5.3	Distribution Center PLC Programming	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.002%
2.1.6.1	Linking to elevated tank	0.250xF1 + 0.250xF15 + 0.250xF22 + 0.250xF26	0.098%
2.2.1.1	Preliminary Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.012%
2.2.2.1	Excavation for the Execution of the Cistern and Related Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.040%
2.2.2.2	Backfilling and Compaction Around Structures	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.003%
2.2.2.3	Covering with topsoil	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.014%
2.2.3.1	Blinding Concrete H-15	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.023%
2.2.3.2	Structural Concrete H-30	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	1.327%
2.2.3.3	ADN 420 Steel Bars for Reinforced Concrete	0.40xF1 + 0.30xF4 + 0.20xF22 + 0.10xF30	0.657%
2.2.4.1	Waterproof Cover and Plaster	0.10xF6 + 0.60xF13 + 0.20xF22 + 0.10xF30	0.028%
2.2.4.2	Pipes, Accessories and Hydraulic Control, Regulation and Isolation Devices	0.10xF1 + 0.30xF22 + 0.30xF24 + 0.30xF32	0.308%
2.2.4.3	Architectural Work	0.40xF5 + 0.20xF6 + 0.20xF12 + 0.20xF25	0.026%
2.2.4.4	Maneuvering Areas, Vehicle Circulation and Parking Lots - Gravel	0.30xF7 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.008%
2.2.4.5	Perimeter Sidewalks	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.007%
2.2.4.6	Electrical Installation and Lighting	0.20xF3 + 0.20xF9 + 0.40xF20 + 0.20xF23	0.004%
2.2.4.7	Olympic Type Perimeter Fence and Access Gate	0.40xF1 + 0.10xF19 + 0.40xF22 + 0.10xF30	0.017%
2.2.5.1	Distribution Center PLC	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.104%
2.2.5.2	Distribution Center PLC Communication System	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.009%
2.2.5.3	Distribution Center PLC Programming	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.002%
2.2.6.1	Linking to elevated tank	0.250xF1 + 0.250xF15 + 0.250xF22 + 0.250xF26	1.066%

2.3.1.1	Preliminary Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.002%
2.3.2.1	Excavation for the Execution of the Cistern and Related Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.002%
2.3.3.1	Blinding Concrete H-15	0.30xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.003%
2.3.3.2	Structural Concrete H-30	0.30xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.036%
2.3.3.3	ADN 420 Steel Bars for Reinforced Concrete	0.10xF1 + 0.30xF4 + 0.20xF22 + 0.10xF30	0.018%
2.3.4.1	Supply, Transport and Placement of 10 m³ GRP Cisterns	0.50xF10 + 0.30xF16 + 0.10xF22 + 0.10xF30	0.039%
2.3.4.2	Pipes, Accessories and Hydraulic Control, Regulation and Isolation Devices	0.10xF1 + 0.30xF22 + 0.30xF24 + 0.30xF32	0.047%
2.3.4.3	Architectural Work	0.40xF5 + 0.20xF6 + 0.20xF12 + 0.20xF25	0.042%
2.3.4.4	Maneuvering Areas, Vehicle Circulation and Parking Lots - Gravel	0.30xF7 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.012%
2.3.4.5	Perimeter Sidewalks	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.004%
2.3.4.6	Electrical Installation and Lighting	0.20xF3 + 0.20xF9 + 0.40xF20 + 0.20xF23	0.004%
2.3.5.1	Distribution Center PLC	0.20xF3 + 0.20xF9 + 0.40xF20 + 0.20xF23	0.104%
2.3.5.2	Distribution Center PLC Communication System	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.009%
2.3.5.3	Distribution Center PLC Programming	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.002%
2.3.6.1	Linking to elevated tank	0.250xF1 + 0.250xF15 + 0.250xF22 + 0.250xF26	0.098%
2.4.1.1	Preliminary Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.005%
2.4.2.1	Excavation for the Execution of the Cisterns and Related Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.007%
2.4.2.3	Filling and Compaction Around Structures	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.002%
2.4.2.4	Covering with topsoil	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.003%
2.4.3.1	Blinding Concrete H-15	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.008%
2.4.3.2	Structural Concrete H-30	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.290%
2.4.3.3	Steel Bars for Reinforced Concrete ADN 420	0.40xF1 + 0.30xF4 + 0.20xF22 + 0.10xF30	0.144%
2.4.4.1	Waterproof Cover and Plaster	0.40xF13 + 0.30xF17 + 0.20xF18 + 0.10xF22	0.006%
2.4.4.2	Pipes, Accessories and Hydraulic Control, Regulation and Isolation Devices	0.10xF1 + 0.30xF22 + 0.30xF24 + 0.30xF32	0.062%
2.4.4.3	Architectural Work	0.40xF5 + 0.20xF6 + 0.20xF12 + 0.20xF25	0.042%
2.4.4.4	Maneuvering Areas, Vehicle Circulation and Parking Lots - Gravel	0.30xF7 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.019%
2.4.4.5	Perimeter Sidewalks	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.005%
2.4.4.6	Electrical Installation and Lighting	0.20xF3 + 0.20xF9 + 0.40xF20 + 0.20xF23	0.004%
2.4.5.1	Distribution Center PLC	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.104%
2.4.5.2	Distribution Center PLC Communication System	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.009%
2.4.5.3	Distribution Center PLC Programming	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.002%
2.4.6.1	Linking to elevated tank	0.250xF1 + 0.250xF15 + 0.250xF22 + 0.250xF26	0.307%
2.5.1.1	Preliminary Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.002%
2.5.2.1	Excavation for Execution of Cisterns and Related Works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.002%
2.5.3.1	Blinding Concrete H-15	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.003%
2.5.3.2	Structural Concrete H-30	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.036%
2.5.3.3	Steel Bars for Reinforced Concrete ADN 420	0.40xF1 + 0.30xF4 + 0.20xF22 + 0.10xF30	0.018%
2.5.4.1	Supply, Transport and Placement of GRP Cisterns of 10 m³	0.40xF10 + 0.20xF16 + 0.20xF22 + 0.20xF30	0.039%

2.5.4.2	Pipes, Accessories and Hydraulic Control, Regulation and Isolation Devices	0.10xF1 + 0.30xF22 + 0.30xF24 + 0.30xF32	0.058%
2.5.4.3	Architectural Work	0.40xF5 + 0.20xF6 + 0.20xF12 + 0.20xF25	0.042%
2.5.4.4	Maneuvering Areas, Vehicle Circulation and Parking Lots - Gravel	0.30xF7 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.012%
2.5.4.5	Perimeter Sidewalks	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.004%
2.5.4.6	Electrical Installation and Lighting	0.20xF3 + 0.20xF9 + 0.40xF20 + 0.20xF23	0.004%
2.5.4.7	Olympic Type Perimeter Fence and Access Gate	0.40xF1 + 0.10xF19 + 0.40xF22 + 0.10xF30	0.020%
2.5.5.1	Distribution Center PLC	0.20xF3 + 0.20xF9 + 0.40xF20 + 0.20xF23	0.104%
2.5.5.2	Distribution Center PLC Communication System	0.20xF3 + 0.20xF9 + 0.40xF20 + 0.20xF23	0.009%
2.5.5.3	Distribution Center PLC Programming	0.20xF3 + 0.20xF9 + 0.40xF20 + 0.20xF23	0.002%
2.5.6.1	Linking to elevated tank	0.250xF1 + 0.250xF15 + 0.250xF22 + 0.250xF26	0.007%
3.1.1	Preliminary works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF29	0.018%
3.2.1	Excavation for execution of flowmeter chambers, cistern entrance and related works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.004%
3.2.2	Filling and compaction around structures	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.006%
3.2.3	Covering with topsoil	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.002%
3.2.4	Blinding concrete H-15	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.002%
3.2.5	Structural reinforced concrete H-25	0.30xF1 + 0.10xF18 + 0.40xF19 + 0.20xF22	0.067%
3.2.6	Structural reinforced concrete H-30	0.30xF1 + 0.10xF18 + 0.40xF19 + 0.20xF22	0.071%
3.2.7	DN 1000mm (40") butterfly valve with electric actuator	0.30xF1 + 0.20xF22 + 0.30xF31 + 0.20xF32	0.056%
3.2.8	DN 900 mm flowmeter (36")	0.30xF1 + 0.20xF22 + 0.30xF24 + 0.20xF31	0.060%
3.2.9	DN 900 mm (36") level control valve with electronic controller	0.30xF1 + 0.20xF22 + 0.30xF31 + 0.20xF32	0.187%
3.2.10	Steel pipes and accessories	0.30xF1 + 0.20xF22 + 0.30xF31 + 0.20xF32	0.238%
3.2.11	Metal access covers	0.40xF1 + 0.30xF4 + 0.20xF22 + 0.10xF30	0.010%
3.2.12	Metal ladder, marine type	0.40xF1 + 0.30xF4 + 0.20xF22 + 0.10xF30	0.007%
3.2.13	Metal wall-type gate	0.30xF1 + 0.20xF22 + 0.30xF31 + 0.20xF32	0.094%
3.3.1	Excavation for the construction of a cistern and related works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.156%
3.3.2	Filling and compaction around structures	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.045%
3.3.3	Covering with topsoil	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.059%
3.3.4	Blinding Concrete H-15	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.087%
3.3.5	Structural Concrete H-30	0.30xF1 + 0.10xF18 + 0.40xF19 + 0.20xF22	4.586%
3.3.6	Ventilation pipes (Aº Ø6")	0.30xF1 + 0.20xF22 + 0.30xF31 + 0.20xF32	0.035%
3.3.7	Precast concrete access covers	0.30xF1 + 0.30xF19 + 0.30xF22 + 0.10xF30	0.005%
3.3.8	Metal ladder, marine type	0.40xF1 + 0.30xF4 + 0.20xF22 + 0.10xF30	0.024%
3.4.1	Excavation for the construction of a pumping chamber and related works	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.018%
3.4.2	Filling and compaction around structures	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.007%
3.4.3	Covering with topsoil	0.30xF14 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.003%
3.4.4	Blinding Concrete H-15	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.007%
3.4.5	Structural Concrete H-30	0.30xF1 + 0.10xF18 + 0.40xF19 + 0.20xF22	0.921%
3.4.6	Metal wall-type gate	0.30xF1 + 0.20xF22 + 0.30xF31 + 0.20xF32	0.094%
3.4.7	Ventilation pipes (Aº Ø6")	0.30xF1 + 0.20xF22 + 0.30xF31 + 0.20xF32	0.004%
3.4.8	Metal access cover	0.40xF1 + 0.30xF4 + 0.20xF22 + 0.10xF30	0.004%
3.4.9	Metal ladder, marine type	0.40xF1 + 0.30xF4 + 0.20xF22 + 0.10xF30	0.005%
3.5.1	Pumping room	0.40xF5 + 0.20xF6 + 0.20xF12 + 0.20xF22	0.256%
3.5.2	Electric pumps for drinking water - Main Section	0.10xF1 + 0.70xF15 + 0.10xF22 + 0.10xF30	1.805%
3.5.3	Electric pumps for drinking water - Secondary Branch	0.10xF1 + 0.70xF15 + 0.10xF22 + 0.10xF30	0.417%

3.5.4	Main drive manifold	0.30xF1 + 0.20xF22 + 0.30xF31 + 0.20xF32	0.819%
3.5.5	Secondary drive manifold	0.30xF1 + 0.20xF22 + 0.30xF31 + 0.20xF32	0.079%
3.5.6	Overhead crane	0.20xF1 + 0.40xF2 + 0.20xF22 + 0.20xF32	0.241%
3.6.1	Architectural work	0.40xF5 + 0.20xF6 + 0.20xF12 + 0.20xF22	0.168%
3.6.2	Waterproof cover and plaster	0.10xF6 + 0.60xF13 + 0.20xF22 + 0.10xF30	0.246%
3.6.3	Anti-water hammer protection system	0.30xF1 + 0.20xF22 + 0.30xF31 + 0.20xF32	0.426%
3.6.4	Rechlorination system	0.30xF10 + 0.20xF15 + 0.30xF19 + 0.20xF32	0.240%
3.6.5	Special diversion pieces, pipes and accessories	0.30xF1 + 0.20xF22 + 0.30xF31 + 0.20xF27	0.315%
3.6.6	Drainage and overflow system	0.30xF11 + 0.30xF19 + 0.30xF21 + 0.10xF28	0.321%
3.6.7	Electrical installations	0.20xF3 + 0.20xF9 + 0.40xF20 + 0.20xF23	2.058%
3.6.8	Generator set	0.20xF3 + 0.20xF9 + 0.20xF20 + 0.40xF23	0.361%
3.6.9	Maneuvering area, vehicular circulation and parking lots - Gravel	0.30xF6 + 0.30xF16 + 0.30xF17 + 0.10xF22	0.284%
3.6.10	Curbs and gutters	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.193%
3.6.11	Perimeter sidewalks	0.10xF14 + 0.20xF18 + 0.40xF19 + 0.30xF22	0.005%
3.6.12	Olympic-type perimeter fence and access gate	0.40xF1 + 0.10xF19 + 0.40xF22 + 0.10xF30	0.119%
3.7.1	CCMI PLC	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.155%
3.7.2	PLC communication system	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.023%
3.7.3	PLC programming	0.20xF3 + 0.30xF9 + 0.30xF20 + 0.20xF23	0.002%
3.7.4	Fiber optic installation in buried triple conduit	0.60xF9 + 0.10xF14 + 0.10xF16 + 0.20xF26	0.005%
4.1.1	Power supply system	0.20xF3 + 0.30xF9 + 0.10xF20 + 0.40xF23	2.504%

FR= 0.0514xF1 + 0.00096xF2 + 0.00609xF3 + 0.00274xF4 + 0.00247xF5 + 0.02099xF6 + 0.00017xF7 + 0.00029xF8 + 0.03415xF9 + 0.20062xF10 + 0.00096xF11 + 0.00123xF12 + 0.00167xF13 + 0.06493xF14 + 0.02559xF15 + 0.15743xF16 + 0.02667xF17 + 0.00986xF18 + 0.04244xF19 + 0.01107xF20 + 0.00096xF21 + 0.16167xF22 + 0.00681xF23 + 0.00179xF24 + 0.00038xF25 + 0.03267xF26 + 0.00113xF27 + 0.00032xF28 + 0.00045xF29 + 0.10362xF30 + 0.00715xF31 + 0.02132xF32

ANNEX XIII - PART ONE

DETAILED BUDGETS - BLOCK B

Date:

ITEM	DESCRIPCIÓN	UNIDAD	CANTIDAD	PRECIO UNITARIO	SUBTOTAL
1	AQUEDUCTS				
1.1	TREATED WATER MAIN AQUEDUCT FROM PROG 4+720 TO PUMPING STATION EB2 (SECTION T1)				
1.1.1	**PRELIMINARY WORKS**				
1.1.1.1	Preliminary Work	GL	1.00		
1.1.2	**EARTHWORKS**				
1.1.2.1	Excavation of Shored Trenches Pipe Installation without Dewatering	m³	191,812.25		
1.1.2.2	Excavation of Shored Trenches Pipe Installation with Dewatering	m³	32,453.72		
1.1.2.3	Backfilling of Trenches with Selected Soil	m³	75,043.14		
1.1.2.4	Backfilling of Trenches with Natural Soil	m³	149,222.82		
1.1.3	**PIPE INSTALLATION**				
1.1.3.1	Supply, transport and installation of GRP PN10 DN 1700 mm pipes	m	360.00		
1.1.3.2	Supply, Transport and Installation of GRP PN6 DN 1700 mm pipes	m	20,160.00		
1.1.3.3	Cleaning and disinfection	GL	1.00		
1.1.4	**SPECIAL CROSSINGS**				
1.1.4.1	Special Crossing under Provincial Route No. 6	GL	1.00		
1.1.4.2	Special Crossing under Railway	GL	1.00		
1.1.4.3	Special Crossing over the "Secundario Larrechea" Canal	GL	1.00		
1.1.4.4	Special Crossing over the Colastiné Stream	GL	1.00		
1.1.5	**CONTROL, REGULATION AND ISOLATION DEVICES**				
1.1.5.1	Supply, Transport and Installation of Triple Effect Air Valve DN 150 mm Non Slam mounted on 1700 mm GRP Pipe	un.	48.00		
1.1.5.2	Supply, Transport and Installation of DN 300 mm Drain Valve mounted on 1700 mm GRP pipe	un.	23.00		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
1.1.5.3	Supply, Transport and Installation of Butterfly Type Isolation Valve DN 1200 mm, mounted on Steel Pipe DN 1200, for GRP Pipe Ø1700 mm, including Triple Effect Air Valves DN 300	un.	3.00		
1.1.6	**MISCELLANEOUS**				
1.1.6.1	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	m	20,520.00		
1.1.6.2	Transient Protection System using Unidirectional Tanks	un	2.00		
1.2	TREATED WATER AQUEDUCT NETWORK 1 - BRANCH R1.0 AND R1.1 TO BARRANCAS DISTRIBUTION CENTER				
1.2.1	**PRELIMINARY WORKS**				
1.2.1.1	Preliminary Works	GL	1.00		
1.2.2	**EARTHWORKS**				
1.2.2.1	Excavation of Shored Trenches Pipe Installation without Dewatering	m³	97,502.58		
1.2.2.2	Excavation of Shored Trenches Pipe Installation with Dewatering	m³	1,336.84		
1.2.2.3	Backfilling of Trenches with Selected Soil	m³	14,241.54		
1.2.2.4	Backfilling of Trenches with Natural Soil	m³	84,597.88		
1.2.3	**PIPE INSTALLATION**				
1.2.3.1	Supply, Transport and Installation of PEAD PE100 PN6 DN 355 mm Pipe	m	15,167.00		
1.2.3.2	Supply, Transport and Installation of PEAD PE100 PN6 DN 280 mm Pipe	m	7,415.00		
1.2.3.3	Supply, Transport and Installation of PEAD PE100 PN6 DN 250 mm Pipe	m	10,383.00		
1.2.3.4	Cleaning and disinfection	gl	1.00		
1.2.4	**SPECIAL CROSSINGS**				
1.2.4.1	Special Crossing under Bridge Abutment over Highway AU 01 at kilometer point 3+175m	GL	1.00		
1.2.4.2	Special Crossing under Bridge Abutment over Highway AU 01 at kilometer point 9+850m	GL	1.00		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
1.2.4.3	Special Crossing under Access and Egress Roads and Bridge Abutment over Highway AU 01 at kilometer point 13+055m; 13+088 and 13+108m	GL	1.00		
1.2.4.4	Special Crossing under Provincial Route No. 80 at kilometer point 13+542m	GL	1.00		
1.2.4.5	Special Crossing under Bridge Abutment over Highway AU 01 at kilometer point 20+915m	GL	1.00		
1.2.4.6	Special Crossing under Bridge Abutment over Highway AU 01 at kilometer point 26+371m	GL	1.00		
1.2.4.7	Special Crossing under Canal Arroyo Primero - Coronda at kilometer point 0+345m	GL	1.00		
1.2.4.8	Special Crossing under Colastiné Stream at kilometer point 7+486m	GL	1.00		
1.2.4.9	Special Crossing under Canal at kilometer point 13+566m	GL	1.00		
1.2.4.10	Special Crossing under Canal at kilometer point 22+849m	GL	1.00		
1.2.4.11	Special Crossing under Trench at kilometer point 30+345m	GL	1.00		
1.2.4.12	Special Crossing under RP 64 in Section of Joint R1.0	GL	1.00		
1.2.5	**CONTROL, REGULATION AND ISOLATION DEVICES**				
1.2.5.1	Supply, Transport and Placement of Triple Effect Air Valve DN 100 mm mounted on HDPE Pipe DN 355 mm	un.	19.00		
1.2.5.2	Supply, Transport and Placement of Triple Effect Air Valve DN 80 mm mounted on HDPE Pipe DN 280 mm and DN 250 mm	un.	24.00		
1.2.5.3	Supply, Transport and Placement of Drain Valve DN 150 mm mounted on HDPE Pipe DN 355 mm	un.	9.00		
1.2.5.4	Supply, Transport and Placement of Drain Valve DN 100 mm mounted on HDPE Pipe DN 280 mm and DN 250 mm	un.	15.00		
1.2.5.5	Supply, Transport and Placement of Triple Acting Air Valve DN 100 mm and Butterfly Isolation Valve DN 350 mm mounted on HDPE Pipe DN 355 mm	un.	2.00		
1.2.5.6	Supply, Transport and Placement of Triple Acting Air Valve DN 80 mm and Isolation Valve DN 250 mm mounted on HDPE Pipe DN 250 mm	un.	2.00		
1.2.5.7	Supply, Transport and Placement of Drain Valve DN 150 mm and Butterfly Isolation Valve DN 350 mm mounted on HDPE Pipe DN 355mm	un.	1.00		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
1.2.5.8	Supply, Transport and Installation of DN 100 mm Drain Valve and DN 250 mm Butterfly Isolation Valve mounted on DN 280 mm HDPE Pipe	un.	1.00		
1.2.6	**MISCELLANEOUS**				
1.2.6.1	Pavement Breaking and Repair	m²	300.00		
1.2.6.2	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	m	32,965.00		
1.3	TREATED WATER AQUEDUCT NETWORK 1 - BRANCH R1.3 TO GESSLER DISTRIBUTION CENTER				
1.3.1	**PRELIMINARY WORKS**				
1.3.1.1	Preliminary Work	GL	1.00		
1.3.2	**EARTHWORKS**				
1.3.2.1	Excavation of Shored Trenches for Pipe Installation without Dewatering	m³	18,543.05		
1.3.2.2	Excavation of Shored Trenches for Pipe Installation with Dewatering	m³	975.95		
1.3.2.3	Backfilling of Trenches with Selected Soil	m³	2,830.26		
1.3.2.4	Backfilling of Trenches with Natural Soil	m³	16,688.75		
1.3.3	**PIPE INSTALLATION**				
1.3.3.1	Supply, Transport and Installation of PEAD PE100 PN6 DN 160 mm Pipe	m	8,116.00		
1.3.3.2	Cleaning and disinfection	gl	1.00		
1.3.4	**SPECIAL CROSSINGS**				
1.3.4.1	Special Crossing under Provincial Route No. 6	un.	2.00		
1.3.5	**CONTROL, REGULATION AND ISOLATION DEVICES**				
1.3.5.1	Supply, Transport and Installation of Triple Effect Air Valve DN 80 mm mounted on PEAD Pipe DN 160 mm	un.	11.00		
1.3.5.2	Supply, Transport and Installation of Drain Valve DN 80 mm mounted on HDPE pipe DN 160 mm	un.	11.00		
1.3.5.3	Supply, Transport and Placement of Triple Acting Air Valve DN 80 mm and Isolation Valve DN 150 mm mounted on HDPE Pipe DN 160 mm	un.	2.00		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
1.3.6	**MISCELLANEOUS**				
1.3.6.1	Road and Sidewalk Repair	m²	56.00		
1.3.6.2	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	m	8,116.00		
1.4	TREATED WATER AQUEDUCT NETWORK 1 – LARRECHEA INLET				
1.4.1	**PRELIMINARY WORKS**				
1.4.1.1	Preliminary Works	GL	1.00		
1.4.2	**EARTHWORKS**				
1.4.2.1	Trench Excavation for Pipe Installation without Dewatering	m³	89.27		
1.4.2.2	Trench Excavation for Pipe Installation with Dewatering	m³	89.04		
1.4.2.3	Backfilling of Trenches with Selected Soil	m³	15.71		
1.4.2.4	Backfilling of Trenches with Natural Soil	m³	162.37		
1.4.3	**PIPE INSTALLATION**				
1.4.3.1	Supply, Transport and Placement of PEAD PE100 PN6 DN 75 mm Pipe	m	104.75		
1.4.3.2	Cleaning and disinfection	gl	1.00		
1.4.4	**SPECIAL CROSSINGS**				
1.4.4.1	Special Crossing under Provincial Route No. 64 at kilometer point 0+010m	GL	1.00		
1.4.5	**CONTROL, REGULATION AND ISOLATION DEVICES**				
1.4.5.1	Supply, Transport and Placement of DN 50 mm Drain Valve and DN 65 mm Isolation Valve mounted on DN 75 HDPE Pipe mm	un.	1.00		
1.4.6	**MISCELLANEOUS**				
1.4.6.1	Road and Sidewalk Repair	m²	28.50		
1.4.6.2	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	m	104.75		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
1.5	TREATED WATER AQUEDUCT NETWORK 1 – AROCENA INLET				
1.5.1	**PRELIMINARY WORKS**				
1.5.1.1	Preliminary Work	GL	1.00		
1.5.2	**EARTHWORKS**				
1.5.2.1	Trench Excavation for Pipe Installation without Dewatering	m³	1,358.78		
1.5.2.2	Trench Excavation for Pipe Installation with Dewatering	m³	1,358.79		
1.5.2.3	Backfilling of Trenches with Selected Soil	m³	378.52		
1.5.2.4	Backfilling of Trenches with Natural Soil	m³	2,339.05		
1.5.3	**PIPE LAYING**				
1.5.3.1	Supply, Transport and Placement of PEAD PE100 PN6 Pipe DN 140 mm	m	1,797.32		
1.5.3.2	Cleaning and disinfection	gl	1.00		
1.5.4	**SPECIAL CROSSINGS**				
1.5.4.1	Special Crossing under the junction of Highway Au01 with Provincial Route No. 80 at kilometer point 0+375	GL	1.00		
1.5.4.2	Special Crossing under Provincial Route No. 80 at kilometer point 1+275	GL	1.00		
1.5.5	**CONTROL, REGULATION AND ISOLATION DEVICES**				
1.5.5.1	Supply, Transport and Placement of Triple Effect Air Valve DN 80 mm mounted on DN 140 mm HDPE pipe	un.	2.00		
1.5.5.2	Supply, Transport and Installation of DN 80 mm Drain Valve mounted on DN 140 mm HDPE Pipe	un.	2.00		
1.5.5.3	Supply, Transport and Installation of DN 80 mm Triple Effect Air Valve and DN 125 mm Isolation Valve mounted on DN 140 mm HDPE Pipe	un.	1.00		
1.5.6	**MISCELLANEOUS**				
1.5.6.1	Repair of Roads and Sidewalks	m²	283.50		
1.5.6.2	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	m	1,797.32		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
1.6	TREATED WATER AQUEDUCT NETWORK 1 – SAN FABIÁN INLET				
1.6.1	**PRELIMINARES WORKS**				
1.6.1.1	Preliminary Works	GL	1.00		
1.6.2	**EARTHWORKS**				
1.6.2.1	Trench Excavation for Pipe Installation without Dewatering	m³	896.66		
1.6.2.2	Trench Excavation for Pipe Installation with Dewatering	m³	896.66		
1.6.2.3	Backfilling of Trenches with Selected Soil	m³	216.56		
1.6.2.4	Backfilling of Trenches with Natural Soil	m³	1,576.76		
1.6.3	**PIPE INSTALLATION**				
1.6.3.1	Supply, Transport and Placement of PEAD PE100 PN6 DN 90 mm Pipe	m	1,299.87		
1.6.3.2	Cleaning and disinfection	gl	1.00		
1.6.4	**SPECIAL CROSSINGS**				
1.6.4.1	Special Crossing under National Route No. 11 at kilometer point 1+240m	GL	1.00		
1.6.5	**CONTROL, REGULATION AND ISOLATION DEVICES**				
1.6.5.1	Supply, Transport and Placement of Triple Effect Air Valve DN 50 mm mounted on PEAD Pipe DN 90 mm	un.	1.00		
1.6.5.2	Supply, Transport and Placement of Drain Valve DN 50 mm mounted on Pipe of HDPE DN 90 mm	un.	2.00		
1.6.5.3	Supply, Transport and Installation of Triple Effect Air Valve DN 50 mm and Isolation Valve DN 80 mm mounted on HDPE Pipe DN 90 mm	un.	1.00		
1.6.6	**MISCELLANEOUS**				
1.6.6.1	Repair of Roads and Sidewalks	m²	516.95		
1.6.6.2	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	m	1,299.87		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
2	DISTRIBUTION CENTER				
2.1	AROCENA DISTRIBUTION CENTER				
2.1.1	**PRELIMINARY WORKS**				
2.1.1.1	Preliminary works	GL	1.00		
2.1.2	**EARTHWORKS**				
2.1.2.1	Excavation for the Construction of Cisterns and Related Works	m³	350.00		
2.1.2.2	Filling and Compaction Around Structures	m³	100.00		
2.1.2.3	Covering with topsoil	m²	150.00		
2.1.3	**STRUCTURES**				
2.1.3.1	Blinding Concrete H-15	m³	14.35		
2.1.3.2	Structural Concrete H-30	m³	247.00		
2.1.3.3	ADN 420 Reinforced Concrete Bars	Tn	29.64		
2.1.4	**MISCELLANEOUS WORKS**				
2.1.4.1	Waterproof Cover and Plaster	m2	250.00		
2.1.4.2	Pipes, Accessories and Hydraulic Control, Regulation and Isolation Devices	GL	1.00		
2.1.4.3	Architectural Work	m²	40.00		
2.1.4.4	Maneuvering Areas, Vehicle Circulation and Parking Lots - Gravel	m²	110.00		
2.1.4.5	Perimeter Sidewalks	m²	52.00		
2.1.4.6	Electrical Installation and Lighting	GL	1.00		
2.1.5	**REMOTE MANAGEMENT SYSTEM**				
2.1.5.1	Distribution Center PLC	GL	1.00		
2.1.5.2	Distribution Center PLC Communication System	GL	1.00		
2.1.5.3	Distribution Center PLC Programming	GL	1.00		
2.1.6	**LINK TO ELEVATED TANK**				
2.1.6.1	Link to elevated tank	GL	1.00		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
2.2	SAN FABIÁN DISTRIBUTION CENTER				
2.2.1	**PRELIMINARY WORKS**				
2.2.1.1	Preliminary works	GL	1.00		
2.2.2	**EARTHWORKS**				
2.2.2.1	Excavation for the Construction of Cisterns and Related Works	m³	250.00		
2.2.3	**STRUCTURES**				
2.2.3.1	Blinding Concrete H-15	m³	2.00		
2.2.3.2	Structural Concrete H-30	m³	38.29		
2.2.3.3	ADN 420 Reinforced Concrete Bars	Tn	4.60		
2.2.4	**MISCELLANEOUS WORKS**				
2.2.4.1	Provision, Transport and Installation of 60 m³ GRP Tanks	un.	2.00		
2.2.4.2	Pipes, Accessories and Hydraulic Control, Regulation and Isolation Devices	un.	2.00		
2.2.4.3	Architectural Work	m²	40.00		
2.2.4.4	Maneuvering Areas, Vehicle Circulation and Parking Lots - Gravel	m²	110.00		
2.2.4.5	Perimeter Sidewalks	m²	60.00		
2.2.4.6	Electrical Installation and Lighting	GL	1.00		
2.2.5	**REMOTE MANAGEMENT SYSTEM**				
2.2.5.1	Distribution Center PLC	GL	1.00		
2.2.5.2	Distribution Center PLC Communication System	GL	1.00		
2.2.5.3	Distribution Center PLC Programming	GL	1.00		
2.2.6	**LINK TO ELEVATED TANK**				
2.2.6.1	Link to elevated tank	GL	1.00		
2.3	BARRANCAS DISTRIBUTION CENTER				
2.3.1	**PRELIMINARY WORKS**				
2.3.1.1	Preliminary works	GL	1.00		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
2.3.2	**EARTHWORKS**				
2.3.2.1	Excavation for the Execution of the Cistern and Related Works	m³	450.00		
2.3.2.2	Filling and Compaction Around Structures	m³	100.00		
2.3.2.3	Covering with topsoil	m²	180.00		
2.3.3	**STRUCTURES**				
2.3.3.1	Blinding Concrete H-15	m³	17.99		
2.3.3.2	Structural Concrete H-30	m³	228.43		
2.3.3.3	ADN 420 Reinforced Concrete Bars	Tn	27.41		
2.3.4	**MISCELLANEOUS WORKS**				
2.3.4.1	Waterproof Screed and Plaster	m²	412.75		
2.3.4.2	Pipes, Accessories and Hydraulic Control, Regulation and Isolation Devices	GL	1.00		
2.3.4.3	Architectural Work	m2	40.00		
2.3.4.4	Maneuvering Areas, Vehicle Circulation and Parking Lots - Gravel	m²	180.00		
2.3.4.5	Perimeter Sidewalks	m²	56.00		
2.3.4.6	Electrical Installation and Lighting	GL	1.00		
2.3.5	**REMOTE MANAGEMENT SYSTEM**				
2.3.5.1	Distribution Center PLC	GL	1.00		
2.3.5.2	Distribution Center PLC Communication System	GL	1.00		
2.3.5.3	Distribution Center PLC Programming	GL	1.00		
2.3.6	**LINK TO ELEVATED TANK**				
2.3.6.1	Link to elevated tank	GL	1.00		
2.4	LARRECHEA DISTRIBUTION CENTER				
2.4.1	**PRELIMINARY WORKS**				
2.4.1.1	Preliminary works	GL	1.00		
2.4.2	**EARTHWORKS**				

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
2.4.2.1	Excavation for the Execution of the Cistern and Related Works	m³	250.00		
2.4.3	**STRUCTURES**				
2.4.3.1	Blinding Concrete H-15	m³	6.80		
2.4.3.2	Structural Concrete H-30	m³	38.29		
2.4.3.3	ADN 420 Reinforced Concrete Bars	Tn	4.60		
2.4.4	**MISCELLANEOUS WORKS**				
2.4.4.1	Provision, Transport and Installation of 50 m³ GRP Tanks	un.	2.00		
2.4.4.2	Pipes, Accessories and Hydraulic Control, Regulation and Isolation Devices	GL	1.00		
2.4.4.3	Architectural Work	m²	40.00		
2.4.4.4	Maneuvering Areas, Vehicle Circulation and Parking Lots - Gravel	m²	120.00		
2.4.4.5	Perimeter Sidewalks	m²	56.00		
2.4.4.6	Electrical Installation and Lighting	GL	1.00		
2.4.5	**REMOTE MANAGEMENT SYSTEM**				
2.4.5.1	Distribution Center PLC	GL	1.00		
2.4.5.2	Distribution Center PLC Communication System	GL	1.00		
2.4.5.3	Distribution Center PLC Programming	GL	1.00		
2.4.6	**LINK TO ELEVATED TANK**				
2.4.6.1	Link to elevated tank	GL	1.00		
2.5	GESSLER DISTRIBUTION CENTER				
2.5.1	**PRELIMINARY WORKS**				
2.5.1.1	Preliminary works	GL	1.00		
2.5.2	**EARTHWORKS**				
2.5.2.1	Excavation for the Execution of the Cistern and Related Works	m³	250.00		
2.5.3	**STRUCTURES**				

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
2.5.3.1	Blinding Concrete H-15	m³	7.16		
2.5.3.2	Structural Concrete H-30	m³	38.29		
2.5.3.3	ADN 420 Reinforced Concrete Bars	Tn	4.60		
2.5.4	**MISCELLANEOUS WORKS**				
2.5.4.1	Provision, Transport and Installation of 50 m³ GRP Tanks	un.	2.00		
2.5.4.2	Pipes, Accessories and Hydraulic Control, Regulation and Isolation Devices	GL	1.00		
2.5.4.3	Architectural Work	m²	40.00		
2.5.4.4	Maneuvering Areas, Vehicle Circulation and Parking Lots - Gravel	m²	110.00		
2.5.4.5	Perimeter Sidewalks	m²	36.00		
2.5.4.6	Electrical Installation and Lighting	GL	1.00		
2.5.5	**REMOTE MANAGEMENT SYSTEM**				
2.5.5.1	Distribution Center PLC	GL	1.00		
2.5.5.2	Distribution Center PLC Communication System	GL	1.00		
2.5.5.3	Distribution Center PLC Programming	GL	1.00		
2.5.6	**LINK TO ELEVATED TANK**				
2.5.6.1	Link to elevated tank	GL	1.00		
				TOTAL	$
				TOTAL WITHOUT TAXES	$

* The prices indicated include Benefits, Direct and Indirect Costs and Administrative Costs.
** All items are quoted according to the details in the Terms of Reference.

Bidder
Name, signature and clarification seal
Legal address

ANNEX XIII - SECOND PART

DETAILED BUDGETS - BLOCK C

Date:

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
1	AQUEDUCTS				
1.1	TREATED WATER AQUEDUCT FROM INTERSECTION RP No. 6 AND RP No. 64 TO GÁLVEZ DISTRIBUTION CENTER (BRANCH SECTION R2 AND ENTRANCE TO GÁLVEZ)				
1.1.1	**PRELIMINARY WORKS**				
1.1.1.1	Preliminary Work	GL	1.00		
1.1.2	**EARTHWORKS**				
1.1.2.1	Excavation of Shored Trenches for Pipe Installation without Dewatering	m³	70,017.69		
1.1.2.2	Excavation of Shored Trenches for Pipe Installation with Dewatering	m³	1,150.66		
1.1.2.3	Backfilling of Trenches with Selected Soil	m³	11,807.04		
1.1.2.4	Backfilling of Trenches with Natural Soil	m³	59,361.31		
1.1.3	**PIPE INSTALLATION**				
1.1.3.1	Provision, Transport and Placement of PEAD Pipe PE100 PN6 DN 400 mm	m	16,515.00		
1.1.3.2	Cleaning and disinfection	GL	1.00		
1.1.4	SPECIAL CROSSINGS				
1.1.4.1	Special Crossing under Provincial Route No. 80 at kilometer point 10+010m	GL	1.00		
1.1.4.2	Special Crossing under Provincial Route No. 10 at kilometer point 12+060m	GL	1.00		
1.1.4.3	Special Crossing under Railway at kilometer point 15+358m and 15+455m	GL	1.00		
1.1.4.4	Special Crossing under Secondary Canal Los Llanos at the entrance to Gálvez at kilometer point 14+304m	GL	1.00		
1.1.5	CONTROL, REGULATION AND ISOLATION DEVICES				
1.1.5.1	Provision, Transport and Placement of Triple Effect Air Valve DN 100 mm mounted on HDPE Pipe DN 400mm	un.	20.00		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
1.1.5.2	Provision, Transport and Installation of DN 150 mm Drain Valve mounted on DN 400 mm HDPE Pipe	un.	10.00		
1.1.6	**MISCELLANEOUS**				
1.1.6.1	Repair of Roads and Sidewalks	m²	2,420.00		
1.1.6.2	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	m	16,515.00		
1.2	TREATED WATER AQUEDUCT NETWORK 2 - FROM INTERSECTION RP No. 6 AND RP No. 80 TO SAN EUGENIO DISTRIBUTION CENTER (BRANCH SECTION R2.1)				
1.2.1	**PRELIMINARY WORKS**				
1.2.1.1	Preliminary Work	GL	1.00		
1.2.2	**EARTHWORKS**				
1.2.2.1	Excavation of Shored Trenches for Pipe Installation without Dewatering	m³	21,076.39		
1.2.2.2	Excavation of Shored Trenches for Pipe Installation with Dewatering	m³	880.91		
1.2.2.3	Backfilling of Trenches with Selected Soil	m³	2,081.32		
1.2.2.4	Backfilling of Trenches with Natural Soil	m³	19,875.98		
1.2.3	**PIPE INSTALLATION**				
1.2.3.1	Provision, Transport and Placement of PEAD Pipe PE100 PN6 DN 90 mm	m	14,547.12		
1.2.3.2	Cleaning and disinfection	GL	1.00		
1.2.4	SPECIAL CROSSINGS				
1.2.4.1	Special Crossing under Provincial Route No. 6 at kilometer point 0+024m	GL	1.00		
1.2.4.2	Special Crossing under Provincial Route No. 80 at kilometer point 11+575m	GL	1.00		
1.2.4.3	Special Crossing under Provincial Route No. 50-S at kilometer point 11+850m	GL	1.00		
1.2.4.4	Special Crossing under Railway at kilometer point 11+802m	GL	1.00		
1.2.4.5	Special Crossing under Secondary Canal Los Llanos at kilometer point 3+483m	GL	1.00		
1.2.4.6	Special Crossing under Secondary Canal Los Llanos at kilometer point 3+509m	GL	1.00		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
1.2.4.7	Special crossing under the ditch at kilometer point 11+560m	GL	1.00		
1.2.4.8	Special crossing under the San Eugenio Secondary Canal at kilometer point 11+777m	GL	1.00		
1.2.5	CONTROL, REGULATION AND ISOLATION DEVICES				
1.2.5.1	Provision, Transport and Installation of Triple Effect Air Valve DN 50 mm and Gate Isolation Valve DN 80 mm mounted on a DN 90 mm HDPE Pipe	un.	1.00		
1.2.5.2	Provision, Transport and Installation of Triple Effect Air Valve DN 50 mm mounted on a DN 90 mm HDPE Pipe	un.	13.00		
1.2.5.3	Provision, Transport and Installation of Drain Valve DN 50 mm mounted on a DN 90 mm HDPE Pipe	un.	9.00		
1.2.6	MISCELLANEOUS				
1.2.6.1	Repair of Roads and Sidewalks	m²	65.25		
1.2.6.2	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	m	14,547.12		
1.3	TREATED WATER AQUEDUCT - FROM INTERSECTION RP No. 6 AND RP No. 64 TO PUMPING STATION EB3 (SECTION T3) - Prog. 0+000 to 17+700				
1.3.1	**PRELIMINARY WORKS**				
1.3.1.1	Preliminary Work	GL	1.00		
1.3.2	**EARTHWORKS**				
1.3.2.1	Excavation of Shored Trenches for Pipe Installation without Dewatering	m³	104,985.18		
1.3.2.2	Excavation of Shored Trenches for Pipe Installation with Dewatering	m³	85,896.96		
1.3.2.3	Backfilling of Trenches with Selected Soil	m³	62,573.03		
1.3.2.4	Backfilling of Trenches with Natural Soil	m³	88,133.64		
1.3.3	**PIPE INSTALLATION**				
1.3.3.1	Provision, Transport and Installation of GRP Pipe PN10 DN 1700 mm	m	5,066.00		
1.3.3.2	Provision, Transport and Installation of GRP Pipe PN6 DN 1700 mm	m	12,634.00		
1.3.3.3	Cleaning and Disinfection	GL	1.00		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
1.3.4	SPECIAL CROSSINGS				
1.3.4.1	Special Crossing under Provincial Route No. 64	GL	1.00		
1.3.4.2	Special Crossing under Provincial Route No. 10	GL	1.00		
1.3.4.3	Special Crossing under Railway	GL	1.00		
1.3.5	CONTROL, REGULATION AND ISOLATION DEVICES				
1.3.5.1	Provision, Transport and Installation of Triple Effect Air Valve DN 150 mm Non Slam mounted on 1700 mm GRP Pipe	un.	21.00		
1.3.5.2	Provision, Transport and Installation of Drain Valve DN 300 mm mounted on 1700 mm GRP Pipe	un.	18.00		
1.3.5.3	Provision, Transport and Installation of Butterfly-type Isolation Valve, mounted on DN 1200mm Steel Pipe, for Ø1700 mm GRP Pipe, including DN 300 mm Triple Effect Air Valves	un.	3.00		
1.3.6	MISCELLANEOUS				
1.3.6.1	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	m	17,700.00		
1.4	TREATED WATER AQUEDUCT NETWORK 2 - FROM RP No. 64 TO CAMPO PIAGGIO DISTRIBUTION CENTER (SECTION R3.1)				
1.4.1	**PRELIMINARY WORKS**				
1.4.1.1	Preliminary Work	GL	1.00		
1.4.2	**EARTHWORKS**				
1.4.2.1	Excavation of Shored Trenches for Pipe Installation without Dewatering	m³	8,476.33		
1.4.2.2	Excavation of Shored Trenches for Pipe Installation with Dewatering	m³	0.00		
1.4.2.3	Backfilling of Trenches with Selected Soil	m³	926.60		
1.4.2.4	Backfilling of Trenches with Natural Soil	m³	7,589.09		
1.4.3	**PIPE INSTALLATION**				
1.4.3.1	Provision, Transport and Installation of PEAD Pipe PE100 PN6 DN 50 mm	m	6,572.12		
1.4.3.2	Cleaning and disinfection	GL	1.00		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
1.4.4	SPECIAL CROSSINGS				
1.4.4.1	Special Crossing under Provincial Route No. 64 at kilometer point 0+031m	GL	1.00		
1.4.5	CONTROL, REGULATION AND ISOLATION DEVICES				
1.4.5.1	Provision, Transport and Installation of Triple Effect Air Valve DN 50 mm and Gate Isolation Valve DN 50 mm mounted on HDPE Pipe DN 50 mm	un.	1.00		
1.4.5.2	Provision, Transport and Installation of Triple Effect Air Valve DN 50 mm mounted on HDPE Pipe DN 50 mm	un.	6.00		
1.4.5.3	Provision, Transport and Installation of Drain Valve DN 50 mm mounted on HDPE Pipe DN 50 mm	un.	5.00		
1.4.6	MISCELLANEOUS				
1.4.6.1	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	m	6,572.12		
1.5	TREATED WATER AQUEDUCT NETWORK 2 - LOMA ALTA INLET				
1.5.1	**PRELIMINARY WORKS**				
1.5.1.1	Preliminary Work	GL	1.00		
1.5.2	**EARTHWORKS**				
1.5.2.1	Excavation of Shored Trenches for Pipe Installation without Dewatering	m³	616.55		
1.5.2.2	Excavation of Shored Trenches for Pipe Installation with Dewatering	m³	0.00		
1.5.2.3	Backfilling of Trenches with Selected Soil	m³	45.98		
1.5.2.4	Backfilling of Trenches with Natural Soil	m³	569.22		
1.5.3	**PIPE INSTALLATION**				
1.5.3.1	Provision, Transport and Installation of PEAD Pipe PE100 PN6 DN 75 mm	m	306.60		
1.5.3.2	Cleaning and disinfection	GL	1.00		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
1.5.4	**CONTROL, REGULATION AND ISOLATION DEVICES**				
1.5.4.1	Provision, Transport and Installation of DN 50 mm Drain Valve and DN 65 mm Gate Isolation Valve mounted on DN 75 mm HDPE Pipe	un.	1.00		
1.5.5	MISCELLANEOUS				
1.5.5.1	Pavement Breaking and Repair	m²	150.00		
1.5.5.2	Road and Sidewalk Repair	m²	37.05		
1.5.5.3	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	m	306.60		
1.6	TREATED WATER AQUEDUCT NETWORK 2 - LOPEZ INLET				
1.6.1	**PRELIMINARY WORKS**				
1.6.1.1	Preliminary Work	GL	1.00		
1.6.2	**EARTHWORKS**				
1.6.2.1	Excavation of Shored Trenches for Pipe Installation without Dewatering	m³	1,404.70		
1.6.2.2	Excavation of Shored Trenches for Pipe Installation with Dewatering	m³	0.00		
1.6.2.3	Backfilling of Trenches with Selected Soil	m³	186.78		
1.6.2.4	Backfilling of Trenches with Natural Soil	m³	1,210.50		
1.6.3	**PIPE INSTALLATION**				
1.6.3.1	Provision, Transport and Installation of PEAD Pipe PE100 PN6 DN 90 mm	m	1,151.00		
1.6.3.2	Cleaning and disinfection	GL	1.00		
1.6.4	CONTROL, REGULATION AND ISOLATION DEVICES				
1.6.4.1	Provision, Transport and Installation of DN 50 mm Drain Valve and DN 80 mm Gate Isolation Valve mounted on DN 90 mm HDPE Pipe	un.	1.00		
1.6.4.2	Provision, Transport and Installation of DN 50 mm Triple Effect Air Valve mounted on DN 90 mm HDPE Pipe	un.	1.00		
1.6.4.3	Provision, Transport and Installation of DN 50 mm Drain Valve mounted on DN 90 mm HDPE Pipe	un.	1.00		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
1.6.5	MISCELLANEOUS				
1.6.5.1	Road and Sidewalk Repair	m²	306.25		
1.6.5.2	Laying and Installation of 48-strand Fiber Optic cable in Buried HDPE Triple conduit, including link chambers	m	1,151.00		
2	DISTRIBUTION CENTERS				
2.1	LOMA ALTA DISTRIBUTION CENTER				
2.1.1	**PRELIMINARY WORKS**				
2.1.1.1	Preliminary works	GL	1.00		
2.1.2	**EARTHWORKS**				
2.1.2.1	Excavation for the Execution of the Cistern and Related Works	m³	150.00		
2.1.3	**STRUCTURES**				
2.1.3.1	Blinding Concrete H-15	m³	6.80		
2.1.3.2	Structural Concrete H-30	m³	38.29		
2.1.3.3	ADN 420 Reinforced Concrete Bars	Tn	4.60		
2.1.4	**MISCELLANEOUS WORKS**				
2.1.4.1	Provision, Transport and Installation of 25 m³ GRP Vertical Tanks	un.	2.00		
2.1.4.2	Pipes, Accessories and Hydraulic Control, Regulation and Isolation Devices	GL	1.00		
2.1.4.3	Architectural Work	m²	40.00		
2.1.4.4	Maneuvering Areas, Vehicle Circulation and Parking Lots - Gravel	m²	70.00		
2.1.4.5	Perimeter Sidewalks	m²	56.00		
2.1.4.6	Electrical Installation and Lighting	GL	1.00		
2.1.5	REMOTE MANAGEMENT SYSTEM				
2.1.5.1	Distribution Center PLC	GL	1.00		
2.1.5.2	Distribution Center PLC Communication System	GL	1.00		
2.1.5.3	Distribution Center PLC Programming	GL	1.00		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
2.1.6	**CONNECTION TO ELEVATED TANK**				
2.1.6.1	Connection to elevated tank	GL	1.00		

2.2	GALVEZ DISTRIBUTION CENTER				
2.2.1	**PRELIMINARY WORKS**				
2.2.1.1	Preliminary works	GL	1.00		
2.2.2	**EARTHWORKS**				
2.2.2.1	Excavation for the Execution of the Cistern and Related Works	m³	1.907.81		
2.2.2.2	Filling and Compaction Around Structures	m³	150.00		
2.2.2.3	Covering with topsoil	m²	600.00		
2.2.3	**STRUCTURES**				
2.2.3.1	Blinding Concrete H-15	m³	35.00		
2.2.3.2	Structural Concrete H-30	m³	970.00		
2.2.3.3	ADN 420 Reinforced Concrete Bars	Tn	116.40		
2.2.4	**MISCELLANEOUS WORKS**				
2.2.4.1	Waterproof Screed and Plaster	m²	1.095.15		
2.2.4.2	Pipes, Accessories and Hydraulic Control, Regulation and Isolation Devices	GL	1.00		
2.2.4.3	Architectural Work	m²	25.00		
2.2.4.4	Maneuvering Areas, Vehicle Circulation and Parking Lots - Gravel	m²	100.00		
2.2.4.5	Perimeter Sidewalks	m²	80.00		
2.2.4.6	Electrical Installation and Lighting	GL	1.00		
2.2.4.7	Olympic Type Perimeter Fence and Access Gate	m	100.00		
2.2.5	REMOTE MANAGEMENT SYSTEM				
2.2.5.1	Distribution Center PLC	GL	1.00		
2.2.5.2	Distribution Center PLC Communication System	GL	1.00		
2.2.5.3	Distribution Center PLC Programming	GL	1.00		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
2.2.6	**CONNECTION TO ELEVATED TANK**				
2.2.6.1	Connection to elevated tank	GL	1.00		
2.3	SAN EUGENIO DISTRIBUTION CENTER				
2.3.1	**PRELIMINARY WORKS**				
2.3.1.1	Preliminary works	GL	1.00		
2.3.2	**EARTHWORKS**				
2.3.2.1	Excavation for the Execution of the Cistern and Related Works	m³	119.93		
2.3.3	**STRUCTURES**				
2.3.3.1	Blinding Concrete H-15	m³	4.50		
2.3.3.2	Structural Concrete H-30	m³	26.38		
2.3.3.3	ADN 420 Reinforced Concrete Bars	Tn	3.17		
2.3.4	**MISCELLANEOUS WORKS**				
2.3.4.1	Provision, Transport and Installation of 10 m³ GRP Tanks	un.	2.00		
2.3.4.2	Pipes, Accessories and Hydraulic Control, Regulation and Isolation Devices	GL	1.00		
2.3.4.3	Architectural Work	m²	40.00		
2.3.4.4	Maneuvering Areas, Vehicle Circulation and Parking Lots - Gravel	m²	160.00		
2.3.4.5	Perimeter Sidewalks	m²	44.00		
2.3.4.6	Electrical Installation and Lighting	GL	1.00		
2.3.5	REMOTE MANAGEMENT SYSTEM				
2.3.5.1	Distribution Center PLC	GL	1.00		
2.3.5.2	Distribution Center PLC Communication System	GL	1.00		
2.3.5.3	Distribution Center PLC Programming	GL	1.00		
2.3.6	**CONNECTION TO ELEVATED TANK**				
2.3.6.1	Connection to elevated tank	GL	1.00		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
2.4	LÓPEZ DISTRIBUTION CENTER				
2.4.1	**PRELIMINARY WORKS**				
2.4.1.1	Preliminary works	GL	1.00		
2.4.2	**EARTHWORKS**				
2.4.2.1	Excavation for the Construction of Cisterns and Related Works	m³	350.00		
2.4.2.3	Filling and Compaction Around Structures	m³	100.00		
2.4.2.4	Covering with topsoil	m²	150.00		
2.4.3	**STRUCTURES**				
2.4.3.1	Blinding Concrete H-15	m³	12.13		
2.4.3.2	Structural Concrete H-30	m³	212.00		
2.4.3.3	ADN 420 Reinforced Concrete Bars	Tn	25.44		
2.4.4	**MISCELLANEOUS WORKS**				
2.4.4.1	Waterproof Screed and Plaster	m²	250.00		
2.4.4.2	Pipes, Accessories and Hydraulic Control, Regulation and Isolation Devices	GL	1.00		
2.4.4.3	Architectural Work	m²	40.00		
2.4.4.4	Maneuvering Areas, Vehicle Circulation and Parking Lots - Gravel	m²	250.00		
2.4.4.5	Perimeter Sidewalks	m²	64.00		
2.4.4.6	Electrical Installation and Lighting	GL	1.00		
2.4.5	REMOTE MANAGEMENT SYSTEM				
2.4.5.1	Distribution Center PLC	GL	1.00		
2.4.5.2	Distribution Center PLC Communication System	GL	1.00		
2.4.5.3	Distribution Center PLC Programming	GL	1.00		
2.4.6	**CONNECTION TO ELEVATED TANK**				
2.4.6.1	Connection to elevated tank	GL	1.00		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
2.5	CAMPO PIAGGIO DISTRIBUTION CENTER				
2.5.1	**PRELIMINARY WORKS**				
2.5.1.1	Preliminary works	GL	1.00		
2.5.2	**EARTHWORKS**				
2.5.2.1	Excavation for the Execution of the Cistern and Related Works	m³	119.93		
2.5.3	**STRUCTURES**				
2.5.3.1	Blinding Concrete H-15	m³	4.50		
2.5.3.2	Structural Concrete H-30	m³	26.38		
2.5.3.3	ADN 420 Reinforced Concrete Bars	Tn	3.17		
2.5.4	**MISCELLANEOUS WORKS**				
2.5.4.1	Provision, Transport and Installation of 10 m³ GRP Tanks	un.	2.00		
2.5.4.2	Pipes, Accessories and Hydraulic Control, Regulation and Isolation Devices	GL	1.00		
2.5.4.3	Architectural Work	m²	40.00		
2.5.4.4	Maneuvering Areas, Vehicle Circulation and Parking Lots - Gravel	m²	160.00		
2.5.4.5	Perimeter Sidewalks	m²	48.00		
2.5.4.6	Electrical Installation and Lighting	GL	1.00		
2.5.4.7	Olympic Type Perimeter Fence and Access Gate	m	120.00		
2.5.5	REMOTE MANAGEMENT SYSTEM				
2.5.5.1	Distribution Center PLC	GL	1.00		
2.5.5.2	Distribution Center PLC Communication System	GL	1.00		
2.5.5.3	Distribution Center PLC Programming	GL	1.00		
2.5.6	LINK TO ELEVATED TANK				
2.5.6.1	Link to elevated tank	GL	1.00		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
3	PUMPING STATION EB2				
3.1	PRELIMINARY WORK				
3.1.1	Preliminary work	Gl.	1.00		
3.2	ENTRY TO STORAGE TANK				
	EARTHWORKS				
3.2.1	Excavation for the execution of flow meter chambers, cistern entrance and related works	m^3	200.00		
3.2.2	Filling and compaction around structures	m^3	247.00		
3.2.3	Covering with topsoil	m^2	72.00		
	STRUCTURES				
3.2.4	Blinding concrete H-15	m^3	3.00		
3.2.5	Structural reinforced concrete H-25	m^3	33.00		
3.2.6	Structural reinforced concrete H-30	m^3	35.00		
	PIPE AND ACCESSORIES				
3.2.7	DN 1000mm (40") butterfly valve with electric actuator	Ud.	1.00		
3.2.8	DN 900mm (36") flow meter	Ud.	1.00		
3.2.9	DN 900mm (36") level control valve with electronic controller	Ud.	1.00		
3.2.10	Steel pipes and accessories	Gl.	1.00		
3.2.11	Metal access covers	Ud.	5.00		
3.2.12	Metal ladder, marine type	Ud.	3.00		
3.2.13	Metal wall-type gate	Ud.	2.00		
3.3	STORAGE CISTERN				
	EARTHWORKS				
3.3.1	Excavation for the execution of a cistern and related works	m^3	7,500.00		
3.3.2	Filling and compaction around structures	m^3	2,000.00		
3.3.3	Covering with topsoil	m^2	2,510.00		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
	STRUCTURES				
3.3.4	Blinding concrete H-15	m^3	132.00		
3.3.5	Structural reinforced concrete H-30	m^3	2,250.00		
	PIPE AND ACCESSORIES				
3.3.6	Ventilation pipes (Aº Ø6")	Gl.	1.00		
3.3.7	Precast concrete access covers	Un	10.00		
3.3.8	Metal ladder, marine style	Ud.	10.00		
3.4	PUMPING CHAMBER				
	EARTHWORKS				
3.4.1	Excavation for the execution of a cistern and related works	m^3	880.00		
3.4.2	Filling and compaction around structures	m^3	290.00		
3.4.3	Covering with topsoil	m^2	111.00		
	STRUCTURES				
3.4.4	Blinding concrete H-15	m^3	10.00		
3.4.5	Structural reinforced concrete H-30	m^3	451.87		
	PIPE AND ACCESSORIES				
3.4.6	Metal wall-mounted gate	Ud.	2.00		
3.4.7	Ventilation pipes (Aº Ø6")	Gl.	1.00		
3.4.8	Metal access cover	Ud.	2.00		
3.4.9	Metal ladder	Ud.	2.00		
3.5	PUMPING ROOM				
	ARCHITECTURE				
3.5.1	Pumping Room	Gl.	1.00		
	HYDROMECHANICAL EQUIPMENT				
3.5.2	Electric pumps for drinking water - Main Section	Ud.	5.00		
3.5.3	Electric pumps for drinking water - Secondary Branch	Ud.	2.00		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	SUBTOTAL
3.5.4	Main drive manifold	Gl.	1.00		
3.5.5	Secondary drive manifold	Gl.	1.00		
3.5.6	Overhead Crane	Ud.	1.00		
3.6	COMPLEMENTARY WORKS				
	MISCELLANEOUS WORKS				
3.6.1	Architectural work	m^2	162.00		
3.6.2	Waterproof Screed and plaster	m^2	9,470.00		
3.6.3	Anti-water hammer protection system	Gl.	1.00		
3.6.4	Rechlorination system	Gl.	1.00		
3.6.5	Special derivation pieces, pipes and accessories	Gl.	1.00		
3.6.6	Drainage and overflow system	Gl.	1.00		
3.6.7	Electrical installations	Gl.	1.00		
3.6.8	Generator set	Gl.	1.00		
3.6.9	Maneuvering area, vehicular circulation and parking lots - Gravel	m^2	3.705.00		
3.6.10	Curbs and gutters	m^3	94.50		
3.6.11	Perimeter sidewalks	m^2	60.00		
3.6.12	Olympic-type perimeter fence and access gate	Ml.	715.00		
3.7	REMOTE MANAGEMENT SYSTEM				
3.7.1	CCMI PLC	Gl.	1.00		
3.7.2	PLC communication system	Gl.	1.00		
3.7.3	PLC programming	Gl.	1.00		
3.7.4	Fiber optic installation in buried triple conduit	Ml.	145.00		

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	ITEM
4	POWER SUPPLY SYSTEM				
4.1	POWER SUPPLY SYSTEM				
4.1.1	Power supply system	Gl.	1,00		
				TOTAL	$
				TOTAL WITHOUT TAXES	$

* The prices indicated include Benefits, Direct and Indirect Costs and Administrative Costs.

** All items are quoted according to the details in the Term of Conditions.

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ANNEX XIV
PRICE ANALYSIS

ITEM	Nº	Unidad
DESCRIPCION	Nombre Item Principal	
	Nombre Sub Item	

RENDIMIENTO: | Unidad costo unitario

1 - EJECUCION

1.A.EQUIPOS

	Cant.	HP unit.	$ unit.	HP tot.	$ total
Equipo (1)					
Equipo (2)					
Equipo (X)					
TOTALES					

Amortizacion		$/dia
Reparaciones y repuestos		$/dia
Combustibles		$/dia
Lubricantes		$/dia

a. TOTAL EQUIPOS = $/dia

1.B- MANO DE OBRA

Calificada		
Oficial especializado		$/dia
Oficial		$/dia
Medio oficial		$/dia
Otros		$/dia
No calificada		
Ayudante		$/dia
Otros		
Subtotal	=	$/dia
Vigilancia y capatacia		$/dia

b. TOTAL MANO de OBRA = $/dia

c. COSTO DIARIO EJECUCION = $/dia (a) + (b)

2-MATERIALES u OTROS

Descripción Materiales u Otros	Unidad	Cantidad		Pcio. unit
			x	

COSTO UNITARIO MATERIALES =

COSTO UNITARIO TOTAL

COSTO UNITARIO DE EJECUCION (1)	+	COSTO UNITARIO DE MATERIALES U OTROS (2)

COSTO UNITARIO ITEM =

PRECIO DEL ITEM

Coeficiente de resumen =

PRECIO UNITARIO ITEM =

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SUMMARY COEFFICIENT

Summary Coefficient Sheet				
A	Net Cost			1,000
B	Financial Expenses	% de (A)	%	#
C	General Expenses	% de (A)	%	#
D	Benefits	% de (A)	%	#
E	Sub Total			#
F	VAT	% de (E)	21.00%	#
	Summary Coefficient	(E+ F)		#
		Coeficiente Adoptado		**#**

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ANNEX XIX
DETAILED ENGINEERING

INDEX

INTRODUCTION AND OBJECTIVE

The objective of this document is to specify the works necessary for the execution of the executive project: Santa Fe – Córdoba Interprovincial Aqueduct, Stage I: Coronda – San Francisco, Phase 1 – Block B and C, with all the necessary installations to provide an efficient water supply service, satisfying the required flows at the delivery points, specified in the bidding documentation.

These specifications must be considered minimum. In any aspect where there may be doubt or discrepancy with respect to what is established in the Particular Technical Specifications Document, what is indicated therein will prevail.

The parts of the system to be designed are highlighted below:

The components of the system for which the Executive Project and Detailed Engineering must be carried out are listed below

a) Aqueducts or Conduits themselves.

b) Pumping installations.

c) Valves of all types necessary for the operation and regulation of the water supply system (pressure regulating and/or reducing, surge anticipation, relief valves, air valves, isolation valves, etc.)

d) Valves of all types necessary for the operation and regulation of the water supply system (pressure regulating and/or reducing, surge anticipation, relief valves, air valves, isolation valves, etc.)

e) Cisterns, chambers, and auxiliary works in general (loading chambers, anti-water hammer systems, water supply branches, etc.)

f) Electric power transmission lines (to the satisfaction of the EPE).

g) Electromechanical equipment and telecontrol. Fiber optics.

h) Buildings.

In summary, the Executive Project and Detailed Engineering include the design and calculation of the infrastructure mentioned, to be developed according to the methodological guidelines, outlined in the text that follows, and in accordance with the ENHOSA Standards regarding all matters not specifically mentioned in this document, as well as the provisions outlined in the General and Particular Technical Specifications, Reports and other bidding documentation.

GENERALITIES AND DEFINITIONS

In all cases, the literal part of the documentation will be prepared in Spanish, in IRAM A4 format. The plans and graphic information will correspond to the A1 to A4 formats of such Standards.

The base documentation contained in the bidding documentation provides the layout configuration, which is unalterable for the purposes of submitting the bid. However, during the development of the Executive Project for the works, changes to the layout that optimize the system to the full satisfaction of the Works Inspection will be admitted, and the inspection may also propose modifications. In both cases, any changes must be justified from a technical, right of way clearence and economic point of view.

EXECUTIVE PROJECT AND DETAIL ENGINEERING STAGE

PURPOSE

Developing the Executive Project and Detail Engineering of the Work, preparing the technical documentation necessary to execute it.

STUDIES TO BE CARRIED OUT

At a minimum, the following aspects will be addressed:

a) Final geotechnical studies.

b) Final topographic surveys, in correspondence with the final rlayout of the aqueducts and studies to determine fluvial erosion and evolution at a general level in crossings in rivers and streams, as well as non-flooding in the Pumping Station area.

c) Verification of the hydraulic sizing of the pipelines, especially considering the rigorous study of the unsteady flow regime.

d) Verification of the structural sizing of the different components of the system and in particular of the pipelines, based on the previous design of the trench, for each representative section.

e) Sizing of the mechanical, electromechanical and electrical elements of the system.

f) Measures to be adopted aimed at mitigating or eliminating the negative Environmental Impacts caused by the construction of the works and the implementation of the Service. Design of the complementary or compensation works and the Monitoring Program.

h) Specifications for the construction and work plan.

k) Study of the regulation of the aqueduct

l) Drafting of the necessary documentation; complementary to the Particular Technical Specifications and construction procedures.

m) Modeling of the aqueduct operation.

n) Drafting of the Operation and Maintenance Manual (including operational organization and recommendations) and commisioning.

o) Drafting of a Manual of Interventions and repair processes of the aqueduct.

DOCUMENTATION TO BE PRESENTED

The Project will be presented digitally via the workbook. Each file will consist of, at least, the following elements:

COVER PAGE

Each project will be presented in a folder according to IRAM standards (320 mm x 220 mm), the cover will have the cover page, to be designed by mutual agreement with the Principal.

INDEX

Following the cover page, an index will be placed, in which the respective chapters and their sections will appear, with reference to the corresponding pages.

DESCRIPTION

OF THE PROJECT DESCRIPTION

The list of Studies carried out in the Preliminary Studies Stages - if applicable - and the Project will be described in detail, mentioning the content of each of them and their location in the respective files.

OF THE WORK TO BE EXECUTED

Separately, the characteristics of the Project will be described, including the processes that comprise it, hydraulic characteristics of the system and any other information that identifies the water supply work to be built. The agents foreseen in the operational organization, affected by the service that is planned, will be quantified, indicating hierarchical levels, areas and functions to be performed.

The configuration to be adopted for the areas directly involved in the service, especially those responsible for Operation and Maintenance, will be described.

TECHNICAL REPORT

In an orderly and logical manner, the calculations, characteristics, materials and dimensions of each of the parts that make up the Project will be recorded, mentioning the standards, formulas, programs and software used, including at least:

DESIGN PARAMETERS

The population values, design periods and flow rates defined in the bidding documentation.

The types of materials projected for the works, load hypotheses (permanent, accidental, considered overloads), river speeds, expected erosion, etc., and any other design parameter involved in the hydraulic, structural calculations and design of the works will be indicated in the reports.

TOPOGRAPHIC STUDIES

It will contain details of the studies carried out, the surveys performed, and the conclusions reached, justifying the decisions taken - if applicable - as a result.

GEOTECHNICAL STUDIES

The soil studies carried out at the locations of the pipeline and the structures (Intake Works, Treatment Plant Installations, Elevating Stations, Reserves, special crossings, etc.) will be attached, as well as the ones carried out at characteristic points of the layout, works and installations in general, at a separation and depth that allows, in each case, to obtain an adequate knowledge of the characteristics of the local soils.

The maximum depth of the perforations must be in accordance with the pipeline to be installed and/or foundation level of the structure to be executed that allows, in each case, to obtain an adequate knowledge of the characteristics of the soils.

HYDRAULIC CALCULATIONS OF THE PIPELINE; SIZING

A- Steady flow regime

The final hydraulic calculations and sizing for the various system components will be presented in the report, specifying the elements and criteria adopted in each case: formulas, texts, standards, software, etc. For the different alternatives, the software must be shown and must be available for verification by the team in charge of receiving the technical reports.

B – Unsteady flow regime

The calculation reports in an unsteady flow regime will be presented, highlighting the software used, which will be submitted for the Principal's consideration and must be available for verification by the team in charge of receiving the technical reports. The report will also describe and justify (through calculations) the surge protection system.

The reports corresponding to the verification, selection and location of the air valves will also be presented.

The supporting reports of the selected pressure regulating valves will be presented, in order to calculate and limit the types of pipes. Also, those corresponding to the selection of all types of "Hydraulic Control Valves" (wave anticipators, flow regulators, level regulators, pressure regulators, etc.) that are necessary for the operation of the system.

Note: See: Point 7 PRESSURE PIPELINES

STRUCTURAL CALCULATIONS AND CONSTITUTIVE ELEMENTS OF PIPELINES IN GENERAL

A- Structural Calculations of the Pipeline

The structural sizing report of the pipes that make up the pipelines will be incorporated into the Project, verifying the proposed classes, taking into account the "Trench – Pipeline" interaction and the verifications required by current standards, in particular the AWWA, corresponding to the material of the pipeline in question. It should be mentioned that the materials adopted for the Official Project are those indicated in the plans, reports and specifications.

Note: See: Point 7 PRESSURE PIPELINES

B- Pipelines and their constituent elements in general

The indicative report of the layout, length, diameters, materials of the pipes and types of joints, slopes, description of the crossings (roads, railways, channels, other pipelines, etc.) that require works of a certain importance. The corresponding report is also planned for eventual access points, connections, drains, control elements, special pieces and other accessories.

The report will include the corresponding Description and Calculation of the singular structures (such as potential surge possible chambers, various chambers, reservoirs, etc.).

The necessary anchors will be calculated and the corresponding design and calculation report for them will be presented.

The construction processes adopted, the structural calculation of the complementary works (with the corresponding iron bending sheets when appropriate) and the operation of the aqueduct, will also be clearly presented as part of the general technical report of the presentation in question.

C- Pumping Stations

In general, the section of the Technical Report corresponding to pumping stations will include all the calculations necessary for their definition, including, among others, the equipment and its operation, characteristic curves of the System, auxiliary installations and manifold of the pipelines.

The following reports must be submitted as a minimum:

- Description and design for each station
- Pump selection report and hydraulic verification
- Motor verification calculation report
- Calculation report for special fittings, suction and discharge pipelines, surge protection system, etc.
- Structural calculation report for buildings (main, surge protection system), supports, anchor blocks and other complementary works.
- Calculation report for medium and low voltage electrical circuits, driving force, short circuit, etc.
- Ventilation and heating calculation report.
- Lighting calculation report.
- Calculation report for sanitary facilities (water, sewage and drainage), gas (when applicable), fire protection and auxiliary services.

Construction processes and structural calculation of buildings, supports and complementary works (with the respective rebar bending schedules when applicable).

Note: See Point 8 PUMPING CHAMBERS

D - Intake Works

In general, the section of the Technical Report corresponding to the intake works will include all the calculations necessary for its definition, including, among others, the pumping equipment and its operation, characteristic curves of the System, auxiliary installations and manifold of the pipelines. The following reports must be submitted as a minimum:

- Description and design for the pumping equipment
- Selection of pumps
- Suction pipeline and specific characteristics of the pumping system
- Calculation and verification of motors and special parts
- Construction processes and structural calculation of the constitutive parts of the intake pier in general, the buildings, supports and complementary works (with the respective rebar bending schedules when applicable)
- Electrical circuits, driving power supply and electromechanical installations
- General lighting of the intake works, ventilation, heating, sanitary, gas plumbing, fire protection and auxiliary services for the facilities.

Note: See Point 6, INTAKE WORK AND TREATMENT PLANT

E- Aerial crossings in water courses

In general, all the calculations that make up the definition of each work will be included. The following reports must be submitted as a minimum:

- Descriptive and design report
- Structural calculation report for beams, piles, pile caps, anchor blocks, erosion protection, etc.

TECHNICAL REPORTS FOR SINGULAR WORKS (CHARGING CHAMBERS, CHIMNEYS IN GENERAL, ETC.)

Descriptive reports, hydraulic calculation reports, structural calculation reports (with the respective rebar bending schedules when applicable), special parts and construction processes shall be submitted.

TECHNICAL REPORTS ON ELECTRICAL WORKS

The following reports will be submitted on electrical studies, electrical and mechanical calculation of High and Medium Voltage Lines, busbars and cable calculations, and lighting protection calculation, structural analysis of foundations, bases, gantries and columns, as well as descriptive and calculation reports of transformer substations. In addition to structural calculation for foundations, bar gantry structures, insulator support gantries, shield wire support poles and poles for lighting fixtures.

The reports must be approved by the EPE.

REPORTS ON THE TELEMETRY SYSTEM AND FIBER OPTICS

Descriptive reports on hardware and software, block diagrams, calculation of the installations and structural calculation of the installations, and the telemetric system will be submitted.

Calculation and descriptive reports will be submitted on everything related to the installation and operation of the fiber optics.

OPERATION AND MAINTENANCE OF THE SYSTEM

Recommendations on the operation and maintenance of the system components shall be presented in such a way that they serve as a basis for the preparation of the Operation and Maintenance Manual, to be developed by the Contractor Company.

WORK AND INVESTMENT PLAN

The work deadlines are indicated in the bidding documentation.

Within the contractual construction period, the execution timelines for the different components of the Work must be specified, including the Item and Sub-item that make up the work, according to its size, importance and planned construction sequence. With these elements, a Bar chart will be prepared to illustrate these timeframes.

SET OF DRAWINGS

GENERAL CONSIDERATIONS

The project will include general drawings and those corresponding to the different parts of the work, in accordance with the Technical Report. These drawings shall explicitly contain the necessary information for the execution of the works. Three (3) paper copies and three (3) digital copies shall be provided, produced with advanced technology (AUTOCAD v.2007 or higher), in a clear and legible format. All legends shall be written in Spanish and the dimensions expressed in metric units. They must comply with the IRAM Standards for technical drawing, especially with:

- IRAM Standard 4502: Lines
- IRAM Standard 4504: Formats, graphic elements and sheet folding
- IRAM Standard 4505: Linear scales for civil and mechanical constructions
- IRAM Standard 4507: Representation of sections and cuts in mechanical drawing.
- IRAM Standard 4508: Label, list of materials and parts.
- IRAM Standard 4509: Cross-hatching for sections and cuts
- IRAM Standard 4513: Dimensioning of drawings in mechanical drawings
- IRAM Standard 4524: Representation, terminology and classification of drawings for mechanical layout plans

The general plans will have the North oriented towards the upper part of the drawing. The graphic representation for indicating the orientation will be prepared in such a way that there is no doubt regarding its interpretation. It will be located in the upper right corner, parallel to the right margin or with a maximum deviation of +- 30º from it.

When it comes to partial plans that are part of a set, each one will represent a simplified and reduced version of the whole, marking the division and numbering adopted, highlighting the section to which the plan belongs.

SCALES

The scales to be used will be the most suitable according to the purpose of the drawing.

General assembly plans will be presented in smaller scales, in order to appreciate the relative location of the design components. Larger scales will be used when it is necessary to show project details with greater precision.

DIMENSIONS AND TITLE BLOCK

The drawings will be prepared in formats A1 to A4 formats according to applicable IRAM Standard, and the tittle block will be located in the lower right corner and its design will be agreed upon with the Principal.

PLANS TO BE PRESENTED

The necessary plans will be created to carry out the construction of the work. The minimum required plans to be submitted are:

A- GENERAL PLANIMETRY

The installations that make up the project will be schematically indicated, including the intake works, treatment plant, layout of aqueducts, valves, chambers, cisterns, details, as well as the location of significant topographic features, rivers, streams and canals with their flow direction, roads, fences, main services pipelines, etc.

The scale for its execution will depend on the distance between the design elements, and their representation in the drawing must be compatible with the standardized sizes of plans.

Partial topographic plans corresponding to the works of the complementary installations will be added, at larger scales than those of the general plan, for a better interpretation.

B – CONDUITS

The minimum required plans to be submitted are:

- General planialtimetric survey, including general location plans.
- Detailed planialtimetric survey, at scales (Eh = 1:2500, Ev = 1:200 or 1:100).
- Valve chambers of all types (regulators, relief valves, air valves, wave anticipators, isolation valves, retention valves, drainage valves, etc.) and measuring equipment, including general plans, formwork, reinforcement and floor plans, section of mechanical assembly and special parts. They will contain the plans and sections necessary to visualize the respective construction characteristics, with indication of internal measurements, thicknesses, materials, etc. as well as characteristics of the covers and accessories.
- Details of crossings of singularities (roads, railways, waterways, flood prone lowlands, culverts, other various service conduits, etc.), including planialtimetric survey of the special crossing areas.
- Details of branches
- Complementary works, including general plans, formwork plans, reinforcement plans and special parts drawings.
- Details of special parts and anticorrosion protection
- Trench details for each section, based on the dimensional and mechanical characteristics of the pipeline and the properties of the soil.

- Anchor details, including planimetric data of the anchorage block installation area, formwork and reinforcement plans, and all relevant elements according to the projected solution

- Monument marker details.

- Service plans and possible existing obstacles. When it is not feasible to represent them in a single planimetry, they will be divided into as many plans as necessary, at an appropriate scale to adequately define the relative position of the work to be carried out in relation to existing installations.

C- PUMPING STATIONS

The minimum required plans to be submitted are:

- General layout of the station.
- Layout plans, floor plan, and sections.
- Structure plan of the inlet chamber connected to the cistern
- Floor plan and sections of the pump house structure
- Floor plan and sections of the mechanical assembly of the inlet chamber
- Floor plan and sections of the mechanical assembly of the cistern
- Floor plan and sections of the mechanical assembly of the pumping house
- Special parts plans of the inlet chamber
- Special parts plans of the pump house
- Floor plan and sections of the cistern formwork
- Floor plan and sections of the inlet chamber formwork
- Floor plan and sections of the pump chamber formwork
- Floor plan, sections and reinforcement details of the cistern
- Floor plan, sections and reinforcement details of the inlet chamber
- Floor plan, sections and reinforcement details of chamber and pump house

- Architectural plans of the pump house (floor plan, sections, elevations, details, room schedules, layout, details, carpentry schedules, electrical installation, plumbing installation, gas installation, stairs, metal railings, etc.)

- Plans of special parts, including general plans, breakdown drawings, single-line isometric drawings, and assembly plans.

Plans will be submitted with the necessary layouts and sections that allow for adequate interpretation of the operation of the work, indicating dimensions, elevations concerning the natural ground, location of the equipment (grates, pumps, pipes, etc.), maximum and minimum levels of the liquid, and any other details that need to be included for its construction.

Of the aforementioned structures, the following must also be presented:

- Detail plans of equipment, pumps, motors, valves, actuators, panels, transformers, control systems, etc.
- Electrical plans, power supply plans, grounding plans, internal wiring of panels, auxiliary services, etc.
- Lighting plans.
- Installation plans
- Landscaping plans, access, lighting, gates, etc.

D) CISTERNS OR RESERVOIRS

The minimum required plans to be submitted are:

- Layout plan of the cistern: Planialtimetric survey of the area of placement, with indication of the referenced location of the reservoir and complementary facilities that are integrated into the land where it is located.
- Cistern floor plan and sections
- Cistern inlet chamber plan
- Cistern inlet chamber mechanical assembly plan and sections
- Cistern mechanical assembly floor plan and sections
- Inlet chamber special parts plan
- Cistern formwork floor plan and sections
- Inlet chamber formwork floor plan and sections
- Cistern reinforcement floor plan, sections and details
- Inlet chamber reinforcement floor plan, sections and details
- Architectural plans of dependencies (floor plan, sections, elevations, details, room schedules, layout, details, carpentry schedules, electrical installation, plumbing installation, gas installation, etc.)

The aforementioned plans of layouts, sections, and details of each of the elements that make up the reservoirs and auxiliary works, locating the pipes, valves, connections, ventilations, accesses, etc. Dimensions, diameters, materials, types, and all other characteristics important for interpreting the plans and for the correct execution of the

work will be indicated. The dimensions, distances, and thicknesses will be perfectly dimensioned, taking levels in relation to the same fixed IGN point.

The openings, inserts, and accessories necessary for the installation of pipes and equipment will be indicated.

Plans for foundations and structures above ground level will be developed, indicating reinforcements, thicknesses, and concrete types, concrete cover for reinforcements, special coatings, and joints, following the guidelines specified for the aforementioned structures.
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PLANS OF PARTICULAR STRUCTURES

The structural plans that accompany the project shall include the plans and sections that are necessary for the execution of the work, indicating in each case the concrete squares and quantities of reinforcements.

For metal structures, the profiles to be used, sheet thicknesses, bracing, reinforcements, etc. will be indicated.

ELECTRICAL, MECHANICAL, ELECTROMECHANICAL AND TELEMETRY INSTALLATIONS

For electrical installations, general plans will be presented detailing the quantity and section of conductors, conduit diameter and material, switches, fuses, connections, etc. For external lighting, the site plan will also indicate the location, types of poles and lighting fixtures to be used.

For electromechanical installations, a single-line diagram of the power system, a functional diagram of the control panel, location and material of conduits, quantity, type and section of conductors, location and power of the different loads, distribution boards, energy take off points, beaconing, lightning protection, grounding, etc. will be presented.

For mechanical installations, general configuration diagrams, direction and speed of operation when appropriate, actuation method, positioning, and any other aspect that is necessary for their clear identification and construction will be included.

The minimum required plans to be submitted are:

a) Electrical plans.
• Single-line diagrams for each voltage level
• Single-line diagrams for auxiliary services
• Single-line diagrams for main and secondary boards.
• Functional diagrams for command, signaling, protection, alarm and interlocks.
• Three-line diagrams for measurement and protection.
• Terminal block plans
• Interconnection plans
• Cable routing.
• Topological diagrams for boards.

• List of cables, auxiliary relays and electromagnetic switches
• Interconnections to existing networks

b) Electromechanical plans
• Grounding grid and line grounding and guard wire, electrical equipment for gantries, power transformers and auxiliary services
• Assembly of power transformers, auxiliary services, switches, disconnectors, support insulators, voltage transformers, current transformers, arresters, etc.
• Junction boxes for measurement transformers
• Outlet boxes
• Electromechanical assembly of equipment (pumps, rotors, actuators).
• Assembly of normal and emergency outdoor lighting system.
• Normal and emergency building lighting.
• Fire detection system

c) Civil plans:
• Station layout
• Bases for line structures, for substation equipment, for substation gantries
• Cable channels
• Sidewalks and pavements
• Drains.
• Fences, gates, accesses and landscaping
• Location of equipment in buildings.
• Equipment support structure.
• Line structures
• Trenching for grounding grid
• Columns for normal and emergency lighting.

d) Telemetric system plans
d1) General location
In main aqueduct.
In the branches
In remote control centers.

d2) Detail
Typical
Tower.
Antennas.
Mounting
Connections.

In case of developing the Fiber optic system, the indicated plans must be adapted to the selected communication modality.

SURVEY PLANS

The survey and easement plans (aqueduct or power duct) of all the lands affected by the projected works to be carried out in accordance with the cadastral regulations in force in the Province of Santa Fe (according to SCIT and/or MISPyH) will be presented.

TOPOGRAPHIC SURVEYS

INTRODUCTION AND GENERAL CHARACTERISTICS

The following details the characteristics of the surveys that the Contractor Company must carry out for the development of the Executive Project and Detailed Engineering, corresponding to the final route of the aqueducts, once the surveys of the existing underground facilities have been completed.

Specific topographic surveys will be carried out to mee the different needs. The scales and density of information will be adjusted to the objective of the same, and in general they will be to the necessary scale to be determined in each particular case, for the implementation of civil and architectural works, or other system components.

Essentially, for the complementary installations, the necessary surveys will be carried out with the required precision, for each particular project (Pumping Stations, Buildings, Cisterns, etc.).

Before conducting the topographic surveys, the corresponding permission from the property owners or possessors of the parcels to be surveyed will be obtained.

Subsequently, a cadastral survey will be carried out for the parcels to be crossed by the aqueduct route and for the land that might be affected by the complementary works.

The routes, roads and/or streets that will be used for the placement of the conduits of the aqueduct are already defined. Within this framework, a supporting polygon will be implemented, and its itinerary will coincide with the precise location proposed for the conduits, within the domains of the respective routes.
To do this, the layout will be re-planned planimetrically, and then their altimetric survey will be carried out.

The layout will be carried out by materializing the vertices of the route and intermediate points, using boundary markers. The latter will have the character of boundary markers.
The boundary markers will be made of hard wood, with a cross-section of 0.15 m x 0.15 m and a minimum length of 1.00 m. They will be driven into the ground with a capping depth of approximately 0.20 m, in such a way as to ensure stability and protection from possible displacements. A metal plate will be placed on the top of each marker, to which the planimetric and altimetric measurements will be referenced.

Each boundary marker will be identified with alphanumeric characters, using vermilion synthetic paint on a white synthetic background.

Each boundary marker will be marked at no less than three (3) existing fixed points, which will be painted and numbered with the alphanumeric characters corresponding to the respective boundary markers, and using the same color scheme as described above.

A monograph and location sketch will be prepared for each boundary marker vertex and documented in the plans.

The control polygon will be linked along its path to streets and highway centerlines, ensuring alignment with existing information.

The planimetric control polygon will also serve as altimetric reference, for which a closed geometric leveling will be performed in both directions. This will include elevation markings for the natural terrain and the tops of all boundary markers, as well as additional reference points at least every 100 (one hundred) meters. Furthermore, all topographic features and existing structures will be documented.

Starting points will be referenced to existing Fixed Points of the former Ministry of Public Works (M.O.P.) or the National Geographic Institute (IGN), provided the Contractor verifies their proper conservation status. Alternatively, closures may be established in relation to similar existing Fixed Points along the route, near it, or in the towns served by the Aqueduct.

The survey will be completed with the layout of normal sections to the control polygon axis, spaced no more than 200m apart in general, 100m in semi-urban areas and 50m in urban areas. Likewise, detailed tachymetric surveys will be conducted in the areas of intersection with paved routes or important rural roads, railways, rivers or canals.

The maximum tolerances for each operation will be the following:

Tolerances	Control Polygon	Profile Leveling
Angular	3" n0.50	5" n0.50
Linear	0.1 mL0.50	0.1 mL0.50
Altimetric	0.02 mL0.50	0.03 mL0.50

In relation to the Control Polygon, Fixed Points will be placed every 5 (five) km as a minimum. For their location, suitable places will be selected to prevent possible displacements.

The Fixed Points will be built of reinforced concrete with a diameter of 0.15 m and a length of 1.20 m. They will be driven into the ground, protruding 0.20 m in such a way as to ensure their complete stability. An iron stud will be placed on the top, with an identification number and the corresponding elevation.

Reference Framework: Basic provincial Geodetic Network linked to the National Geodetic Network POSGAR 94, WGS 84 reference ellipsoid, transformation of geodetic coordinates to plane coordinates in the Gauss Krüger Cartographic representation system adopted by the IGN, all referred to zone 5 with a central meridian of 60º.

AREAL SURVEY

In each plot of land intended for Booster Stations and Distribution Centers, a Fixed Point will be placed that has the same construction, placement, referencing and marking characteristics as those previously specified. These will include identification, in

addition to the reference of the land to which it corresponds. The aforementioned plots will be surveyed with a density of at least 12 (twelve) points per hectare. In addition, points will be recorded for all topographic features, and existing structures.

GEOTECHNICS

GENERALITIES AND STAGES OF THE RESEARCH

SITE RECOGNITION – COLLECTION OF BACKGROUND DATA

This task will be carried out by a professional team specialized in geotechnics, with the responsibility of preparing a report that shall include recommendations regarding the most appropriate type of investigation and marking the singular points that may require preferential study.

This on-site survey will be complemented by the collection of geotechnical data to aid in the development of the field research program to be implemented. Special attention will be given to the following data:

- Position of groundwater.
- Presence of soils with particular characteristics (compressible soils, filled areas, etc.)
- Availability of commercial quarries of selected soils or aggregates for the production of concrete and/or use in trench backfilling.
- Existence of borrow pits.

The development of the Works and Studies will be carried out in full compliance with the following Standards:

- IRAM 10500/1968: Sampling.
- IRAM 10501/1968: Methods for Determining the Liquid Index and Fluidity Index.
- IRAM 10502/1968: Methods for determining the plastic limit and plasticity index
- IRAM 10503/1958: Method for determining the relative specific weight (modified by ACT 75/06).
- IRAM 10504/1959: Shrinkage test method.
- IRAM 10505/1972: One-dimensional consolidation test method.
- IRAM 10506/1983: Method for determining moisture absorption humidity and bulk density of granular soils.
- IRAM10507/1987: Method for Determining Granulometry by Wet Sieving
- IRAM 10508/1984: Method for Testing the Permeability of Granular Soils
- IRAM 10509/1982: Classification of Soils for Engineering Purposes.
- IRAM 10510/1971: Definitions.
- IRAM 10511/1972: Laboratory Compaction Test Method (Modified by MOD 77/10).
- IRAM 10512/1977: Methods for Granulometric Analysis.
- IRAM. 10513/1958: Disturbed Soils. Manual Method for the Determination of Liquid Limit
- IRAM 10516/1968: Soil Recognition and Sampling Using Augers or Probes.
- IRAM: 10517/1970: Method for Determining Samples Using Longitudinally Open Core Samplers.

- IRAM 10518/1970: Method for Determining Unconfined Compression Strength in Cohesive Soils.
- IRAM 10519/1970: Laboratory Method for Determining Moisture Content.
- IRAM 10520/1971: Method for Determining the Relative Bearing Value and Swelling of Soils
- IRAM 10525/1982: Granular Soils.
- IRAM 10526/1975: Volumetric Methods for the Determination of in Situ Density
- IRAM 10527/1975: Methods for Determining the Load-Settlement Relationship of Vertical Piles
- IRAM 10528/1984: Method for Determining Bearing Capacity Using Static Loads.
- IRAM 10529/1985: Triaxial Compression Test Method in Unconsolidated and Undrained Cohesive Soils
- IRAM 10530/1988: Methods for Testing Permeability under Variable Loads in Cohesive Soils.
- IRAM 10531/1988: Method for Determining in Situ Permeability (using the Lefranc Technique).
- IRAM 10533/1983: Method for Penetrability Determination, by Pumping Test.
- IRAM 10534/1986: Method for Shear Test of Consolidated, Drained Soils.
- IRAM 10605/1988: Method for the Determination of Linear Deformation due to Swelling.
- ASIM 0-1557 91: Test Method for Determining Soil Compaction Characteristics of (Modified Proctor Test).
- ASIM 0-1586 58 T: Penetration Test

NUMBER OF INVESTIGATIONS

The ENOHSA regulations specific to sanitation works must be taken into account. The following minimum quantities are provided as indicative:

Intake works: a minimum of 2 water boreholes must be drilled near the location of the pumping chamber at the end of the pier, with a minimum depth of 20 m each, plus a borehole on the bank.

Conduction works: They will respect the maximum distances established by the ENOHSA regulations, for each diameter, and investigations must also be carried out at singular points such as road crossings, railway tracks, canals and streams, changes of direction, etc. The Inspection and/or Technical Management may eventually require the densification of the investigations.

Treatment plant, pumping stations, special crossings and cisterns: a minimum of 2 (two) perforations per structure is established, with variable depths between 10 and 20 m.

Although, from the point of view of the loads to be transmitted to the ground, the design of the pipelines poses virtually no geotechnical questions; the same does not apply when it comes to evaluating the construction methods to be used for the necessary excavations for conduit installation.

Consequently, the routes will be investigated through systematic explorations.

V*arious Structures*

The minimum number of investigations to be carried out on the sites intended for the construction of the various facilities will obviously depend on the occupied area and the characteristics of each plant.

The investigations will be strategically located, based on the locations planned for the main structures in the respective 'Layouts'.

The criteria for defining the depth of the investigations were described above.

EXECUTION OF COMPLEMENTARY GEOTECHNICAL INVESTIGATIONS

The implementation of these complementary determinations will be justified when, with the data obtained from the basic investigations described above, not all the project requirements can be met.

This circumstance will occur when the detected materials, or the geomorphological circumstances of the site, present singularities that justify a detailed study.

These Complementary Detailed Studies will imply in all cases only special laboratory determinations.

Since it is practically impossible to cover all the possible particular circumstances that may arise, the most frequent circumstances that usually occur are analyzed below:

Saturated soil.

In the presence of the water table at depths affected by the possible construction and/or excavations, the following special determinations may be required:

- Permeability test. (Standard E-l3 Bureau of Reclamation)
- Triaxial Compression Test under different conditions of saturation, consolidation and drainage. (Standard ASTM D-2850/E-17 Bureau of Reclamation)

Compressible Soils.

In the presence of low consistency soils that require a detailed analysis of their compressibility characteristics, the following complementary determinations may be necessary:

- One-dimensional consolidation test. (Standard IRAM 10.505/ASTM D-2435).

INVESTIGATION OF DEPOSITS AND SOURCES OF SUPPLY OF CONSTRUCTION MATERIALS

The search for sources of supply of materials for the construction of loose material works will, in the first instance, exhaust the possibilities of using the soils available at the construction site (soils from earthworks and/or excavations) and, in the event that this is not feasible, an inventory of existing quarries near each site will be conducted, with typical samples collected for laboratory characterization tests.

These tests will be limited to those strictly necessary to obtain the basic design parameters required by the various projects.

In summary, it is considered that, given the relatively small volumes of materials needed, it is not justified to carry out research aimed at finding new sources of supply of materials; It is advisable to adapt the projects to the characteristics of the soils at the site, or, as a second option, to the materials available in already inventoried quarries.

The laboratory tests to be carried out will be the following:

- Granulometric analysis by sieving. (IRAM 10512/ASTM D-422 Standard)
- Liquid and plastic Atterberg limits. (IRAM 10501/10502 Standard - ASTM D-4318/D-424 Standard)
- Proctor compaction test. (AASHO T-99 Standard)
- Triaxial compression test under different saturation, consolidation and drainage conditions. (E Standard) -17 Bureau of Reclamation)
- Permeability test. (Standard E-13 Bureau of Reclamation)
- Chemical analysis of aggressiveness. (DIN 4030 Standard - 'Assessment of soil and water aggressiveness' by O.S.N.)

TECHNICAL REPORT

The technical reports to be prepared based on the data and results obtained from the field and laboratory determinations carried out shall cover, at a minimum, the following aspects:

DESCRIPTIVE REPORT

This point should include the results obtained from the site recognition and background information gathering stage, justifying the work methodology finally adopted, explaining the circumstances by which they may have experienced variations during their implementation.

A detailed description of the research method(s) implemented, the number of explorations, their depth and their planialtimetric location in relation to the various elements of the project (network layout, treatment plant structures, etc.) should be included.

RESULTS OBTAINED

All the results obtained from the field and laboratory determinations carried out should be presented in graphs and spreadsheets suitable for this purpose.

For each determination, the standard and procedure followed during its execution will be indicated, carrying out a detailed analysis of the parameters obtained and the justification of the implementation of the complementary geotechnical investigations, being applicable to the latter, as previously indicated for basic investigations.

CONCLUSIONS AND RECOMMENDATIONS

In this part of the technical report, all the design parameters necessary for the execution of the project and the necessary recommendations for its correct implementation must be recorded.

Specifically, the following data must be recorded as a minimum:

Project of Foundations of Structures

- Description of the Geotechnical Profile in Each Location.
- Alternative Foundation Solutions (if any)

For Direct Foundations:
- Minimum foundation level compatible with the project requirements.
- Working stresses at different levels depending on the geometry of the foundation
- Vertical subgrade modulus for different depths (weighted values)

For Deep Foundations:
- Evaluation of the different pile alternatives: Precast driven, Cast-in-situ driven (with or without prior drilling), Excavated and cast-in-place etc.
- Estimated or minimum length of the piles (depending on the type of pile)
- Allowable load capacity by friction and by tip resistance.
- Horizontal subgrade modulus based on the depth and pile geometry.

In general, any other recommendation that is important for the implementation of the proposed solution: excavation methods, stability of the excavation walls, precautions to be taken in the presence of compressible or expansive soils, etc.; groundwater lowering systems, earth pressure diagrams for designing excavation retaining structures, etc.

In particular, the following data must be recorded:
- Stratigraphic profile.
- Groundwater level position.
- Dewatering systems.
- Excavation methods.
- Stability of the trench walls, depending on the excavation sequence.
- Precautions to be taken during the backfilling of the excavations.
- Etc.

PRESSURIZED PIPELINES

HYDRAULIC CALCULATIONS

Design Flow Rates

The final verification hydraulic calculations will be carried out according to the flow rates that will be provided in due course.

STEADY FLOW REGIME EQUATIONS

Calculations will be carried out based on the topography studied according to the previous requirements and the flow rates provided as data (see corresponding Annex) with a cover (with a minimum of 1.50 m), except for those sections that could be designed as a tunnel, respecting the minimum slopes in the pipes of 2‰ in the ascending sections and 4‰ in the descending sections.

The calculation in permanent regime must be carried out using the Hazen-Williams expression.

$$j = \frac{1}{(0.279.C)^{1.852}} \frac{Q^{1.852}}{D^{4.87}}$$

Where:

- j = Unit energy loss in the section considered.
- C = Hazen and Williams coefficient, depending on the roughness of the pipe (and, therefore, on the material).
- Q = Flow rate conducted in the section.
- D = Diameter of the pipe in the section considered.

This formula allows for the calculation of j (unit loss of energy) and when multiplied by the lengths of the sections, the total loss J (m).

The C coefficients to be adopted will be:

MATERIAL	***C***
PVC	140
HDPE	140
GRP	140
DUCTILE IRON	130

STEEL	1 3 0

HYDRAULIC CALCULATIONS IN STEADY FLOW REGIME

For each Aqueduct, the hydraulic sizing of the entire system must be verified, as well as the corresponding calculations and sizing for the devices and installations that must be planned along the pipeline.

The Contractor may propose changes in the constitutive materials of the pipelines indicated in the Official Project, taking into account the maximum operating pressures and maximum and minimum speeds indicated in the Official Project of the Work.

SELECTION AND LOCATION OF AIR VALVES

The control of air intake and release in the pressurized pipelines will be studied, considering that the emptying of the pressurized pipelines, whether deliberately caused (due to maintenance, operational requirements) or accidentally causes (such as possible collapses) introduces pressure variations.

In the pumping systems, in particular, accidental depressions that may occur because of power outages and the consequent cessation of pumping will be studied.

Air valves will be selected and located in such a way as to counteract the harmful effects of these depressions, which also implies the subsequent evacuation of air, once the normal operation of the pipeline is restored.

The following situations will be specifically considered:

- Normal emptying, which requires the installation of air intake valves at the high points of the pipeline. During the subsequent refilling, the air intake under atmospheric pressure conditions (zero relative pressure) will be assessed.

- Accidental emptying

- Depression caused by the negative pressure waves due to "water hammer". This is the case of pumping systems when the pumping equipment is started or stopped, with the latter causing greater variations. It is worth noting that in this case the necessary evacuation of air through the high points of the installation is carried out "under line pressure".

The problems that trapped air pockets can cause will be considered, which can be summarized as follows:

- They cause pressure losses that can be so significant as to impede flow.

- By moving in a completely random manner, they disrupt the flow regime, which can become oscillating.

- When they eventually find an outlet (for example, vents) they cause "water hammer due to sudden air release".

Pipelines will be designed in such a way that they allow the movement of air towards the high points, minimizing the erratic movement of trapped air pockets. This will be achieved following the most up-to-date regulatory guidelines that advise generating minimum slopes along the pipeline in order to achieve the desired effect; The following minimum slopes are recommended:

Ascending sections	2‰ (m/m)
Descending sections	4‰ (m/m)

"Air valves" shall be installed appropriately at high and intermediate points, considering all slope breaks and, if the distance between breaks so requires, at least one valve per kilometer shall be installed.

These valves shall be installed with the following criteria:

1. On ascending sections from pumps, to release and intake air.
2. At local peaks in the system.
3. At slope changes, particularly before and after steep gradients.
4. Every 800 to 1000 m. along uniform pipeline sections.
5. Locations identified as necessary based on transient flow analysis

The cases in which energy transfer from water to air can occur will be studied, taking into account the various operational scenarios that introduce this phenomenon, such as: valve closing and opening, pump startup, pumps shutdown, unstable pump operation, initial pipeline filling.

The study will analyze the effects of velocity variations within the pipeline and the resulting pressure fluctuations.

As seen in the list above, all these phenomena occur in maneuvers necessary for the proper management and operation of the resource, so they will be examined based on their frequency and not as an occasional incident.

Overpressures caused by these phenomena will be considered, as they may arise unexpectedly during hydraulic tests or at the start of pumping operations, where water columns impact air pockets with critical mass at high points. This will enable a cautious and precise design.

Particular attention will be paid to the verification of the selection and placement of the air valves, also considering the hydraulic tests.

For valves intended to release small air flow at working pressure, the following concepts will be taken into account:

The theoretical considerations that govern their design and that lead to calculating small holes in order to limit the "Water hammer induced by air escape" to predetermined values, modern criteria are being incorporated to ensure that the obstruction occurs gradually.

The air inlet valves will be selected in such a way that the incoming air flow is equal to the evacuated water flow, while the depression must not exceed a predetermined value.

It will be especially taken into account that the emptying flow is given based on the variable load that the liquid column presents on the outlet orifice, so it will also be variable, for which the following will be considered:

In effect, using the Hazen and Williams expression (to simplify the calculation), it is seen that, in the first approximation, and for the purposes of valve selection, a total energy loss ΔHmax can be considered. This value divided by the total length of the section under study (ΔLtotal) gives us the value of the "unit head loss":

$j = \Delta Hmax/\Delta Ltotal$

With the above expression it is possible to calculate the desired flow rate

$$\Delta H_{max} = \frac{\Delta L_{Total} \quad Q^{1,85}}{(0,275C)^{1,85} \; D^{4,85}}$$

Solving for Q, we obtain:

$$Q = 0,275\ C\ .\ j^{0,54}\ .\ D^{2,62}$$

The valves or parallel valves necessary to serve each section will be selected.

The cases of accidental voids due to possible collapses will respond to a similar calculation criterion, imagining unfavorable hypotheses for the critical sections of collapse.

The drainage chambers will be arranged in such a way that the collapse issue is conveniently limited within the anticipated case of deliberate drainage.

For the study of larger air inflows and outflows of atmospheric pressure, the following will be considered:

That this scenario will be considered whenever a pressurized pipeline is being filled.

It is evident that the filling maneuver must be carried out carefully, to allow the always difficult escape of air through high points (natural or specially design) where an air valve must invariably be placed to allow the evacuation of the air.

Rapid filling can lead to the formation of pockets, which, by not finding a quick exit, can give rise to the problems described and established in the corresponding technical report.

The European regulations specify a filling speed that does not exceed 0.05 m/s at full section.

This concept results from setting a maximum overpressure value $_{\Delta}$hmax, for the "Water hammer induced by the escape of the last air pocket".

Indeed, at the final stage of filling, when the pipeline is already pressurized, the escape of an air pocket can induce an overpressure:

$$_{\Delta}hmax = c\ U / g$$

Where U is the speed to be limited. If U is solved from the above and a $_{\Delta}$hmax of 5 m^3/d is established again, we obtain that:

$$U = g\ _{\Delta}h\ max / c$$

If we take into account that g is approximately equal to 10 m/s^2 and that for rigid materials c equals (also in terms of first approximation) approximately 1000 m/s, the maximum velocity so that an overpressure greater than 5 m^3/d does not occur will be approximately 0.05 m/s.

On the other hand, if the material of the pipe were flexible, adopting for that case a maximum value of c of 400 m/s, the maximum filling velocity will be 0.125 m/s.

The filling flow rate can then be established from the previous values at maximum speeds and multiplying these by the section of the pipe.

DETERMINATION OF PIPE TYPES BASED ON "Pressure Regulating Valve Stations"

As is well known, one of the methods of controlling the types of pipes in aqueducts consists of maintaining the static line through the proper design and location of both pressure sustaining and pressure reducing stations.

These stations will be equipped with valves, whose function, in one case, is to maintain the pressure at a predetermined value, to prevent reservoirs drainage or the interruption of the piezometric line at any point along the pipeline. In the case of pressure reducing valves, their function is to cause a dynamic head loss so that, at a specific point in the pipeline, the pressure remains at a fixed specified value, regardless of the flow rates being carried.

HYDRAULIC CALCULATIONS IN IUNSTEADY FLOW REGIME "WATER HAMMER"

The pressure variations produced by water hammers will be evaluated, and the installations will be designed accordingly, based on the following considerations:

Based on the operating conditions of the system, the calculation hypotheses for pressure variations in the pipeline will be formulated, considering the startup or the shutdown – whether gradual or sudden – of the electric pumps, as well as variations in the closing elements in the main line, in the branches, in the derivations, etc.

In all the situations to be examined, possible critical conditions will be raised, such as eventual out-of-service in branches, etc.

The set of examined situations will yield the pressure envelopes (maximum and minimum) defining the operating conditions of the Aqueduct System, such as startup and shutdown procedures for pumping units, as well as valve opening and closing sequences, etc.

In the first case (pressure variations) the Bidder will take the necessary precautions, according to the possible options:

- Design the pipelines and their complementary installations and other elements that may be affected by the phenomenon, with the necessary resistance for their correct operation throughout their useful life. It will also examine - if applicable - the fatigue of the materials.
- Reduce the pressure variations caused by the phenomenon, designing the necessary installations to achieve this objective.

In the second case, the Bidder will use the conclusions obtained to adjust the operating conditions, formulating the respective Program.

The maneuvers for complete stoppage will be studied, which necessarily involve maximum intensity water hammer effects, as the total transformation of kinetic energy into pressure energy becomes evident.

Nevertheless, simulations will be conducted for the different operational alternatives of the aqueduct as a whole, which will be compared to the maximum situation considered.

In all cases, the thicknesses of the pipes, previously determined during the study in steady flow regime and the selection of the materials, will be verified based on static considerations. The maximum pressures recommended for each material will be considered, against overpressures; and the minimum pressures considered acceptable by the manufacturers of the different materials, against depression in the pipes, whether in the main conduit, as in the branches and accessories.

The different cases in which the phenomenon can occur will be taken into account, namely:

- Closing and Opening of Valves.

- Starting of Pumps.
- Stopping of Pumps.
- Unstable operation of pumps.
- Initial filling of pipes.
- Simulation of operation with closure of branches in all possible combinations.

From the cases studied, the quantities and location of the anti-water hammer devices that must be placed for the correct operation of the system will be determined, presenting the corresponding calculations and justifications.

The necessary maneuvers for the adequate management and operation of the aqueduct will be analyzed and the most required conditions will be obtained to verify the types of pipes under these conditions.

Detailed studies will be conducted, and appropriate software must be used for this purpose.

STRUCTURAL CALCULATION OF THE PIPELINE.

DESCRIPTIVE REPORT OF THE THEORIES USED.

Reports that fully justify the calculation criteria imposed for the selected pipes according to the IRAM and international ISO, AWWA or ASTM standards as appropriate and presented by the pipe suppliers will be verified.

The following points will be justified:

a) Theory of external loads due to backfilling.

b) Theory of external loads due to traffic.

c) Theory of structural calculation of rigid and flexible pipes (as applicable)

TRENCH DESIGN

Considering the soil-pipe interaction that clearly arises from the theories presented in the previous point, the trenches will be designed for each section in such a way that the proposed pipes meet the calculation with the final covers and with the supporting soil data. The AWWA Standards will be followed in particular.

A verification will be carried out for each section or when changes occur in the installation conditions. The presence of groundwater in the corresponding areas will be especially considered.

CALCULATION

Based on the sizing of the trench, the characteristics of the soil, the evaluation of the external loads including - if necessary - traffic and the maximum working pressure, the preselected pipes will be verified for all the conditions that arise along the route.

ANALYSIS AND VERIFICATION OF INTERNAL STRESSES AND TRANSIENTS SIMULTANEOUSLY.

The entire pipeline will be verified by comparing the diagrams of maximum allowable pressures with the diagrams of maximum overpressures due to water hammer for the operational maneuver that the respective study shows is the most critical.

CONTENT OF THE PIPELINE PROJECT IN GENERAL.

In addition to the aforementioned technical and descriptive reports and the indicated calculations, complete data and calculation sheets will be provided to allow for a comprehensive understanding of the task. Summary sheets will be delivered to allow an easy and quick interpretation of the extensive information to be provided.

On the topographic planialtimetric maps, the corresponding piezometric lines for the longitudinal profile and the location of the valves and accessories will be drawn, as well as detailed and dimensioned profiles of the trench corresponding to each subsection.

The location of the pipe and its slopes will be carefully studied in order to ensure proper air evacuation and drainage.

FINAL SELECTION OF THE PIPE MATERIAL

The materials under analysis must comply with all the specifications accepted in the Bidding Document, demonstrate the economic advantage for the Administration - in the case of presenting alternatives to the Official Project - and have the express approval for its analysis and subsequent use.

For this purpose, it will be especially considered that a buried and pressurized pipe is subject to four stresses, namely:

a) Due to the internal pressure in the steady flow regime.

b) Due to the variable internal overpressure between positive and negative values in the unsteady flow regime (transient or "Water Hammer").

c) Due to the load of the backfilling material.

d) Due to the dynamic load of traffic.

With stress a) the pipe will be verified, which must then be compared with stresses b), c) and d).

Another variable to be verified is the one related to corrosive attack, which can be external or internal.

In the first case, the attack is always caused by the chemical aggressiveness of the soil and in the second, by the attack coming from the liquid that flows.

In summary, the concepts to be verified will be six, three of hydraulic origin, two due to the stresses caused by external load and those due to external and internal corrosive attacks. They involve:

1- Verification of the various flow rates that arise based on the actual internal diameters and the roughness coefficients of the different materials available in the market.

2- Verification of the internal working pressure in steady flow regime.

3- Verification or sizing considering the unsteady flow regimes ("Water Hammer" Study), both in rigid and flexible pipelines (positive and negative wave respectively), with the consequent selection and location of air inlet and outlet valves.

4- Verification or new sizing considering the loads due to the backfill, closely related to the design of the trench and the characteristics of the soil ("Soil-Trench" interaction).

5- Verification or new sizing considering the loads due to traffic (Related to truck types, cover, existence of pavements or not, etc. This calculation is generally performed together with the study of the previous stress).

6- Verification of external corrosive attack.

MANEUVERING AND CONTROL DEVICES

The selection of operating, drainage, air inlet and/or outlet volumes will be carried out considering their relationship with the water hammer phenomenon.

Once the type and location of the air valves have been defined, they will be selected and sized in such a way as to prevent overpressures due to water hammer induced by air escape.

For the drainage of the pumping pipes, the sections will be calculated, taking into account the similar concepts outlined above (Hydraulic Calculations).

Regarding Slopes and changes of direction, fulfilling the general concepts of point 7.1.1, the following will be carried out:

The layouts will be specified in such a way that minimum slopes of 2 ‰ (m/Km) for ascending sections and 4 ‰ (m/Km) for descending sections, in the direction of the flow, are verified.

If the topography presents very low slopes, a layout with breaks will be studied, in order to induce the required minimum slopes. If the section between slope breaks is too long, the installation of air valves will be planned at least every kilometer.

Changes in direction will be studied in order to design the corresponding anchors that allow absorbing the actions caused by permanent or transient drainage.

PUMPING; ADDITIONAL ASPECTS SPECIFIC TO PUMPING PIPELINES.

GENERALITIES

SUCTION ELEMENTS

The following aspects will be studied in detail:

I) Suction Bells
II) Suction Pipes
III) Check Valves
IV) Isolation Valves
V) Bends and Elbows
VI) Unions
VII) Joints
VIII) Converging Reductions
IX) Priming Devices

The suction bell will be selected to minimize the effect of high inlet velocities into the suction (vortices, air, etc.). It may be omitted for inlet velocities of less than 0.8 m/s.

The manufacturers' recommendations regarding pumping equipment as regards minimum submergence will be respected.

The diameter of the suction pipe will in no case be smaller than the diameter of the pump suction flange and must be equal to or greater than the diameter of the discharge pipe.

The design velocity of the suction will be at least 0.7 m/sec, to prevent eventual sedimentation in the pipeline. The maximum velocity will be limited by the selected pump, according to its ANPA (Net Positive Suction Head).

Elbows and special fittings will be avoided, as much as possible, in order to ensure the most direct entry into the pump.

The selected joint system must ensure the airtightness of the suction.

Air pockets will be avoided, so the upper generator of the suction will always be ascending until it reaches the pump, with a minimum slope of 2%.

When the minimum liquid level in the suction chamber does not ensure the total filling by gravity of the pump body, a "foot" check valve will be provided, immediately after the suction bell, to prevent the return of the liquid when pumping is stopped and to ensure the priming of the suction. When the expected minimum liquid level is above the pump, horizontal or vertical check valves, as appropriate, will be installed in the discharge pipe, immediately after the pump.

In the case of pumps located in dry chambers, below the liquid level in the wet chamber, a "sectioning valve" will be provided in the suction, to isolate each pump when maintenance work is necessary. Gate or butterfly valves with flange connections will be used to ensure perfect airtightness.

Elbows will only be installed in the suction when they are unavoidable, and their quantity must be kept to a minimum. Elbows will be "long radius" and cannot be installed directly on the pump's suction flange or mouth. A straight pipe section of length L > 2D will be placed between these elements, where D is the smallest diameter of the suction.

The connections of straight suction pipes with fittings and between them will be flanged connections, and respective dismantling and disassembly gaskets will be provided.

Special joints for disassembly and/or expansion must absorb stress due to temperature changes and vibrations and facilitate the disassembly of the installations.

When the suction pipe has a larger diameter than the "suction flange" of the pump, a "converging reduction" will be installed, connected directly to the suction flange, flared or conical with an angle between 10 and 30°

The horizontal axis reductions will be "asymmetrical" to prevent the formation of air pockets and their upper generatrix must align with the upper generatrixes of the pump's suction inlet and the conduit.

Whenever the pumps are above the liquid level to be suctioned, priming devices will be provided.

ELEMENTS OF THE DISCHARGE PIPES

General and detailed drawings of the discharge pipes will be presented, clearly identifying the following constituent elements:

- Discharge pipes
- Unions
- Diverging reductions
- Check valves
- Isolation valves
- Bends and Elbows
- Special Joints
- Air Intake and Relief Valves
- Drainage of the discharge pipe

Conical and concentric reductions will be diverging, and their placement will be foreseeing after the discharge flange and with a length such that the angle at the center does not exceed 8 to 10 m, in order to minimize the effects of boundary layer separation.

An isolation valve, of the gate or butterfly type, will be incorporated in order to isolate the pump for maintenance or disassembly tasks. When there is a check valve in the discharge, it will be placed between the pump discharge and the isolation valve.

For the bends, elbows and special joints, the same considerations apply as those set forth for the suction.

For the drainage of the discharge line, a pipeline with the corresponding drain valve will be provided, following the guidelines established herein.

UNSTEADY FLOW REGIME IN DISCHARGE PUMPS

For the analysis in unsteady flow regime, specialized software will be used for the study and design of the aqueduct installations. This software must not only be capable of simulating valve closures with any law, pressure regulation stations, and all types of singularity, but must also allow for the study the transients generated in the system due to the shutdown of the pumping equipment.

The results must be graphable by using the software itself or by exporting them to plot the envelopes of maximum and minimum overpressure. The delivery of the editable software file is mandatory.

PUMPING CHAMBERS

SELECTION AND DESIGN FLOW RATES

The Contractor must thoroughly study the design flow rate of the pumping chambers, in order to optimize both the selection of the most suitable pumps, as well as the Design and Calculation of their Useful Volume.

PUMP SELECTION

The pumps will be selected, taking into account their characteristic curves.

The preselection of the pumps will be based on the specific number and the manufacturers' charts, while the fine selection will be based on the "Operating point".

The fine selection of the pumps will be made based on the 4 characteristic curves provided by the manufacturer in its technical information.

The main characteristic (H-Q curve) for the nominal number of revolutions will be considered, accompanied by the performance, absorbed power and ANPA (Net Positive Suction Head) curves.

Once the most suitable type of pump is known, the manufacturer will be asked for the characteristic diagrams of the pumps suitable for the project conditions.

Finally, it will be verified, in all cases, that, for these installation conditions, the pump operates with an adequate performance value and that cavitation does not occur, for this, the suction height must be less than the limit height.

In summary, the pumping equipment will be selected taking into account the manufacturer's specifications, namely its characteristic curves (H - Q, - Q, N - Q, ANPA - Q) compatible with the H - Q curve of the installation, to determine the operating points of the pumps working in parallel. This will enable the calculation of the actual discharge flow at each operation stage and the most accurate calculation and design of the "anti-hammer" installations, as well as the correct selection of the pumping equipment to be used.

SIZING OF THE PUMPING CHAMBERS

The hydraulic calculation of the chambers will be carried out taking into account the recommendations of the "HYDRAULICS INSTITUTE" and those arising from the correct fluid flow dynamics to minimize vortex formation.

Decisions will be made on the type of chamber to be adopted, based on the study of structural optimization, in relation to the type of pumps to be selected.

In particular, the hydraulic design will take into account:

- The need to design the chamber in such a way that it offers the most uniform possible drainage to the suction bells.

- The number of pumps and their arrangement in the chamber will be determined.

- Minimum submergence levels will be verified by studying for them the unusable "bottom volume" necessary to achieve the required submergence.

- The geometric shape of the chamber and the way in which the water enters will be exhaustively studied.

- The generation of separation zones of the "Boundary Layer" will be minimized in the design.

- The minimum useful volume of the chamber will be studied and calculated, so as not to exceed the maximum allowable startup frequency per hour of the motors, considering the most modern calculation criteria.

- The type of pump and motor location will be analyzed, as well as their dimensional and weight characteristics, for the purposes of geometric and structural design.

- The design will incorporate the specifications of the Hydraulics Institute, fluid dynamic design criteria compatible with cost efficiency, and the specifications of the pump and electromechanical equipment suppliers.

- The useful volume of the chamber will be determined by using the most suitable methods available, with particular attention to the specifications regarding the number of startups allowed by the selected equipment.

Emergency Bypass

For each pumping station, the feasibility of designing a pipeline between the inlet and outlet pipes of the station will be studied.

Such pipeline will be examined with the objective of diverting flows lower than the design capacity in case of temporary station shutdowns.

Chlorination

The Bidder will define and justify the need or not for chlorination of the water along the aqueduct in such a way as to guarantee adequate water quality throughout its length.

TANKS

Treated water reservoirs are units designed to compensate for hourly variations in consumption and to ensure a steady supply of water to the distribution networks in cases of emergency, providing the necessary water and maintaining the predetermined service pressures.

The designer must consider the execution of storage tanks designed in such a way as to comply with the storage volume required in the specifications.

In general, tanks are the last component of the aqueduct system, from which the agencies responsible for the distribution of drinking water must pump the liquid to the cistern or distribution tank available in each town.

The design will be complemented with the auxiliary elements that are usual for this type of units:

a- Horizontal and vertical accesses and circulations
b- Pipes for the inlet and outlet of drinking water, By-pass
c- Overflow and cleaning
d- Ventilations
e- Lighting and beaconing
f- Protections and fences
g- Chambers for housing maneuvering elements
h- Commands and control of auxiliary flow measuring and monitoring systems

In general, the following tasks will be carried out:

a) Determination of the most adequate capacities that ensure the necessary reserves and reasonable cost efficiency, taking into account in this case previously existing storage capacities in each town.

b) Analysis of internal baffles to achieve proper water circulation, avoiding low-velocity or vortex zones, with general plans indicating their location.

c) Design of inlets and outlets, pipe layouts, valves and connections with the corresponding plans.

d) Calculations of Reinforced Concrete structures, including calculation reports, structural plans and bending schedules. (See "Structures").

e) Sizing of general service installations and accessories with the respective plans.

Once the buildings for housing the electromechanical installations are established – when applicable –, including personnel protection, restrooms, etc., the landscaping of the free spaces between such buildings, parking areas for personnel and visitors' vehicles will be designed, in accordance with the Specific Technical Specifications and project plans.

SPECIAL INSTALLATIONS

The structures will be designed, and the equipment and devices will be conveniently selected. For all special installations, plans, sketches, diagrams and reports must be submitted to enable the construction and installation of chambers, equipment and devices, including:

a) Chambers for pressure regulating valves and special valves ("Smart" or state-of-the-art valves).

b) Drainage chambers.

c) Chambers for air valves and sectionalizing valves.

d) Aqueduct anchors at singular points (curves) and connections with fittings - branches, derivations, various devices and valves.

e) Details of branches, transitions and valve connections.

f) Electrical equipment plans for potential electro-actuated valves that may arise from the selection process and the devices to be studied in the corresponding items.

g) Pressure regulating valves and all types of "Smart Valves"

h) Accessory installations of the works in general.

The Bidder shall incorporate into the design of the Pumping Stations, Cisterns, etc. the Complementary Installations that are briefly listed below:

Fire Protection

Each case shall include the necessary elements to quickly combat fire hazards. The respective equipment shall comply with the applicable IRAM Standards.

Acoustic Protection

The installations designed must take into account the noise produced by moving elements. The expected noise level must be limited based on:

- The health of the operators.

- The perception of noise from adjacent or nearby residences

Designs with noise levels higher than 80 (eighty) decibels will not be accepted. In this sense, Bidders are advised to consider foundations that can absorb the normal vibration of the machines, in addition to designing such foundations independently of the structure of the room in which they will be housed. If such provisions are insufficient to reduce the sound level to the maximum set, the Bidder will design coverings or propose other solutions that meet such requirements.

Ventilation

When the Pump Room is underground, or when the heat generated by the motors that drive the pumps so requires, the Bidder shall design a forced air renewal system.

Air circulation may be provided by means of extractors, or by fans that inject the air, or by a combination of both methods.

If the maximum temperature at the operator level exceeds 35 ºC, under critical weather conditions, the Bidder will provide forced air renewal.

Functionality

The design of the pumping stations and other rooms housing equipment or other installations that are visible, subject to inspection and maintenance (general, preventive or corrective), shall be developed based on - among other conditions - the following:

- Dimensions must allow easy Circulation around the equipment and also provide space for component placement during maintenance disassembly.
- Ceiling heights shall be determined by the need to move the largest components of the equipment.
- Rooms must be arranged to minimize unnecessary operator movements and must have – if applicable – comfortable stairways and appropriate safety elements.
- Doors must have adequate dimensions for the passage of the component parts of the equipment. At least one of the entrances to the Pump Room - if applicable - must allow the access of trucks to carry out the transfer of heavy loads.
- Underground structures will be designed with insulation to prevent moisture or groundwater infiltration.

- Sanitary drainage systems will be designed to eliminate any risk of contamination of the potable water.
- The planimetric position of the windows shall prevent any risk of breakage due to operational movements.

STRUCTURES

The structural design and resizing will be carried out in such a way that the resulting structures can resist all the stresses corresponding to the construction and service stages foreseen in the calculations, with a degree of safety appropriate to the use for which they are intended throughout their useful life.

All Regulations drafted by INTI - CIRSOC (National Institute of Industrial Technology - Research Center for National Safety Regulations for Civil Works) that were incorporated into SIREA (Argentine Regulatory System) will apply, as well as the corresponding IRAM and IRAM-IAS Standards.

Regulations, Recommendations and Calculation Aids published by international recognized institutions, such as D.I.N., C.E. B, F.I.P. and A.C.I., shall be used when applicable, provided that they do not establish requirements lower than those specified in the current SIREA Regulations, and as they do not present any incompatibility with the hypotheses and conceptual structuring adopted therein.

The Project documentation shall provide all the necessary elements to understand the structural design, the loads to which it will be subjected, its sizing, resistance, stability and durability, the constituent materials and the alternative construction processes that could be used for its execution.

The elements of analysis referred to in the previous paragraph will be compiled and described in the following documents:

I) Descriptive Report.
II) Structural Calculations Report.
III) Soil Study Report.
IV) Technical Specifications Document.
V) General Plans, including concrete sections, steel quantities, construction joints, expansion and contraction joints and any other element necessary for the correct interpretation of the pre-dimensioned structure.
VI) Construction Stages Plan.

The Execution plans shall clearly indicate the following, as applicable:

i) Types of steel to be used.
I) ii) Characteristic strength of concrete.
II) iii) Type of cement to be used.
III) iv) Maximum water-cement ratio.

If uncommon procedures are used, the Calculation Reports shall include the corresponding references and bibliographic data.

Valve chambers shall be designed to function as an anchor for the pipe against unbalanced forces when the valve is in closed position. These forces will be determined based on the trench test pressure and shall be balanced by the passive soil thrust, using a safety factor of 2 and, if necessary, the bottom restraint with a safety factor of 1.5.

All the Chambers shall be properly marked, so that they can be easily detected along the route of the Aqueducts.

ELECTROMECHANICAL EQUIPMENT AND INSTALLATIONS

ELECTROMECHANICAL INSTALLATIONS

The project shall include the design of electric power transmission lines and, if necessary, transformer substations to achieve the voltages and powers levels required by the project finally adopted, both for the pumping stations, treatment plant and intake works, which must be developed to the full satisfaction of the EPE.

For the electrical engineering of the works in particular, the Project shall define through plans, technical specifications and calculation reports the following:

a) Single-line diagram of the plant with determination of the nominal currents, maximum and minimum nominal voltages, auxiliary service voltages.

b) Calculation report for the power supply network, determining short-circuit levels, and the planned protection systems.

c) Technical specifications switchboards and local control panels.

d) Equipment location plan within the station.

e) Definition of the electrical components, type of circuit breakers, disconnectors, contactors, fuses, etc.

f) Technical specifications defining motor characteristics and start-up type. For overpower conditions, the API standard criteria will be used.

g) Calculation report with determination of power cable sections and the type of wiring for control and command.

For detailed engineering, the project shall precisely define the equipment to be installed and the particular characteristics of its assembly.

The documentation to be revised and the new documents to be prepared shall be:

a) Single-line and three-line diagrams.

b) Functional diagrams of command, control, signaling and interlocking.

c) Numbered terminal block diagrams for equipment connection.

d) Cable schedules for servicing and interconnecting equipment.

e) Equipment layout with location of boards and panels inside and outside the building.

f) Plans and details of the grounding grid.

g) Electrical conduit plans.

h) Location of lighting fixtures and outlets.

i) Materials calculation.

The calculation reports will include:

a) Short circuit analysis

b) Grounding system design

c) Protection and selectivity analysis.

d) Interior and exterior lighting calculations.

e) Cable calculation and sizing.

Whenever possible, the plans shall be prepared in a standardized format that allows their use both in the engineering office and on site. A1 – A3 sizes shall be adopted as appropriate.

The functional and terminal diagrams shall be executed in A3 size. The technical specifications, calculation reports and material calculations shall be executed in A4 size of the IRAM Standard.

The calculation reports will have the contents indicated below, their objective, scope, calculation assumptions, calculation development and conclusion. They will include the necessary graphics and drawings for better interpretation.

The technical specifications will clearly define the technical methodology for the execution of the works or the required method for supplying the equipment. The technical specifications will follow a structure similar to that of the calculation reports and will include the following sections: objective, scope, general characteristics, specific characteristics, and testing.

The electrical installations will be carried out following the requirements of the standards regulations applicable to industrial works such as IRAM (Argentine Institute for Rationalization of Materials), IEC (International Electric Commission) NEMA (National

Electrical Manufactures Association), ANSI (American National Standard Institute), VDE (Verband Deutscher Elektrotechniker), CEI (Comitato Electronico Italiano). They will also be complemented with the requirements of the "Regulations for the execution of electrical installations in buildings" of the Argentine Electrotechnical Association.

The cables will be sized by admissible load according to the tables of the "Regulations for the execution of electrical installations in buildings" of the Argentine Electrotechnical Association and/or those supplied by recognized cable manufacturers.

The values obtained will be adjusted by the correction factors for temperature or soil resistivity, and grouping and type of installation (overhead or underground).

The cables will be verified for voltage drop and short circuit.

The interior lighting will be designed taking into account the basic concepts of illumination level, shadow formation and light incidence, uniformity within the facilities, uniformity over time, absence of glare, light color and color rendering.

The work plane will be set at 0.85 m above the finished floor level. The lighting calculation will specifically consider the estimated maintenance level for the pumping station. The interior installation will include an emergency lighting system.

The exterior lighting will be three-phase, alternating the supply to each pole across the different phases. The illumination level in the work will be no less than 20 lux. Each pole will have its own grounding system.

For motor selections, and their starting methods, the limitations or requirements set by the electrical service provider will be taken into account.

Motors will comply with the conditions indicated in the IRAM 2008 standard, and will be of standard manufacture to ensure spare part availability.

The noise level of the pumping station will not exceed the values indicated in the IRAM 2259 standard.

The valves installed in the aqueduct as well as the booster station will be selected according to the criteria indicated in the AWWA standards.

For hydropneumatic tanks and any other non-standard accessories subjected to internal pressure, the ASME standard Section VIII will apply.

Steel piping and special parts will be designed according to AWWA and ANSI standards. The interior surfaces of special steel pipes will undergo sandblasting followed by epoxy painting approved for sanitary use.

Considering the feasibility of operating the aqueduct through a remote supervision system, the instrumentation to be selected will allow macro-measurement of the volumes of water delivered, as well as control of the hydraulic performance of the system.

The engineering required for the procurement and installation of electrical panels, instrumentation, switching devices, motors, etc. will be provided, as well as the guaranteed data sheets for all equipment.

Short-circuit calculation will be carried out according to the VDE 0103 standard.

The methodological aspects related to this equipment and installations are detailed below.

ELECTRICAL EQUIPMENT AND ELEMENTS

The electrical equipment and elements (panels, push-button motors, level switches, etc.) will be selected based on each specific application, taking into account the following factors:

- Location (outdoor, indoor, etc.)
- Characteristics of the environment,
- Degree of mechanical protection required

Regarding electric motors, they will be specified as standardized by IRAM, with synchronous speeds preferably not exceeding 1500 rpm and with an overload factor appropriate to the power range.

Flor electric panels, the design will be carried out at a single-line level, specifying the command and control functions in the specific technical specifications outlined in the bidding documents.

MECHANICAL EQUIPMENT

This equipment items may fall into three categories: mass-produced equipment, equipment manufactured upon request based on the manufacturer's design and equipment to be designed by the Contractor.

Commercial mass-produced equipment will be selected from a catalogue and specified accordingly, along with the required performance tests and guarantees.

The equipment to be designed by the manufacturer will be adequately specified by the Contractor, defining the expected results, the performance tests and the guarantees to be met.

The equipment to be designed by the Contractor will be designed in accordance with the IRAM standards that apply in each case or, failing that, in accordance with the usual design standards in each field of application.

OPERATION AND MAINTENANCE MANUALS

The Bidder must submit a detailed program of all the Operation and Maintenance actions of the equipment and installations that form part of the system.

AQUEDUCT OPERATION MANUAL

The operation of a system refers to the set of external actions performed on the facilities and equipment, without altering their nature or their constituent parts, that are necessary to ensure its proper functioning.

Below are the main operational aspects to be considered. These should not be regarded as exclusive but rather as indicative and comprehensive of the overall scope of the project.

1) Preliminary considerations. Project objective.

2) General description of the project. (including future construction phases).

3) Steady-state hydraulic operation. Exploration alternatives. Operational imitations.

4) Unsteady-state hydraulic operation. Filling and emptying of the pipeline.

5) Remote supervision system operation.

6) Operational infrastructure.

7) Operation in emergency situations.

8) Operation of auxiliary facilities.

9) Operating instructions for each of the systems and pieces of equipment within the project.

10) General safety regulations that must be met by the personnel and specific safety standards for equipment requiring special procedures.

11) A complete set of as-built drawings.

The Operational program to be submitted must include a detailed description of the actions intended for:

System Startup Procedure

It must describe at least the following aspects:

- Filling process
- Disinfection procedures
- Measurement and control instruments, indicating location, operating mode, information records, etc.
- Auxiliary elements, air valves, shut-off valves, etc., indicating location, opening and closing times – if applicable – inspections to which they will be subject, etc.

Aqueduct Operation

An operating program, indicating all the operations necessary for the correct operation of the system, whether normal or emergency operations, will also be required.

Personnel

The personnel necessary for the execution of the work indicated in the previous point will be detailed, including the characteristics of the personnel, training and specialization courses for them.

Supplies

A comprehensive report detailing all necessary supplies will be presented for proper system operation.

PUMPING STATION OPERATION

1) General description of the pumping stations.
2) Justification of their location along the route. Operating limitations, water hammer, cavitation, etc.
3) Automatic operation of the station. Manual operation.
4) Description and operation of the electromechanical equipment.
5) Description and operation of the anti-water hammer system.
6) Description and operation of the auxiliary systems.
7) Emergency operation procedures for the booster station.

VALVES OPERATION.

1) Description and justification of the flow and pressure regulating stations.
2) Operation of these stations.
3) Justification and operation of air valves.
4) Justification and operation of pipe drain valves.

JUSTIFICATION AND OPERATION OF RESERVE TANKS.

1) Description and location of reserve tanks.

2) Operation of these tanks. By-pass and derivations.

3) Control instrumentation. Level control valves of tanks.

MAINTENANCE MANUAL.

This manual will be independent and separate from the operations manual.

Maintenance Program

The Maintenance Program of all the equipment and installations that are part of the Aqueduct must be presented, to guarantee its correct operation.

The Contractor must submit a General Maintenance Plan, including specific repair tasks for defects of any kind, tasks aimed at introducing an improvement or correcting a defect in any installation or equipment, and a Preventive Maintenance Plan, with an appropriate classification of installations, equipment and their maintenance standards.

The Preventive Maintenance Plan will consist of a schedule for a period of one calendar year, including each and every one of the interventions that must be carried out in the different units.

Workshops

Depending on the tasks inherent to preventive maintenance that need to be carried out throughout the useful life of the system, the Contractor will design the Maintenance Workshop.

The Maintenance Workshop will be equipped in order to meet the objectives pursued. The Bidder must detail the specialized labor required for them, as well as the equipment, instruments, tools, mobility, etc.

Spare Parts

The Maintenance program must include the replacement materials that will be necessary throughout the useful life of the Aqueduct. The spare parts warehouse will be installed together with the Maintenance Workshop.

In the Supplementary Terms and Conditions and other contractual documentation the minimum required spare parts provided by the Bidder are specified. The Bidder must submit a specific proposal in this regard.

Storage Facilities

The design of the Operations Center will also include storage facilities for pipes, special fittings, valves, etc.

Maintenance Manual Contents

The main contents of the Maintenance Manual are listed below, which should be considered as indicative and comprehensive, rather than exclusive to the overall project scope.

1) Pipeline maintenance. Justifications.

2) Preventive maintenance plan.

3) Maintenance of civil works. Structures and unique sections along the layout.

4) Leak control.

BOOSTER STATION MAINTENANCE.

1) Maintenance of electromechanical installations.

2) Maintenance of auxiliary station equipment.

3) Maintenance of civil works.

VALVE MAINTENANCE

1) Maintenance of reducing/regulating valves

2) Maintenance of electromechanical valves.

3) Maintenance of air intake/release and drain valves.

MINIMUM DOCUMENTATION REQUIREMENTS.

The manual will contain the following minimum documentation:

1) Preventive maintenance schedule.

2) Plans and exploded drawings of the main equipment.

3) Instructions for disassembly, adjustment and calibration.

4) Troubleshooting guide and possible solutions.

5) Physical inventory and record of all equipment and installations in the work, together with the technical information necessary to facilitate their maintenance.

6) A complete set of as-built drawings.

7) Safety regulations for maintenance personnel.

In general and as a guiding criterion for the preparation of both manuals, all recommendations and definitions adopted during the execution of the work by both the Contractor and the Inspection and Technical Management will be included.

For the equipment, the recommendations issued by the manufacturers and suppliers will be followed.

The documentation will be completed with as-built drawings, calculation reports and all other relevant technical information necessary for the intended purposes.

BOOSTER STATION MAINTENANCE.

1) Maintenance of electromechanical installations.

2) Maintenance of auxiliary station equipment.

3) Maintenance of civil works.

VALVE MAINTENANCE

1) Maintenance of reducing/regulating valves

2) Maintenance of electromechanical valves.

3) Maintenance of air intake/release and drain valves.

MINIMUM DOCUMENTATION REQUIREMENTS.

The manual will contain the following minimum documentation:

1) Preventive maintenance schedule.

2) Plans and exploded drawings of the main equipment.

3) Instructions for disassembly, adjustment and calibration.

4) Troubleshooting guide and possible solutions.

5) Physical inventory and record of all equipment and installations in the work, together with the technical information necessary to facilitate their maintenance.

6) A complete set of as-built drawings.

7) Safety regulations for maintenance personnel.

In general and as a guiding criterion for the preparation of both manuals, all recommendations and definitions adopted during the execution of the work by both the Contractor and the Inspection and Technical Management will be included.

For the equipment, the recommendations issued by the manufacturers and suppliers will be followed.

The documentation will be completed with as-built drawings, calculation reports and all other relevant technical information necessary for the intended purposes.

TRAINING COURSES

Among the obligations of the Contractor, is the Training of the Principal's staff, in the Operation and Maintenance of the entire Aqueduct System.

WORK PLAN

A detailed Work Plan must be submitted, including the methodological concepts outlined in the proposal, which will be analyzed in greater depth.

The tasks that make up both stages and that will be developed over time, based on the schedule to be proposed, will be detailed in it.

DOCUMENTATION. QUALITY CONTROL

Once the reports been processed and the necessary drawings and documents to prepared, they will undergo a final review, before submission to the Principal.

This review will include all the concepts that make up the report prepared, including the formal aspects of presentation, supervising partial and final results achieved and verifying that it contains all the required and/or committed documentation.

To this end, the Project Management team must have the necessary support from the different work areas, setting up a specific Quality Control group. The methodology for quality control must be clearly defined in the bid.

HUMAN RESOURCES, EQUIPMENT, MATERIAL RESOURCES AND WORK PLAN

WORK TEAM - CONSULTANCY

The bidder must specify its professional team that will develop the Executive Project, in the event of being awarded the contract. The following minimum roles must be included, along with the background information of its managers and immediate collaborators.

PROJECT MANAGER
SPECIALIST IN PIPELINE HYDRAULICS
SPECIALIST IN STRUCTURAL CALCULATIONS
SPECIALIST IN TOPOGRAPHY (2 at least)
SPECIALIST IN MATERIALS TECHNOLOGY
SPECIALIST IN GEOTECHNICS

SPECIALIST IN PUMPING STATIONS – ELECTROMECHANICS
SPECIALIST IN HYDROLOGY – FLUVIAL EROSION
SPECIALIST IN AUTOMATION AND REMOTE CONTROL – FIBER OPTICS
SPECIALIST IN ENVIRONMENTAL STUDIES
SPECIALIST IN ELECTRICITY AND HIGH VOLTAGE LINES
SPECIALIST IN CIVIL WORKS SUPERVISION AND METRIC COMPUTATIONS
QUALITY CONTROL MANAGER

Additionally, the Consulting Firm must also provide background information including experience in aqueduct projects, treatment plants, pumping stations, intake works, automation, teletransmission, and electrical networks, for projects exceeding $ 1,000,000,000 (at current values). A principal certification or satisfaction note must be included in each case.

In the evaluation of human resources, the Project Director and key personnel will be assessed separately. The evaluation criteria will include for all members: years of experience in the profession, educational background and specialized training, and specific work history. In the case of the director, the background in leading multidisciplinary teams in works similar to this one will also be evaluated.

Before starting the Project tasks and at the time of assigning professional role: Project Director, Specialists and collaborators, the Work Orders or Legal Receipts established by the corresponding Professional Councils or Associations, through which the assignment of the pertinent professional works is formalized, must be submitted to the Works Inspection; all of this in accordance with Provincial Laws No. 2429 and 4114 and 11008 and Resolution No. 366 of the MOSPYV and any other legal provision modifying or supplementing them.

If, within forty-eight (48) hours of receiving the work, the Contractor does not present the proof/s of compliance referred to in the previous paragraph, the acting Agency will inform the corresponding Professional Associations of such non-compliance.

The Contractor's failure to comply with the above requirements may result in the final rejection of the works.

MATERIAL RESOURCES

A complete list of the resources available for carrying out the specified works must be submitted, including equipment, mobility, office location, software available and to be provided to the Principal, etc.

WORK PLAN FOR THE PREPARATION OF THE EXECUTIVE PROJECT AND DETAIL ENGINEERING

A work plan for the execution of the Executive Project and Detail Engineering must be submitted with all the requirements specified in this documentation as part of the Bid. This plan must ensure the correct execution of the works and compliance with the construction deadlines.

PLANNED PERMITS

The Contractor shall bear in mind that any permits from National, Provincial, Municipal or Communal Departments or Companies in relation to land, structures, installations, etc. that already exist and are affected, will be managed at its own expense. The costs of its management include the preparation of all necessary documentation in accordance with the granting authority requirements, management and approval fees, tariffs and/or other expenses arising from the permit issuance. These expenditures are considered included in the Bid Budget and will not be subject of any kind of extra compensation and may be specified as direct expenses within the net cost of the items involved or the specific cost if applicable.

The Contractor must initiate the procedures for obtaining the required permits referred to in this article and may not begin the work without the official authorization of the competent authority.

For such purposes, such procedures must be managed well in advance to prevent any delay in the progress of the work.

The Contractor, with prior knowledge of the Inspection, will manage with the Companies or Organizations providing public or private services, the removal and/or relocation of those installations that make the work impossible or obstruct it.

In no case may the Contractor remove or relocate any installation without the prior consent of the Work Inspection team.

In addition, the Contractor will bear full responsibility for all necessary procedures related to service infrastructure and/or installations that must be carried out for the execution of the work, for example the adaptation of the frame levels and covers of chambers or inspection openings, the reconstruction of these if necessary; for this purpose, the current regulations and corresponding plans of the existing and/or to be installed installations must be requested from the corresponding companies providing the public services of Potable Water, Telecommunication, Electricity, Gas, and/or any other public or private entity that occupies the public space, whether aerial, surface and/or underground.

ANNEX XVI

PROGRESS TABLE

ITEM	DESCRIPTION	UNIT	QUANTITY	UNIT PRICE	TOTAL
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
TOTAL					$

TOTAL LEVEL OF PROGRESS %
TOTAL LEVEL OF PROGRESS $

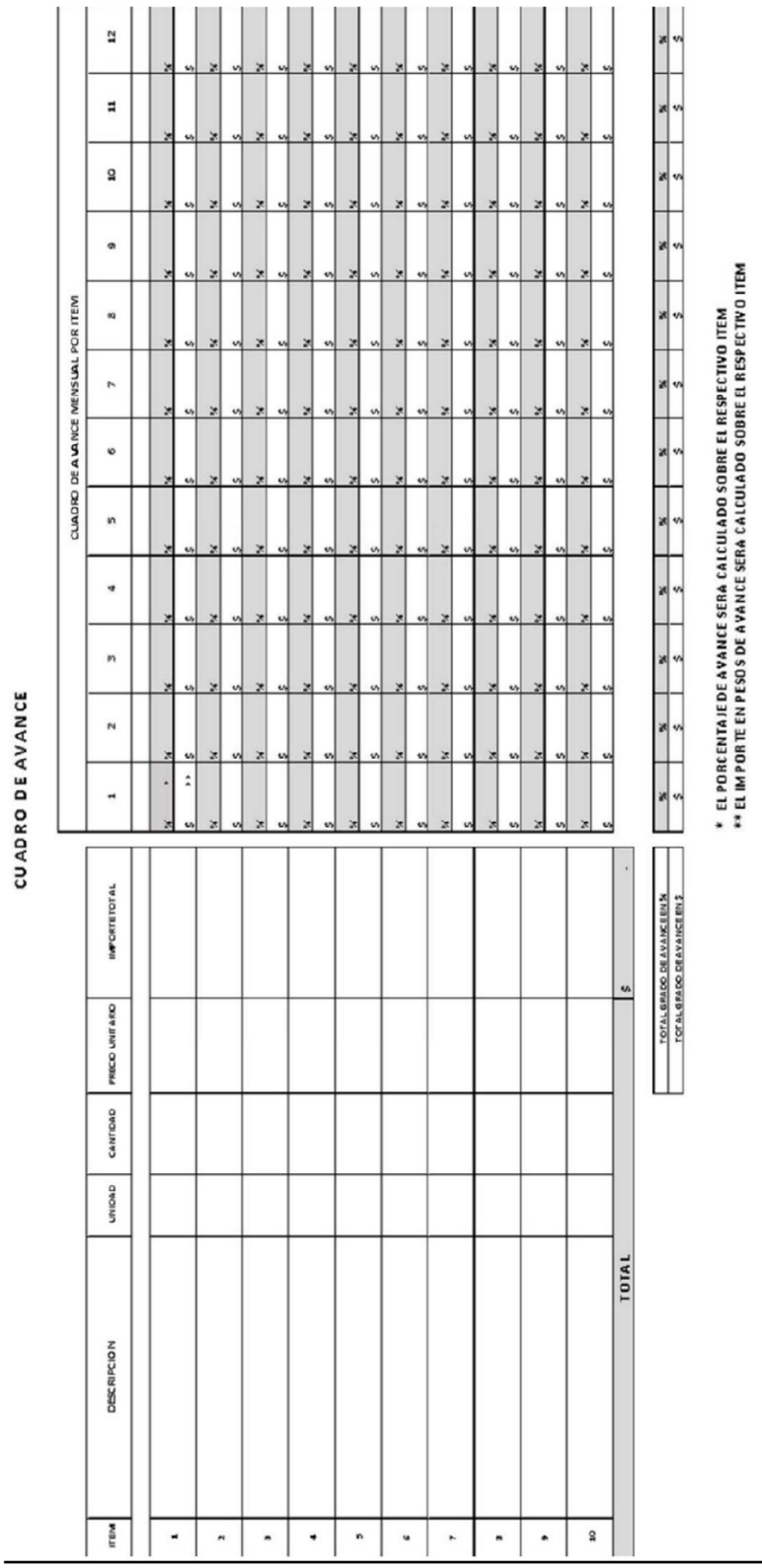
Table of Monthly Level of Progress											
1	2	3	4	5	6	7	8	9	10	11	12
%	%	%	%	%	%	%	%	%	%	%	%
$	$	$	$	$	$	$	$	$	$	$	$
%	%	%	%	%	%	%	%	%	%	%	%
$	$	$	$	$	$	$	$	$	$	$	$
%	%	%	%	%	%	%	%	%	%	%	%
$	$	$	$	$	$	$	$	$	$	$	$
%	%	%	%	%	%	%	%	%	%	%	%
$	$	$	$	$	$	$	$	$	$	$	$
%	%	%	%	%	%	%	%	%	%	%	%
$	$	$	$	$	$	$	$	$	$	$	$
%	%	%	%	%	%	%	%	%	%	%	%
$	$	$	$	$	$	$	$	$	$	$	$
%	%	%	%	%	%	%	%	%	%	%	%
$	$	$	$	$	$	$	$	$	$	$	$
%	%	%	%	%	%	%	%	%	%	%	%
$	$	$	$	$	$	$	$	$	$	$	$
%	%	%	%	%	%	%	%	%	%	%	%
$	$	$	$	$	$	$	$	$	$	$	$
%	%	%	%	%	%	%	%	%	%	%	%
$	$	$	$	$	$	$	$	$	$	$	$
%	%	%	%	%	%	%	%	%	%	%	%
$	$	$	$	$	$	$	$	$	$	$	$

%	%	%	%	%	%	%	%	%	%	%	%
$	$	$	$	$	$	$	$	$	$	$	$

* THE PERCENTAGE OF SURPLUS WILL BE CALCULATED FOR EACH ITEM

** THE NUMBER OF SURPLUS PESOS WILL BE CALCULATED FOR EACH ITEM

Bidder
Name, signature, and explanatory stamp
Real address



CUADRO DE AVANCE

ITEM	DESCRIPCION	UNIDAD	CANTIDAD	PRECIO UNITARIO	IMPORTE TOTAL
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
	TOTAL				$ -

CUADRO DE AVANCE MENSUAL POR ITEM

	1	2	3	4	5	6	7	8	9	10	11	12
1	%	%	%	%	%	%	%	%	%	%	%	%
	$	$	$	$	$	$	$	$	$	$	$	$
2	%	%	%	%	%	%	%	%	%	%	%	%
	$	$	$	$	$	$	$	$	$	$	$	$
3	%	%	%	%	%	%	%	%	%	%	%	%
	$	$	$	$	$	$	$	$	$	$	$	$
4	%	%	%	%	%	%	%	%	%	%	%	%
	$	$	$	$	$	$	$	$	$	$	$	$
5	%	%	%	%	%	%	%	%	%	%	%	%
	$	$	$	$	$	$	$	$	$	$	$	$
6	%	%	%	%	%	%	%	%	%	%	%	%
	$	$	$	$	$	$	$	$	$	$	$	$
7	%	%	%	%	%	%	%	%	%	%	%	%
	$	$	$	$	$	$	$	$	$	$	$	$
8	%	%	%	%	%	%	%	%	%	%	%	%
	$	$	$	$	$	$	$	$	$	$	$	$
9	%	%	%	%	%	%	%	%	%	%	%	%
	$	$	$	$	$	$	$	$	$	$	$	$
10	%	%	%	%	%	%	%	%	%	%	%	%
	$	$	$	$	$	$	$	$	$	$	$	$

TOTAL GRADO DE AVANCE EN %	
TOTAL GRADO DE AVANCE EN $	

* EL PORCENTAJE DE AVANCE SERA CALCULADO SOBRE EL RESPECTIVO ITEM
** EL IMPORTE EN PESOS DE AVANCE SERA CALCULADO SOBRE EL RESPECTIVO ITEM

Proponente
Nombre, firma y sello aclaratorio
Domicilio real

ANNEX XVII

WORKPLACE HEALTH AND SAFETY

General Index

CHAPTER I:

LEGAL FRAMEWORK – DUTIES AND RIGHTS:

Article No. 1: The Contractor is required to comply with all current and future Laws, Decrees, and Resolutions. In this regard, it must respect and enforce compliance by its employees with the provisions set forth in the following legal framework:

Law No. 19,587/72 "Occupational Health and Safety".
Law No. 24,577/96 "Workplace Accidents and Occupational Diseases" and its Regulatory Decree No. 170/96.
Decree 911/96 "Construction Industry", regulations under Law No. 19,587/72.
Resolutions issued by the Superintendence of Occupational Risks (SRT) No. 231/96, 51/97, 35/98, 319/99, 552/01, 62/02, 310/02, 295/03, 503/14, etc.
Law No. 20,744 "Labor Contract Law".
Law No. 22,250 "Construction Workers' Statute".

Article No. 2: The Contractor, in its capacity as Employer, as well as any Subcontractors designated and approved by the UEB, shall be fully responsible for any accident or occupational disease affecting its personnel, as well as for any damage to third parties and their property, assuming all obligations arising therefrom.

Article No. 3: UEB's Technical Personnel in Health and Safety, through the Technical Coordination, shall be in charge of coordinating all activities arising from the application of the laws and decrees defined in Art. 1. To this end, their responsibilities are as follows:

a) Ensuring the Employer's strict compliance with the Current Legal Regulations on Occupational Health and Safety (SYSO) as well as any other provisions established on the subject.

b) Requiring proof of workplace inspection of the work by the Employer's Occupational Risk Insurer (ART [for its acronym in Spanish]) and its Risk Advisor in each certification. Both must establish a visit plan to verify compliance with the Safety Program and the Comprehensive Damage and Risk Prevention Plan. The assistance schedule will respond to the characteristics, stages and potential emerging risks and must be established before the start of the work, attaching it to the Comprehensive Damage and Risk Prevention Plan.

When verification visits are carried out (by ART and Occupational Risk Prevention) a record will be kept of the activity carried out, observations and suggested improvements, as well as the follow-up on compliance with these improvements. These records must be attached to the project's Technical File and must include at least the following data:

* Project information

* Date of the inspection

* Tasks performed.

* Activities being carried out on-site at that time of the inspection.

* Objectives and deadlines established if applicable.

* Signature of the technician or professional responsible for the task and of the Technical Representative.

Inspect the worksite periodically, make any observations that it considers appropriate (through a technical report) and if serious situations arise that merit the suspension of the activities of the involved sector, proceed to do so after notifying the Technical Coordination of the Work.

CHAPTER II:

DOCUMENTATION BY THE CONTRACTOR:

Article No. 4: In accordance with current legislation, the Employer (Contractor and/or Subcontractor/s) must submit the following documentation to the Principal (UEB):

Safety Program (prior to the start of activities and approved by the ART).

Comprehensive Damage and Risks Prevention Plan (before the start of activities, this plan must be submitted directly to the UEB).

Pre-employment Medical Examination (before starting work) and Periodic (every 6 months).

Notice of Work Start or Restart (must be submitted at least 5 business days in advance before starting work).

List of Nearby Clinics or Sanatoriums.

Proof of Visit by the ART and its Risk Advisor (a monthly report must be submitted) and with detailed information as specified in Article No. 3.

Comprehensive Training Program for Operating and Driving Personnel (according to the Comprehensive Prevention of Damage and Risks Plan).

Accident Statistics (every 4 months).

Technical File (permanently available at the construction site's operation center).

Safe Work Protocols that must be provided upon request by the UEB's Health and Safety Technical Personnel.

Article No. 5 – "Third Party Liability Insurance": The Employer must contract civil liability insurance for persons and property, covering all the effects of accidents or damages that occur as a result of the execution of the work, as stipulated in Articles. 26, 28 and related articles of the TOR.

Article No. 6 – "Occupational Health and Safety Technical File": The Technical File on Health and Safety consists of the documentation generated by the Contractor for the effective risk control during the construction process (Resolution No. 231/96 of the

Superintendency of Occupational Risk, SRT). It must contain sufficient information according to the characteristics, volume and conditions under which the work will be carried out and must be updated to incorporate the modifications introduced in the task programming. It must remain on-site available to the Principal. It will be managed by the Contractor's Occupational Health and Safety Officer and the Technical Representative. It will contain the following information:

a) Descriptive report of the work.

b) Safety Program.

c) Comprehensive Training Program.

d) Record of evaluations and interventions carried out by the contractor's Health and Safety Service. Each site visit must be documented, detailing the management actions implemented.

e) Plan or diagram of the workshop and auxiliary services (warehouses, workshops, accommodation, etc.).

f) List of the personnel who will work on the work, which will be continuously updated in cases of hires and terminations.

g) This document must be signed by the Technical Representative and the person responsible for Health and Safety of the Contractor.

Article No. 7 – "Safety Program": The Employer must prepare the Safety Program that is part of the Technical File as provided by Resolution No. 51/97 of the SRT for each work they start.

CHAPTER III:

CONTROL BY THE PRINCIPAL:

Article No. 8: As established in Article No. 3, the BIPROVINCIAL EXECUTIVE UNIT – SANTA FE – CÓRDOBA INTERPROVINCIAL AQUEDUCT (UEB) in its capacity as Principal, has the right and duty to require the Employer (Contractor) to strictly comply with current legislation on Health and Safety. To this end, the technical personnel responsible for Health and Safety at the UEB will coordinate the necessary tasks, depending on the progress of the activities, will be as follows:

1) All documentation to be submitted before the start of the activities:

a) Safety Program and Notice of Work Start or Restart, must be approved by the ART (Occupational Risk Insurance Provider). However, the Principal reserves the right to reject such documentation, providing a dully justified explanation for the rejection and not allowing the start of the work on site.

b) The Comprehensive Damages and Risks Prevention Program will be submitted for consideration by the UEB.

2) Before starting the on-site tasks, the conditions of the essential infrastructure will be verified, as well as the delivery of the Personal Protective Equipment (PPE) and Initial Training, otherwise the work will not begin.

3) The Worksite Inspector appointed by the Principal is authorized to require the Employer to correct situations that may endanger the physical and psychological integrity of workers, third parties and/or property, in this sense, the Inspector may request the interruption of the tasks in the sector involved until the corresponding corrective measures are taken. The issuance of the Service Order automatically obligates the Employer to comply with the required corrections in a timely manner.

4) The UEB Health and Safety Technical Team will carry out inspections of the work on a regular and scheduled basis, or if circumstances so require, the frequency of such inspections will respond to the type and pace of work. The Contractor, through its Technical Representative and/or Risk Advisor, is obliged to participate in these inspections, provided they are informed.

The H&S Professionals of the UEB will have the authority to verify the quality and condition of the PPE (Personal Protective Equipment) and work clothes, the condition of the equipment, tools, quality and availability of the support elements for their execution (scaffolding, electrical panels, electrical conduction networks, etc.) and all other types of elements used to carry out the work, and it is at their discretion to demand their change and/or replacement, and to communicate any deviation or non-conformity to the Work Inspection and the Technical Coordination.

5) In accordance with the provisions of the Training Plan (delivered during the first month of work), the Employer must send the Principal the details of the topics addressed and the list of affected personnel, with the signature certifying their attendance. On the other hand, regarding Accident Statistics (every 4 months), the results of the Pre-employment and Periodic Medical Examinations and the Insurance Policy for the Inspection Personnel will be required.

6) Whenever the UEB considers it appropriate and necessary, it may request the presence of the Technical Representative and the Health and Safety Advisor of the Employer, in order to inform them about work methodologies and analyze the progress of the work.

7) The UEB Health and Safety professionals may request the Contractor to develop Safe Work Protocols (PTS), in situations not covered in the Safety Programs or if the work in execution involves high-risk situations.

CHAPTER IV:

SANCTIONS:

Article. No. 9: The failure of the contractor to comply with any of the actions under its responsibility that arise from this document will be considered a serious violation since it may lead to an accident with unforeseeable consequences. To this end, the Principal will inform the Contractor through a Service Order of the violation committed, providing instructions on the corrective measures to be applied, and granting a deadline for their

compliance. If the Service Order is not complied with, the UEB may apply the sanctions stipulated in article 52 of the T.O.R.

CHAPTER V:

WORKSHOPS: The infrastructure elements that make up the workshops and work areas must comply with the following requirements:

Article No. 10 - "General Conditions":

Accommodation – Sanitary Facilities: The accommodation for the construction personnel must meet satisfactory hygiene conditions, adequate lighting and appropriate dining facilities, and sufficient sanitary services (including water for showers at a temperature appropriate for each season). Likewise, drinking water must be available in sufficient quantity, ensuring the continuous supply to all workers, regardless of their work location, in adequate conditions, placement and temperature.

Furthermore, the Contractor must provide chemical toilets in optimal conditions at each work front and establish a regular program for the collection of all sanitary and organic waste. Disposal must be conducted outside the site to the satisfaction of the Inspection and in accordance with the regulations governing such activities. The cost of this activity will be covered by the company.

b) Material Storage: The following conditions must be met when storing materials:

In the areas designated for storage of materials, order and cleanliness must be maintained.

Proper circulation paths must be provided.

Materials must be stored in a way that prevents slipping or falling (especially for bags).

Iron bars must be firmly fastened to prevent them from rolling or collapsing.

When storing loose materials such as earth, stone, sand, etc., the passage for personnel must not be affected.

c) Vehicles: Before use, the following must be verified:

The electromechanical system, brake system, direction, front and rear lights and horn.

Safety devices such as direction indicators and sound and light signals (to indicate movement), rear window, fire extinguishers, tyre alarm system, rearview mirrors, rear lights, non-slip surfaces on bumpers, floors and steps, seat belts, reflective markings, etc.

They must carry a label indicating the maximum admissible load that they support.

They must be equipped with brakes that can immobilize them even when they are loaded to their maximum capacity, in any working condition and on the maximum permitted slope.

Under no circumstances may they transport people, unless they are adapted for this purpose. It is also prohibited for people to get on, off or move from one vehicle to another while they are moving. In those vehicles in which closed cabins cannot be provided, they must be equipped with rollover protection structures with sufficient strength. Dump trucks must compulsorily have a cab visor or protector.

The steps for entering or exiting must be permanently cleaned of oil, grease, mud or any other slippery substance.

Any work carried out under a vehicle or machinery must be carried out while it is stopped and properly secured with fixed elements.

All units must have their insurance up to date and the corresponding technical review of their safety elements for entering the work. They must be equipped with fire extinguishers, according to the fire load to which they are exposed.

d) Fall protection: Certain extreme care measures must be taken to prevent falls into pits created for the construction of bridges, culvers, canals, etc., affecting both personnel directly involved in the task or those who carry out inspections. Among the precautions to be considered, we can highlight the placement of necessary signage indicating, among other things, the danger of falling, landslides, slippery ground, the need to walk carefully without rushing, etc. Railings and fences must be installed to prevent direct and sudden access. Likewise, the use of Personal Protective Equipment (PPE) such as helmets, life belts (harness with lifeline, safety belt), gloves, footwear and appropriate clothing will be mandatory.

e) Electrical Installations: Personnel working with energized elements (panels and/or explosion equipment) must be adequately trained by the company on the risks to which they are exposed and on the use of material, tools and safety equipment.

Likewise, they will receive instructions on how to rescue an injured person due to electric shock and first aid. In this regard, the following instructions must be complied with:

Electrical panels must be properly equipped with electrical circuit breakers or grounding, according to the risk to be covered. Likewise, the wiring will be carried out with double-insulated cables, which must never be placed at ground level (suspended at a height of 2.40 m or buried and protected).

Periodic inspections of the electrical installation must be carried out.

Do not perform any repairs (to circuit, wiring, etc.) while the system is live. Remember that all installations will be considered live, until the contrary is verified, either with devices, detectors or verifiers intended for this purpose.

Provide notification when repair work is being carried out on electrical lines or devices, to prevent someone from accidentally energising the system. Also, block and place a clearly visible warning sign on the control panel with the inscription "Do Not Operate" along with the name of the person responsible for the work.

After the work is finished, the service will be restored. To this end, the person responsible for the task must personally check that the tools, surplus materials and warning signs have been removed.

Avoid defective conductors and switches. Do not leave live exposed conductors.

Ensure that hand tools (drills, grinders, etc.) are in good working condition. Metal ladders, measuring tapes, oil cans and other items made of conductive materials must not be used in live installations.

Place the necessary warning signs ("Electrocution Hazard") and properly delimit the area near the detonation panel (to prevent direct access).

Do not perform work in a rush manner. Overconfidence, lack of proper knowledge or poor supervision are the most common causes of accidents.

Hire qualified personnel to carry out any type of electrical work. Such personnel must use appropriate personal protection elements, such as dielectric gloves, shoes with dielectric soles, eye protection, etc.

f) Fire Extinguisher: Install ABC dry chemical fire extinguishers with capacity and location defined according to the risk they must cover. They must be placed in a visible place and within easy reach of any worker.

g) Emergency Phone Numbers: Post emergency contact numbers in a visible location, including ART, Police, Firefighters, Emergency Medical Center, etc.

Article No. 11 - "Worksite Closure and Signage": Any worksite that, due to its location and technical characteristics, requires complete closure, must be secured with elements that prevent third party access to it.

Regarding signage, it will fundamentally take into account the type of crossing (national, provincial routes or communal roads), it must clearly indicate the risk being warned, to avoid confusion. Safety colors will be used to identify people, locations and physical objects, assigning them a meaning related to safety. The colors to be used will be those established by IRAM Standards 10.005 and 2507 or those that replace them.

In this regard, before starting the works, the Contractor must process the corresponding authorization from the authorities of the Commune, Municipality, Provincial Road Authority (DPV for its acronyms in Spanish), National Road Authority (DNV for its acronyms in Spanish) or the concessionaire company, as applicable. Whenever a temporary deviation is carried out, before beginning the construction of the structure or channeling, the Contractor must document (before a Notary Public) the guidelines and regulations regarding Health and Safety required by the Entity involved to enable the new temporary passage. The costs associated with these procedures shall be borne exclusively by the Contractor.

The necessary safety conditions must be maintained for the entire duration of its authorization. The Contractor is required to place and keep traffic signals perfect condition, for both daytime and nighttime visibility. In addition, illuminated signage must be provided to indicate any dangers or traffic difficulties.

Beacons for night signaling will be placed at all risk points and at all obstacles and interruptions in the vehicle or pedestrian traffic area. Flashing beacons with independent batteries are recommended, but typical red lanterns will be accepted. However, fuel-

powered beacons cannot be used. In the case of using red lanterns, they must be powered by electricity with a maximum voltage of 24 volts, and the direct use of 220 volts is not accepted.

If there are sporadic water flows that compromise the safety and continuity of traffic, the necessary precautionary measures will be adopted for as long as the situation persists, with the Contractor being solely responsible for the contingencies arising from the failure to take such measures.

To this end, personnel will be assigned to alert traffic about the existing situation, and may, if circumstances so advise, interrupt traffic until the reasons that gave rise to the emergency disappear.

CHAPTER VI:

PREVENTION STANDARDS FOR DIFFERENT STAGES OF CONSTRUCTION:

Article No. 12 – "Order and Cleanliness": Since disorder is one of the most important causes of accidents on site, the Contractor must implement the following preventive actions:

Debris or waste material of any kind must not be accumulated in the workplaces, except for those produced during the workday, which must be removed before the end of the shift.

Work elements must not be left scattered around the work site, a designated storage location will be assigned for their proper placement, ensuring they do not obstruct the work and passage areas.

All sharp-cutting elements, such as iron bars, nails, etc., must be removed or protected.

Excess excavation materials must be removed at the same rate as the execution of the works.

At all times, the accumulation of dirt along the curbs must be avoided, ensuring the normal drainage of water along them.

During the execution of the works, The Contractor must keep the construction site free of all unnecessary obstructions and must properly store or dispose of excess machinery and materials.

At all times, the Contractor shall keep the accesses facing the construction site clear, safe and in good condition, taking the necessary measures to ensure free access of vehicles to the existing garages.

Upon completion of the work, the Contractor shall clean and restore, at its own expense, the areas where the work was carried out and their surroundings, removing auxiliary constructions and the structure of the workshop, the machinery, remains of materials, stones, rubble, soil, wood and any other element resulting from such work.

Article No. 13 - "Demolition Work": The company's Health and Safety Officer shall establish the necessary conditions, exclusion zones and other precautions to be adopted according to the characteristics, work methods and equipment used. The technical supervisor of the task must ensure their strict compliance, and access to the safety zone shall be exclusively reserved for the personnel assigned to the work.

Article No. 14 – "Open-pit excavations": When the depth of the excavation is greater than or equal to 1.20 meters, Resolution No. 503/2014 of the SRT must be applied, which sets out preventive measures to be implemented. In this regard, the Company that carries out the work will have a safety professional permanently available on-site during the execution process of the work. The instructions to be respected will be the following:

Continuously verify the resistance of the soil at the edges of the excavation. When certain tasks must be carried out in these places, such as material handling, load movement or installation work, the Health and Safety Officer must establish appropriate measures to prevent falls of personnel, material, equipment, tools, etc.

When there is a risk of collapse, the excavation walls will be protected by sheet piles, shoring or other effective means.

Workers shall not remain at the bottom of pits and trenches when mechanical excavation equipment is in use for deepening, unless they are at a distance of at least 2 (two) times the length of the excavator's arm.

When workers need to remove or place materials or tools inside the excavation, the bucket of the hydraulic equipment will rest at the bottom of the confined space (chamber), the operator of the unit will exit the cabin and then the workers will descend into the confined space and proceed to fill the bucket of the hydraulic equipment.

Workers will ascend and descend the confined space using standardized ladders that extend at least 1.00 above the natural ground level. Likewise, during the ascent or descent as well as while inside the Confined Space, workers must wear the mandatory PPE (Helmet, Safety Footwear, Rubber Boots, Gloves and Harness attached to a Lifeline). Workers assisting personnel inside the Confined Space, that is, those located at the edge of the excavation and on the Natural Ground, must monitor task development at all times: the situation of the colleague inside the confined space, the development of the activities by the heavy equipment operator, in terms of reckless or hasty maneuvers, state of consolidation of the natural soil (to prevent landslides, collapses, etc.). If anomalies that may endanger a team member´s life are observed, the order to suspend the activities will be immediately given, until the hazardous conditions are corrected.

Article No. 15 – "Deep Excavations – Pipelines": In works where underground pipelines are executed, safety measures must be implemented based on the type of work, considering factors such as: depth, soil type, presence of groundwater, underground pipes, air quality, etc. The personnel carrying out the tasks must be permanently trained in terms of emerging risks and fundamentally on the Contingency Plan to be implemented in emergencies. A thoroughly soil study inside the excavation is necessary,

but not sufficient. The company must submit the Safe Work Protocol before starting the tasks, which must be available to the UEB Safety Professionals. The company's safety officer must continuously ensure its proper implementation.

Article No. 16 – "Concrete Work":

Formwork Installation:

The materials used in the formwork must be of good quality, free of visible defects and will have adequate resistance to the loads they must withstand.

At heights above 2 m, the use of a safety harness with independent anchorage points separate from the scaffolding will be mandatory.

Climbing on formwork is prohibited. Ascent or descent will only be carried out using ladders.

Reinforcement Assembly:

A designated area must be designed on site for classified storage of steel bars near the place where the reinforcement is assembled to avoid interference with other activities or personnel movement.

Steel bars will be stored in separate piles according to their size and length. The bars must be firmly fastened to prevent them from rolling or collapsing.

Waste or cut-offs will be placed in a specific area for later removal from the site. Daily cleaning scrap end, wood pieces, wires, and steel cuttings will be carried out.

Concrete Pouring:

All operations, as well as equipment conditions, will be supervised by the person responsible for the task.

Concrete pouring and vibration will be carried out from stable platforms, with easy and safe access to the work areas.

Before concrete pouring begins, the state of the formwork will be checked to prevent bursts or explosions.

The structures or scaffolding that support the concrete pipes must be calculated based on the weight of the pipes filled with concrete and the workers who may be on the scaffolding. The pipes for transporting pumped concrete will be securely fastened at their ends and bends and equipped with relief valves near their top.

The concrete will be poured into the formwork by distributing it evenly along it in order to avoid occasional overloads.

Formwork behavior must be verified during concrete pouring, and work must be stopped if failures are detected.

Workers must wear safety goggles to prevent eye injuries from splashes and nitrile gloves. Water must be available near the work area for washing in case of splashes.

Ear protectors must be used during vibration process.

Taking into account the technical and physical characteristics of the work to be carried out, part of the concrete prepared on site may be used, while the majority will be transported in a mixer truck. In this case, the following guidelines must be observed:

Mixer truck: The concrete mixer truck consists of a rotating drum or tank supported by a truck frame suitable for bearing the weight. Inside the tank, the paddles provide a uniform longitudinal mix to the concrete and a quick emptying. The control system is located at the rear of the concrete mixer truck frame and three types of control can be distinguished: Drum Rotation, Accelerator (speed, rotation) and Lever Locking Device. The direct risks during loading, transport and unloading are the following: Projection of Particles and Impacts with the Chute (mainly on the head and to third parties), while the indirect risks include overturning, slipping and fire hazards.

The following instructions must be observed:

The concrete mixer must not have any protruding parts that could injure or hit workers.

The discharge chutes, ladders, fenders, etc., must be painted with anti-corrosion paint to prevent them from breaking over time and injuring workers.

The vehicle must have hydraulic brakes with double circuit (front and rear axles). The steps for getting on and off must be non-slip.

It must have appropriate light and sound signals.

When deploying the chute, the worker must never stand in its rotation path to avoid any type of impact.

The auxiliary chutes must be attached to the truck chassis by means of chains with a lock and locking mechanisms.

After each concrete pour, the chutes must be cleaned with a water discharge.

Once the time required for the concrete to set has passed, the formwork will be removed. This task will be carried out manually using elements such as clamps, levers, pliers, hammers, etc. The risks associated with this activity are the result of constant and rapid handling, including impacts, cuts, falls, fractures and muscle pain.

Article No. 17 – "Handling of Paints": The conditions that paint storage tanks must meet will be analyzed, followed by the guidelines to be taken into account at the site of application of the waterproofing. Evidently, poor handling can result in the following risks: Fires, Contamination, Respiratory and Skin Problems. The following instructions must be observed:

Storage:

a) In areas where paints, pigments and their solvents are stored, the following are prohibited:

Smoking or consuming food and beverages.

Using devices or tools with open flames or other sources of ignition.

Blocking pathways and exits with materials.

Mixing or transferring stored products.

Storing rags, waste, papers, etc.

Depositing paint residues or other unrelated elements in the storage area.

b) The physical characteristics of storage areas must meet the following conditions:

Be made of non-flammable construction materials.

Remain well-ventilated and at a low temperature.

Be protected from direct sunlight and radiant heat sources.

Be equipped with appropriate fire extinguishing systems.

Have sealed electrical installations.

Mixing and Preparation:

No worker shall handle these products unless trained in the prevention not only of fire but also intoxication risks.

The preparation must be done in an open area, where the possible spills will not contaminate the environment (subfloors, sand, stone, etc.). In any case, if a spill occurs, sand must be spread over it and once dried, it must be collected with waste materials.

Workers handling waste must protect their hands by wearing appropriate gloves. In case of skin contact, it must be cleaned immediately with water and neutral soap (laundry soap).

If these products enter the eyes, they must be washed with plenty of water for at least 10 minutes.

Application:

To protect the skin, painters must wear gloves and suitable work clothes.

Workers must use respiratory protection equipment when removing paint with solvents. Workers must clean their skin with safe and non-harmful cleaning products.

Special precautions must be taken to carry out painting work near electrical installations where there is a risk of sparks formation.

Dirty rags, paint scrapings and paint-soaked waste must be disposed of in metal containers with lids.

Once the workday is over, containers with residues must be removed from the site.

Workers using spray guns must: Adjust the gun pressure to avoid excessive spray and if there is a draft, they should position themselves in such a way that the air current does not blow the sprayed paint towards them or other workers.

Article No. 18 – "Night Work": The works may be carried out both during the day and at night, in accordance with the hours established by the labour laws. All night activities must be carried out authorized in advance from the Work Inspection.

In such a case, the Contractor's Health and Safety Service must be informed and the preventive guidelines must be recorded in the Technical File. The activities cannot commence unless these requirements are met.

Article No. 19 – "Weather Conditions": Whenever adverse weather conditions arise for the normal development of the tasks and which may put the life and/or health of the worker at risk, the activities will be suspended while this situation persists. Among the extreme natural factors, the following are mentioned:

High and Low Temperatures: The provisions of Resolution 295/03 of the MTESS will be considered.

Rainfall: Whenever rainfall (of any magnitude) occurs and its consequences, activities will be suspended until the phenomenon ceases and the conditions of the work area allow the movement of vehicles, equipment and personnel.

Weather Alerts: In the event of weather alerts (rain, strong wind, atmospheric electrical discharges, etc.), the necessary precautions will be taken to suspend activities.

Strong Winds: When strong winds endanger the development of tasks, tasks will be interrupted.

In all cases, the Company's Technical Representative will be responsible for enforcing the measures stipulated above.

CHAPTER VII:

PREVENTION RULES FOR THE USE OF EQUIPMENT AND TOOLS

MANUALLY AND MECHANICALLY OPERATED:

Article No. 20 – "Woodworking Machines": Personnel who perform tasks in the carpentry area must be adequately trained in the risks inherent these activities and in the use of the PPE required. The machines and other equipment must be equipped with protections that guarantee the safety of the workers. They will also have an emergency stop system that is easily accessible and visible.

All cleaning or maintenance must always be carried out with the machine turned off and disconnected from the power source. The circular saw must have guards that cover the exposed cutting part, above the table. The band or worm saw must have the blade completely covered up to the proximity of the cutting point, by means of an adjustable device. The planers must have a bridge guard that covers the working slot along its entire length and width.

Article No. 21 – "Portable Manual and Mechanical Tools":

Workers must understand the uses and limitations of the tools.

Parts of the machinery must not be modified, for example, using a larger diameter disc that is not in accordance with the machine's RPM.

Discs must never be used at speeds exceeding their rated level.

Disc may break due to sudden changes in temperature, especially when it is taken out of a very cold environment and pressure is applied to it before warming up. For this reason, it is recommended that grinding discs be stored in a dry and warm place and let the grinder operate for at least 1 (one) minute before starting work.

Tools must be stored correctly. In the case of grinders, they are prone to falling and this can cause cracks in the disc, generating the possibility of it moving during use.

If a hand-held grinder is dropped, the disc must be inspected, and a sound test must be performed before it is used again.

Whenever a machine needs to be repaired or a part replaced, the machine must be disconnected from the power supply.

Keep the work area free of obstacles.

When working with grinders, the grinder must be held securely and with both hands. When working with wood-cutting discs, there is a chance that the grinder will get caught in a knot in the wood and, propelled at high speed while rotating at high revolutions per minute, cause serious damage where it lands.

Be careful, do not be distracted during the task, overconfidence is one of the main causes of accidents.

Any defect or malfunction that is noticed in a tool or portable equipment, whether manual, electrically operated, pneumatic, activated by explosives or other energy sources, must be immediately reported to the person in charge of the sector and removed from service. Workers must be adequately trained in relation to the risks associated with the tools they use and also the necessary protective elements.

Portable trigger-operated tools must have safety locks to prevent accidental activation of the tool. Cutting, piercing or lacerating elements must be equipped with guards that do not interfere with the operations to be carried out but prevent accidents.

In environments that present risks of explosions and fire, the Health and Safety Officer must determine the characteristics that the tools to be used in the area must have. In risk areas with flammable materials or in the presence of dust concentrations exceeding the limits of flammability or explosiveness, only tools that do not cause sparks should be used.

Article No. 22 – "Ladders": The main causes of falls from ladders are, among other things, the following: breakage of the ladder or one of its parts, lateral slipping or rotation, the

worker's foot slipping or losing balance during ascent or descent, tool slipping or breaking, etc. The following are safety measures to be taken into account:

Transport ladders with extreme care, avoiding dragging or hitting them.

Ladders with missing or defective rungs should not be used.

Make sure that the base of the ladder is free of dirt or slippery residue, and do not climb with muddy or greasy shoes, which could cause slipping.

Use ladders of adequate length; it is very dangerous to place objects underneath them to gain greater height.

Make sure that the floor in the place where you must support it has a level and firm surface and is free of electrical conduits.

If a ladder is supported on surfaces prone to slipping and cannot securely fixed, a worker must hold it at the base.

Portable ladders, such as extension ladders, should not support more than the weight of one man at a time, nor should they be used for purposes other than their intended function.

When ascending or descending a ladder, face the ladder and hold it with both hands; small tools should be placed in a appropriate pocket and large tools should be lifted using a rope.

Avoid using the top rung; use ladders that are long enough to allow you to stand at least two steps below the top rung.

Whenever working with hand tools on a ladder, keep your hands free of grease or any other substance that could cause them to slip.

When working on a ladder, hold on with one hand. Do not try to reach too far to one side unless the ladder is properly secured or the worker is wearing a safety harness. It is advisable to bring the ladder closer to the work area.

Inspect ladder at frequent and regular intervals, it is recommended to do so at least once every three months. If it has received a strong blow (as a result of a fall), it should be inspected immediately.

The main details that should be taken into account in regular inspections are, among others: loose rungs, loose or poorly tightened wooden screws and/or nuts, cracked, split, breakage, splintered or worn stringers and/or rungs, stringers with metal protrusions that can injure the hands of the workers, loose or worn locks, guides, end caps and other fittings, ladder ropes in poor condition, etc.

Article No. 23 – "Scaffolding":

The material used for assembling this type of scaffolding will be black steel tubes with seams. The use of weakened tubes is strictly prohibited.

The constituent elements of these scaffolding must be securely connected.

Metal scaffolding must have diagonal reinforcement and at appropriate intervals in longitudinal and transverse directions.

They must be in good condition of stability, the support surface must be leveled, before ascending, it must be verified that the screws are tightened and that the scaffold is not inclined.

The work platform will be 0.60 m wide.

Workers must only ascend using the ladder on the side and if necessary, must wear a safety belt or harness secured to the scaffold.

While ascending or descending workers must use both hands.

The anchoring system must ensure that the tubes for fixing the resistant structure must be secured to the scaffolding at the intersection points between uprights and ledgers. The scaffold must be anchored to the building alternating one of every two uprights in each row of ledgers, with mandatory anchoring at the first and last upright of the scaffolding.

Article No. 24 – "General Use Steel Cables":

They will be made of steel, in one continuous piece, longitudinal joints will not be accepted. They will not have visible defects, knots, breaks, etc.

Cable terminals and clamps must be examined before use.

Cables must be periodically lubricated; acids or alkalis must not be used for this purpose.

Cables that show wear, corrosion, elongation and broken threads must be discarded.

The diameter of the pulleys or reels on which the cable is wound must not be less than the manufacturer's written recommendation.

Every cable terminal must be made up of elements that have a resistance to that of the cable (1.5 times greater).

Article No. 25 – "Slings, Hooks, Rings, Shackles and Accessories":

The nominal load capacities vary depending on each configuration and the opening angle relative to the vertical. The manufacturer must issue tables with the corresponding values.

When the slings are cables, they must be kept clean and lubricated.

When two or more slings are used hanging from the same hook or support, it must be verified that each one of them is individually attached to the referred element, not allowing one sling to be attached to another.

Workers must keep their hands and fingers away from both the slings and the load. In the case of synthetic fiber web slings, their resistance must be sufficient to withstand the

stresses specified by their manufacturer, they must have uniform thickness and width, not be frayed or cut from a wider sling, and the sling must be made of thread of the same material.

Each sling must be marked or coded so that it can be identified by its name or manufacturer's brand, nominal load capacity for its use and type of material it is made of.

In the case of steel slings, they must be made of carbon or stainless steel, they must be tested before use and after each repair and they must be rejected whenever they present the following anomalies: broken welds or metallic defects, wires cut in any place, reduction in the diameter of the upper wires, metallic deterioration of the ends that cause their width to be reduced by 10%.

Slings must not be dragged on the floor or on any abrasive surface, they must not be twisted or knotted, they must not be dropped from a height, and they must not be placed in places that may cause mechanical or chemical damage.

In general, they must be inspected by the person responsible for the task before each use; all repairs must be carried out by the manufacturer or specialized personnel. Personnel assigned to tasks that use metal belt slings must be adequately trained in the respective operations and trained in relation to the specific risks of the activity and the use of its accessories. The Health and Safety Officer will be involved in determining the work methods.

Any accessory used with the slings must have a minimum resistance of 1.5 times the resistance of the sling.

Hooks must be made of forged steel and will have a safety latch to prevent the load from accidentally falling.

The diameter of the pulleys or washers must be 20 times the diameter of the cable to be used.

Article No. 26 – "Gas Welding and Cutting": During cutting or welding tasks, only equipment that meets the conditions of protection and safety of workers will be used. The personnel assigned to the tasks must be properly trained and qualified in relation to the specific risks involved and provided with protective equipment suited to these risks, determined by Company's Health and Safety Officer.

When the worker enters a confined space, they must be equipped with a safety harness and lifeline to carry out an emergency rescue, and they must be assisted from outside for the duration of the task. Compressed gas cylinders will remain outside while the task is being carried out; when work is interrupted, the torches will be removed from the area.

In works where welding and cutting work is carried out on containers that have held explosive or flammable substances, they must be cleaned using inertization and degassing procedures.

Correct Use of Oxy-Fuel Cutting Equipment: The following preventive measures must be observed:

The affected areas will be marked and fenced, avoiding overlapping tasks with other work zones.

The equipment must be provided with flame arrestor valves and shut-off valves. Full or empty cylinders will have a protective cap on.

Cylinders must not be hit or rolled.

A cylinder without a handwheel on the valve shall not be used.

Valve threads and couplings must be free of grease and undamaged.

Regulators must be properly tightened to the tubes with suitable wrenches, leaks must be checked with soapy water or detergent.

Leaking regulators must be replaced immediately. Hoses must be attached to the regulators using clamps.

The surrounding area must be free of combustible materials before starting work.

Before opening the cylinder, the worker must ensure that the pressure regulator valve is loose. First, the oxygen must be opened and then the acetylene, igniting the two gases together.

To turn off the equipment, first the acetylene must be closed and then the oxygen.

Regulators and valves must always be operated by the side, never from the front.

The operator must inspect the condition of the hoses, clamp fittings, pressure gauges and regulators, cylinders, carts, handles and welding nozzles daily. Hoses must not be too long and must be in perfect condition and secured at the ends with clamps, never with wire.

The correct pressure must be used for the work. The pressure gauge must be replaced if its glass has broken.

Regulators that leak must be replaced immediately. If a valve leaks, the cylinder must be replaced.

When a cylinder is empty, the valve must be closed and the protective cap placed on it.

Torches must have appropriate and well-maintained nozzles; a brass needle must be used to clean them so as not to deform them.

Workers must use the necessary PPE: clothing without synthetic fibers, with sleeves inside gloves and head covered, appropriate eye protectors, safety footwear and a leather apron.

Electric Welding: When performing welding tasks, it must be taken into account that the most important risks in this type of task are Exposure to Ultraviolet Radiation, Projection of Objects, Contact with Hot Materials, and Exposure to Welding Fumes. The safety measures to be adopted are the following:

Before starting work, the electrical connections, the condition of the cables and their grounding must be checked.

The insulating handles must be changed immediately if they are defective. In the event of long interruptions, the equipment must be disconnected.

People working alongside the welder must use eye protection with a filter.

When chipping slag, a welding mask with clear glass or safety glasses must be used. Welding tasks carried out in closed places must have an ABC type fire extinguisher available.

The work should preferably be carried out in places with ventilated environments.

The PPE to be used will be: steel toe boots, gaiters, work clothes, leather work gloves, leather apron, welding mask and safety glasses.

Article No. 27 – "Compressors": All machines that compress air, liquids or other products must have the following on legible plates: manufacturer's name, year of manufacture, test pressure and working pressure, engine revolutions per minute and engine power. This equipment will be equipped with pressure gauges protected against bursting and automatic safety devices that prevent exceeding the maximum allowable working pressure. Moving elements (bushings, pulleys, belts or parts that present an accident risk) must be adequately protected.

Article No. 28 – "Correct Use of Hand Tools": The use of hand tools such as hammers, pliers, bolt cutter, scoop, buckets, etc., carries certain risks from their handling. Although these risks are not so significant, the repetitive use of these elements and the overconfidence of the workers can result in recurring accidents, such as hand injuries and cuts, dropped tools causing foot injuries, eyes exposed to mixtures, muscle pain in hands and joints, etc. In this situation, it is important to keep in mind the following:

Never lose sight of the work area.

Check that the hammer handle is in perfect condition.

Check that the cutting tool head does not have excessive iron that could cause hand cuts.

Check that the cutting tool edge is adequate.

Buckets must not be completely full (75% is the proper amount).

Whenever there are remains of the mixture on the scaffolding or on the floor, which compromise the stability (slipping) of the worker, on their work base or when ascending the scaffolding itself, it must be removed before starting the tasks.

Before starting the tasks, check for pipes inside walls, they must be taken into account, especially with regard to electricity and gas. For this, the direction of the connections with centers is very important.

No other worker located on the floor will remain under the scaffolding or nearby, as falling tools or material debris could cause serious head injuries.

Be careful, do not be distracted during the task, overconfidence is one of the main causes of accidents.

CHAPTER VIII:

OPERATION OF HYDRAULIC EQUIPMENT – PROCEDURE STANDARDS FOR EARTH MOVEMENT:

Article No. 29 – "Heavy Machinery": Before starting any type of activity with heavy equipment, it is essential to take into account certain rules and recommendations, as outlined by the site manager. These include, among other things:

Full knowledge of how to operate the equipment.

Recognition of the work area, which includes: soil type, working distance, area where it will be moved, presence of medium and high voltage lines, type of sewerage system, if the machine will work on public roads. The machine must be conveniently marked with traffic codes. Traffic regulations in the work area must be known through banners, fences, lights, and/or sound signals.

A clear understanding of what the objectives of the work are and constant communication with the responsible manager and/or technician.

Demand and use personal protection elements (boots, ear protection, gloves, anti-vibration belt) and appropriate work clothing.

Article No. 30 – "Starting the Equipment": Before starting the equipment, a series of checks must be carried out in accordance with the machine manufacturer's manual. Any irregularities observed must be recorded in the observations file and communicated to the project manager and/or technician, who must then report such irregularity to the Work Inspector. However, the measures detailed below are essential to carry out a task safely.

Check around the machine for possible oil leaks, damaged parts or pipes in poor condition, etc.

Check the position lights, the turn signals and the stop lights.

Check the condition of the tires in terms of pressure and cuts.

Check the oil and water levels.

Clean the windshields, mirrors and rearview mirrors, removing any objects that may obstruct visibility.

Do not leave rags in the engine compartment.

Ensure the driver's seat (cab) is clean, removing oil, grease and mud from the floor.

Avoid leaving miscellaneous objects such as tools, rags, etc. on the floor of the driver's cab, use the toolbox instead.

Check that no one is near the machine.

Dry hands and remove mud from shoes.

Check the seat adjustment.

Set all controls in neutral and check that the control indications are normal.

Check that the main and emergency brakes are working properly, turn the steering wheel in both directions and put the different gears in.

Article No. 31 – "Operation of the Equipment": This task includes two stages: preparation of the ground for the excavator to move and the actual excavation work. In both cases, risky situations arise for the driver or for third parties. This is due in some cases to the characteristics of the place where the tasks are carried out (very deep channels, easily collapsible slopes, presence of very thick foliage, dangerous slopes, etc.) and in other cases to operators' negligence. Here it is important to highlight that most workers operate independently (without external assistants or signalmen).

As a summary, certain general measures to be taken in order to mitigate the serious consequences of an accident are detailed below:

Do not allow any other personnel to board the machine.

Do not allow anyone to park near the machine.

Do not use the bucket as scaffolding or as support for lifting people up.

Do not place the bucket above the truck cabin (load it from behind).

Position the truck parallel to the machine and load it carefully.

Work whenever possible with the wind in the direction of the backhoe, so that dust does not obstruct visibility.

When the ground is on a slope, stop the machine and work with the equipment at 90º to the channel alignment (with the length at 90º to the direction of the channel).

Whenever possible, place the equipment on a flat, prepared surface, located far enough away from areas prone to collapse.

When moving on a slope, point the boom towards the bottom, almost touching the ground (so that it acts as a digger in case of a possible rollover).

When stopping the equipment, point the boom towards the lower part of the slope and rest it on the ground.

The speed of movement on a slope should be the same whether going uphill and downhill.

Never go down a slope with the engine off, or neutral, but do so with a gear engaged.

Do not use the bucket to knock down construction elements if their height is greater than the horizontal projection of the boom.

Equip the cabin with a structure that protects the driver from falling debris.

Article No. 32 – "Moving of Equipment (Hauling)": Moving the equipment by its own means is a basic function for completing the tasks. Work areas often present natural obstacles (slopes, foliage, ravine areas, etc.) and artificial obstacles (mounds, fences, road ditches, sewers, etc.). These, added to the existence of rural electrification and the crossings of busy roads and railway tracks, make this task worthy of special attention. Within the scope of safety, the measures to be taken are the following:

Before making any movement with the machine, look around, observing that there are no workers nearby.

Do not work near an overhead power line with voltage, without ensuring that the minimum safety distances have been taken. These are 3 m for less than 66,000 volts and 5 m for those with more than 66,000 volts.

Maintain a safe distance from ditches, channel slopes and any alteration of the terrain that could cause the machine to overturn.

In the case of crossings of culverts and/or bridges where the condition is unknown, request information about it from the municipality or from the competent Provincial or National Authority.

When crossing ditches, first verify the depth and the corresponding width of the opening.

After any rainfall, check the condition of the ground, make a small move and verify the maneuvering capacity and how the machine controls respond.

When driving across communal roads and routes, the boom stabilizers and the turning area will be blocked with the mechanisms provided for this purpose.

Article No. 33 – "Parking and/or Stopping": Whenever workers finish their work for the day or due to some circumstance they have to interrupt the task, certain rules must be respected for the safety of third parties and the preservation of the equipment. These are:

Stop the machine on level ground, block the wheels and rest the bucket on the ground.

The ground where the machine is parked must be firm and solid. Do not park in puddles or mud (especially in winter, as it may freeze).

Do not park near channels with a steep transverse slope. If you are working on busy roads, park as far away from the road as possible.

To stop the machine, consult the manufacturer's manual.

Set all controls to neutral.

Set the parking brake and disconnect the battery.

Remove the ignition key and lock the cabin door.

Get out of the cabin using the handles and ladders designed for this purpose, always facing the equipment.

Article No. 34 - "Operation with Lifting Elements": Serious accidents are caused by mechanical and human factors.

Mechanical factors: overloads, load detachment, incorrect or defective levers or slings, use of incorrect equipment.

Human factors: worker not qualified or authorized for the task, not physically or mentally evaluated.

Analysis of Operation Processes: It is essential to know the weight to be lifted and the operating radius, then the equipment will be leveled and the lifting elements (hooks and ropes) kept vertical. In this sense, the instructions to be respected are the following:

It is important to keep in mind that every time an operation process is started, the driver must verify that the lever for operating the boom extension, hook lifting, etc., can return without any problem to the neutral position (zero).

When moving (hauling) it must always be done forwards and backwards, verifying that the alarm systems work perfectly, the speeds must not exceed 20 km/hour. In the case of forklifts, they must circulate with the forks 15 cm from the ground.

In the case of significant winds, activities will be suspended.

The equipment must be painted in colors such as Retroreflective Yellow and Reddish Orange that will allow their detection by construction personnel and third parties.

Safety Conditions:

The lifting equipment and elements must be designed and projected to withstand the enormous stress they must face during their use. They must be built with certified quality materials.

The lifting equipment and elements must be periodically inspected and subjected to Visual Tests (with and without load) by the manufacturer.

According to ISO 7752/1 Standards, the basic requirements that the control cabins must meet must consider that both the control levers and the pedals must be placed in such a way that they are activated with natural movements, the force to be applied must not produce efforts that condition ergonomic postures.

The seat must guarantee stable and comfortable ergonomic positions. Lifting cables must be supplied with the corresponding manufacturing certificates indicating wire traction, safety coefficient, safe working load, and breaking load.

In the case of slings, the safe working load must be indicated in kilometers.

To ensure that the load is correctly secured and balanced, it must first be raised a few centimeters. The lifting must be carried out vertically.

It must be ensured that the winch brake is in a condition to hold the load, for this purpose it must be tested after the load has been lifted a few centimeters.

All maneuvers must be carried out smoothly without jerks or sudden accelerations. The worker must ensure that all their colleagues are out of the machine's reach during the operation. When the load is moved, it must be done at a constant speed.

At the end of the task, no load must be left suspended, and the boom must be on the ground. The worker must lock all controls and turn off the main switch.

Article. No. 35 – "Recommendations":

It is forbidden to consume alcoholic beverages before and during work.

Smoking is also prohibited.

Avoid overeating.

Do not take medication without a prescription, especially tranquilizers.

Excessive speed when using heavy and light equipment is not allowed.

When severe weather conditions such as rain, strong wind, etc., arise and they compromise the safety of people and equipment, the interruption of the tasks will be ordered while these conditions persist.

Do not use mobile phones in areas where there are flammable products.

Do not remain under the equipment during break times.

Making fires in the work area is prohibited.

No worker may perform tasks with a bare torso.

No one should run without a valid reason.

Do not reveal information to people not related to the Company and/or UEB, regarding the work in progress or to be performed.

Be willing to participate in training sessions by the Health and Safety Advisor.

Observe and report any unsafe conditions that may occur in the work area.

Protect each other from potential work accidents, correct colleagues who display unsafe behavior, and if you do not get a response, report this situation to the Site Manager.

Express personal situations or problems that could compromise the normal development of activities.

Pranks that cause distractions at work are prohibited, as well as throwing objects.

Pay attention only to the work

CHAPTER IX:

PROCEDURAL RULES FOR THE TRANSPORTION OF LOADS AND EQUIPMENT:

Article No. 36 – "Preliminary Considerations Before Transportation": When talking about risk in the transport of these units, various factors come into play, among which we can consider the type of machinery to be mobilized (some can weigh more than 30 tons), its means of transport (lowboy trailers), the communication routes (paved roads and dirt roads), the weather conditions and the capacity of the person responsible for the work. Obviously, the presence of some or all these factors make this task potentially hazardous.

Checking the Condition of the Transport Vehicle (Lowboy trailer): Along with the assigned mechanic and the driver, the condition of the tires, springs, shock absorbers, levers, essential parts of the engine, brakes, lights, blocking system for ascent and descent maneuvers and everything that means safety conditions for the transport vehicle will be observed in detail.

Analyzing the Destination of the Unit to be Transported: The person in charge of the task must take into account two fundamental aspects: on the one hand, the final destination of the machinery (city, town, rural area, communal road, provincial or national route, etc.), that is, where the work will be carried out and on the other hand, the atmospheric conditions prevailing in the transport and unloading area of the unit.

Optimizing the Route: It is worth noting that the shortest route is not always the most convenient, the type of route must be considered, whether it is paved or not, whether it is under concession, its passability, its road width, the condition of the shoulders, its general condition (presence or not of potholes), sewer crossings and bridges. In this regard, it is worth noting that on many of our routes the road width has been modified, but the sewers have not been changed.

Prevailing Weather Conditions: The topographic and edaphological characteristics of our province make weather conditions have a regional importance, therefore, on certain occasions it may happen that the event develops in the middle of the transport process, the latter being aggravated on dirt roads. To this end, the person responsible for sending the unit must contact the local authority or municipal office closest to the final destination and verify the situation in the area, especially in the event of possible weather alerts.

Article No. 37 – "Loading and Unloading Equipment onto the Lowboy Trailer": The following must be taken into account:

Type of Machinery to be Transported: Heavy and long-range equipment is more susceptible to sudden movements, and for this reason, its placement on the lowboy trailer must be done very carefully, verifying its stability in each of the movements.

Type of Soil and Available Space: This situation can make the maneuver very complicated, to the point of producing interruption of the work, since, otherwise, it can cause landslides with serious consequences. For this reason, the state of the soil must be previously analyzed (if there was previous rainfall, if it is sandy, etc.), the slope and the existing space.

Lighting: Many times, the loading and unloading of the equipment is done at the end of the workday, which carries a level of risk, when working quickly, sometimes distracted and with little light. In this circumstance, the precautions should be increased with external support, either from the assistant or with artificial light.

Transport Trailer: Modern transport trailers offer important safety conditions in relation to older ones, this refers, among other things, to its length, width, height, access ramps, blocking system for maneuvers, etc.

Tips and Recommendations: The task of transporting heavy equipment involves a series of inconveniences that can be determined a priori, but it is also true that there are a considerable number of them that cannot be quantified and that often depend on the skills of those who travel on roads and paths. Given this circumstance, it is advisable to provide the lowboy trailer driver with all the elements that make for safety and that described in the previous items. Additionally, they must be also advised on the dangers of reckless driving, as well as excessive consumption of food, drinking alcoholic beverages, rushing, allowing another person to drive the vehicle, transporting people not involved in the task, etc. Likewise, continuous monitoring of vehicle functions (lights, brakes, etc.) is essential. The driver must focus exclusively on transportation and assisting in the loading and unloading of the heavy equipment.

CHAPTER X:

ADDITIONAL PROCEDURAL RULES:

Article No. 38 – "Accident in Itinere": This is the name given to work commute accidents, those that occur during the direct route between home and the workplace, without deviating from the usual path.

Always respect the current traffic regulations.

Have a driver's license in accordance with the vehicle you drive.

Adopt a safe driving attitude, concentrate, avoid distractions.

Respect the speed limits.

Keep your vehicle in good condition.

If driving a car, always wear a seatbelt.

If riding a motorcycle or bicycle, keep in mind that these vehicles are more vulnerable and that in the event of an accident your body will absorb almost all of the shock or fall.

When riding a motorcycle, always wear a helmet.

Check that your bike has a front light, a rear reflector, and reflective material on the front and rear edges of the pedals.

Ride on the right side of the road, one behind the other (in single file), to avoid blocking traffic.

Stay alert, do not carry packages that may obstruct your vision or control of the vehicle.

If traveling by bus, be cautious when getting on or off.

If walking, always cross the street at pedestrian crossings, checking on both sides for oncoming vehicles.

Article No. 39 – "Lifting of Loads": Manual handling and transportation of materials is recognized as a major cause of occupational injuries and illnesses. The risks of manual handling are of two types: injuries to hands and lower limbs, and overexertion related injuries, the latter characterized by spinal injuries, lower back pain, and herniated discs, the main causes being an incorrect body position and the movement of relatively heavy materials or objects. There are certain reference elements that characterize this problem, increasing the risk:

Load Characteristic: Very heavy or very bulky, unstable or not.

Physical Effort Required: it is carried out with tension in the trunk, it is carried out with an unstable position.

Work Environment Conditions: The space is insufficient, the floor is uneven with slopes, extreme temperatures, humidity and airflow.

Job Demands: The efforts are very frequent or prolonged, the distances or transfers of the load are too great.

Individual Factors: Poor physical ability and/or lack of training, inadequate clothing or improper use of personal protective equipment (PPE).

In our case, workers perform two types of work:

Dynamic: This personnel makes an effort followed by a short rest, for this reason, the muscles are well irrigated with the delivery of the necessary oxygen and the elimination of waste. For example, personnel who are on the ground floor, preparing the material to be lifted, the mortar to be applied to the surfaces, etc.

Static: This is when a continuous effort is made, in this way the muscle contracts permanently and as a consequence of this there is no optimal blood irrigation. For example, personnel who work on changing roof covers, inside towers, etc.

It is important to note that the muscles of the back and shoulders, being those that maintain the posture, are performing static work continuously.

We know that the spine participates in all the movements of the body, this is mainly due to its great flexibility, the spine is made to be in a vertical position and not for lifting or carrying in a bent position.

Working Techniques and Methods:

When having to lift heavy weights, it must be done with the muscles of the legs and glutes, starting from the squatting position and keeping the upper part of the body erect and tense.

When the back is bent forward or backward, a deviation of the spine occurs, subjecting the muscles and ligaments on the opposite side of the concavity to strong tension and the edges and vertebrae on the concave side to excessive pressure.

In our case, workers who need to lift loads over 30 kg must do so with the help of another worker, for example, handling cement bags, assembling beams, lifting wooden planks, etc.

Lumbar support belts will be used to make lifting loads with incorrect movements difficult.

Article No. 40 – "Work Clothes": Before stating tasks, the type of clothing to be used will be determined. These must comply with the following guidelines:

It will be made of flexible fabric that is easy to clean and disinfect and suitable for the work conditions.

It will fit the worker's body well without affecting their comfort and ease of movement.

The sleeves will be short or otherwise will fit properly.

When tasks must be performed in contact with water, the corresponding clothing and footwear will be provided. If the prevailing weather conditions require it, protective equipment against the cold will be provided.

Article No. 41 – "Personal Protective Equipment (PPE)": It is important to note that personal protective equipment does not eliminate risk, so it should not be considered as optimal protection, although it should be noted that a considerable proportion of work accidents occur due to the lack, non-use or improper use of such equipment.

It is the Contractor's responsibility to provide its workers with the appropriate PPE. The worker is obliged to wear and maintain them, as well as to report any deterioration and request their replacement. The company's Health and Safety Officer must train and instruct on the use and maintenance of the equipment and elements. In this regard, it is important to note:

The use of elements and accessories (scarves, bracelets, chains, etc.) that may pose an additional risk is prohibited. In the case of having long hair, it must be tied back or covered.

Every manufacturer, importer or seller of equipment and PPE will be responsible if it is proven that the accidents or illnesses that occurred were a consequence of the deficiency of such equipment and elements.

The equipment and PPE will be for individual use and not interchangeable. The equipment and PPE must be destroyed at the end of its useful life.

All PPE will comply with the IRAM Standards, which regulate the manufacture of the PPE. The DPOH Inspection may require the corresponding certificate.

When choosing the elements, the degree of protection must be combined with comfort. The best PPE is the one that is used.

It is necessary that the worker is convinced of the need to use the element in order to preserve their health. The most appropriate way to achieve this is through training.

Periodically check the condition of the protector.

The participation of supervisors in raising employee awareness is essential.

Summary of Personal Protection Elements:

Head Protection: A good Safety Helmet must meet the following conditions: maximum shock absorption, be lightweight, comfortable, have a comfortable sweatband, easy to adjust, good fit, balance and minimal electrical and thermal conductivity. Workers must use a Class "A" Helmet, which provides excellent protection against impacts, penetration and flames, optionally against metal splashes.

Hand Protection: Approximately one third of accidents involve injuries to fingers, hands and arms. Gloves to be used may be made of synthetic materials (Nitrite), whose application and handling are consistent with the activity to be carried out (working with metals, bricks, wood, etc.), or cotton gloves that provide very good protection but should not be exposed to hot objects.

Foot Protection: Workers must wear Safety Footwear that has the following characteristics: non-slip, low density, very low weight, flexible, resistant to embedded materials and with steel toe cap with a protective band to avoid the discomfort of the edge. Footwear with polyurethane bidensity soles meet all these characteristics. Rubber boots may be used when working in wet or muddy conditions.

Protection for Tasks at Height: In order to prevent the most important risk, such as falling from heights, workers must be provided with a harness with a safety belt attached to a lifeline. The effectiveness of the use of these two elements lies fundamentally in the attachment that they must have to a fixed and resistant structure.

Eye and Face Protection: Glasses of different resistance against impacts, goggles, face shields and welding masks.

Respiratory Protection: Masks, respirators with particle filters, respirators with chemical filters, respirators with air supply.

Hearing Protection: The devices are intended to prevent unwanted effects on the auditory system, coming from acoustic stimuli. Earplugs (intra-aural) will be used, which are inserted into the external auditory canal or into the ear canal, and ear covers (extra-aural) consisting of a pair of capsules covering the outer ear.

Lumbar Support: As an integral part of preventing lower back pain, Lumbar Supports must be used, whose function is to prevent clumsy movements that harm the spine.

Article No. 42 – "Training Plan": The goal of these training sessions is to raise awareness primarily about the probability of potential risks and/or occupational diseases to which

workers are exposed. In this way, and by applying safe work techniques, they can be avoided or minimized. Among other topics, the following must be addressed:

Basic Safety Standards.

Company Policy on Hygiene and Safety

Use and Maintenance of Personal Protective Equipment

Equipment Operation

Use of Machinery and Tools

Blows, Cuts, Falls and Slips

Confined Spaces

Order and Cleanliness

Lifting Loads

Use and Handling of Ladders and Scaffolding

Electrical Risk

In Itinere Accidents

Thermal Load – Solar Radiation – Cold Stress

First Aid

Meteorological Alert

Hygienic Risk.

Preventive Medicine

Fire Risk – Contingency Plan.

Stress and Mental Load

Lifting of Materials and Tools – Lifting Equipment.

Noise and Vibrations.

Fire Risk – Contingency Plan

Use of Oxy-fuel Cutting Equipment - Electric Welding.

It should be noted that the attendance of the personnel at the training activity will be recorded in the corresponding register (Technical File), which will be provided for this purpose. Likewise, theoretical material will be given to each of the participants of the meeting, and it will be recorded in the aforementioned book.

CHAPTER XI:

CONTINGENCY PLAN:

Article No. 43 – "General Guidelines to Follow in Case of an Accident": The following recommendations are some of the measures to be taken to ensure a rapid and effective response in the event of an emergency at the worksite.

All of the Contractor's personnel must be informed of the name, address and telephone number of the Company's medical services as well as of the nearest Medical Centers where any possible injured workers will be transported.

A list of these addresses and telephone numbers will be posted in the construction site in a visible place.

The Site Manager and each of the foremen will have an identical list on a laminated card, which they will carry in their pocket throughout the workday.

In the case of an accident, action must be taken quickly but calmly.

When there are several injured people, it is necessary to identify those who need immediate assistance. Asphyxiation and bleeding must be treated first.

If possible, medical personnel should go to the place of the accident, and the injured person should wait for their arrival before being transported.

The Occupational Health and Safety Service and the Contractor's Medical Service and the Site Inspection must be notified immediately.

Article No. 44 – "First Aid": A first aid kit containing over-the-counter products, according to the risks to which the workers are exposed, will be available on the worksite. This kit will contain at least:

Bandages, elastic wraps, sterile gauze, cotton and adhesive tape.

Scissors with rounded tips.

Thermometers, tweezers, antiseptic liquid soap.

A bottle of alcohol, hydrogen peroxide, iodine tincture.

Antidiarrheal medication (charcoal tablets).

Analgesics with ibuprofen, paracetamol or aspirin.

Ear drops.

If an accident occurs, the technical manager of the work (Technical Director or Foreman) must follow the following contingency plan:

Minor Accidents:

Calm the person.

Eye Injury: Place the person in a comfortable position, do not try to remove any object that has entered the eye, place a dressing and a bandage without pressure.

Mouth and Teeth Injury: Place folded dressings inside the mouth or in the space left by the tooth, take the tooth, place it in water and take it with the worker to the dentist.

Effects of Heat: Take the person to a cool place with air circulation, loosen their clothing, give them water to drink and if they do not improve, take them to the emergency center.

Accidents of Significant Characteristics:

Fractures: Immobilize the fractured limb, take the victim to the hospital.

Amputations: Control the bleeding, wrap the amputated parts in gauze or clean cloth, in a bag and then in ice, take the person immediately to the hospital.

If an accident such as those described above occurs, such as falls, electrocution or fire, the following procedure must be followed:

Transport the victim to the nearest health center.

Transport the injured person, if necessary, to the health center designated by the Worker's Compensation Insurance (ART).

Immediately inform the Company's responsible personnel.

Report the accident to the ART, complete the accident report form, and request the assigned accident number.

Article No. 45 – "Fire and/or Explosion": Knowledge of fire, combustion products and extinguishing agents is essential to avoid accidents, or, if necessary, to use the appropriate elements to control a fire.

For a fire to start, the presence of three factors is necessary: oxidizer (oxygen in the air), fuel and a heat source. The fire is extinguished if any of these three elements is removed or reduced.

To this end, the correct actions aimed at prevention and control will include:

Restricting the burning of material.

Identifying, storing, handling and using flammable materials and liquids properly.

Positioning fire extinguishing equipment (fire extinguishers) in sectors close to the work areas.

Fire extinguishing equipment will be made of 10 kg ABC Tri-Class Chemical Powder. Demand that the fire extinguisher maintenance service check the condition of the accessories (pressure gauges, hoses, suction pipes, etc.) and perform the corresponding hydraulic test.

Adequate order and cleanliness of the work, placing waste and leftover materials in containers.

Taking into account the tasks developed by the Company, the classes of fire that could potentially occur are 3 (three):

Class A Fire: Caused by materials such as: wood, paper, rubber, cardboard and waste in general.

Class B Fire: Caused by flammable liquid fuels such as gasoline, diesel oil, paints, greases or flammable gases such as natural or bottled gas, propane, butane, etc.

Class C Fire: Occurs in electrically energized elements, for example: panels, motors, transformers, compressors, etc.

Fire Extinguishers:

Water: Suitable for extinguishing Class A fires.

Foam: Suitable for extinguishing Class A and B fires.

Triclass Dry Chemical Powder: Suitable for Class A, B and C fires.

Fire Fighting Tactics: Keep in mind that the fire extinguisher is the first resource against fire, but in order to use it and control the phenomenon, it is necessary to detect the fire at its onset. Consider that a person cannot travel more than 15 meters to reach a fire extinguisher. Fire extinguishers must be clearly identified, easily accessible, and free from obstructions. Make sure that they are properly maintained (pressure gauges, seats, hoses, suction pipes, etc.) and carry out the corresponding hydraulic tests.

The procedure to be followed in order of importance is detailed below, by the main supervisor (crew leader) and/or the rest of the assigned personnel.

a) Use of Fire Extinguishers:

Direct the attack (with a fire extinguisher or water) downwind.

When extinguishing a fire in liquid fuels, start by attacking the base and the front. Direct the jet carefully to avoid splashes and spills.

Consider that it is preferable to use several extinguishers at the same time than to use them one after the other.

When dealing with gas leaks, the jet should be directed towards the valve or leak source, never towards the end of the flame.

When extinguishing a fire in electrical installations, attack laterally first and then directly over the affected area with quick movements.

Do not leave the fire scene until ensuring that the fire has been completely extinguished. Watch for possible re-ignition.

If you notice that the fire will not be easily controlled, immediately call the fire department for assistance.

Notify the Fire Department (T.E.: 100) and/or Police (T.E.: 911) and/or Assistance Center (T.E. :107),

Clearing the Site: The crew chief will verify that all personnel or third parties who do not perform specific tasks leave the site. Likewise, immediate action will be taken to prevent unauthorized people from approaching the affected area.

Notifying Company Authorities: The Crew Chief or the General Task Supervisor will be responsible for informing company officials.

Article No. 46 – "Weather Events": Although weather alert systems can provide information with a certain level of accuracy, temperature changes and winds from variable directions can cause unexpected storms. In this situation, the following Weather Alert Plan must be followed.

If a storm front is detected in the region, pertinent information must be requested before starting activities.

If an unforeseen weather phenomenon arises, the Crew Chief must immediately suspend work, proceeding to remove machinery, tools, equipment and other items, taking them to strategic places such as a warehouse or enclosed area, to ensure the safety of workers and third parties.

If the elements described above cannot be removed, the lives of the workers must be the top priority.

The personnel will remain within the enclosed and protected area while the severe weather persists. If they have to leave the area, they will do so taking into account the condition of the road, driving at low speed, without stopping, keeping regulatory lights on, and in constant communication with the company authorities.

If any type of accident or medical emergency occurs, assistance will be provided immediately by contacting the fire department, police or nearest health center. If the required assistance is not available, the Crew Chief will evaluate the situation and, if necessary, transport the injured worker to the medical center, even if the severe weather conditions persist.

Article No. 47 – "Road Accidents":

Road Accidents: The following should be considered in this regard:

Road Characteristics: Always be aware of the conditions of the terrain being travelled, as they change constantly. It is possible that at certain times there may be more vehicle traffic, therefore, it is recommended to avoid these periods or to be aware of the risks they present. Although many times the driver knows the route well, its momentary condition is always changing.

Weather Conditions: Rain and fog are dangerous situations in which speed should be reduced, considering the decrease in visibility and braking capacity. In the case of fog or mist, this condition is one of the leading causes of highway tragedies and if it is mixed with smoke, its danger is multiplied. In this case, speed should be reduced immediately, all available lights should be turned on, regardless whether it is day or night.

Vehicle Condition: Be cautious, check the vehicle's mechanisms, instruments and protection components. Regularly check the following:

Tire condition (including the spare tire).

Oil and water levels.

Battery and brake fluid level.

Mechanical condition of the braking system.

Lights (including interior ones).

Steering system.

Horn.

Water, oil or fuel leaks.

Driving skills:

Place your hands imagining 10:10 clockwise and bend your arms slightly, without stiffness, this way you will avoid fatigue, and you will be able to maneuver better.

Always wear your seat belt.

Stale air is harmful, renew it from time to time.

Do not get too close to the vehicle in front of you, keeping a safe distance will allow you to resolve an unforeseen situation caused by the person in front of you.

Stop driving if you feel fatigue.

Do not drink alcohol. If you take medication (stimulants or tranquilizers), do not drive.

Avoid smoking, as it impairs air quality inside the vehicle and affects vision.

Do not use a mobile phone while driving.

Night Driving: Driving at night is a potentially dangerous practice that requires greater precautions than driving during the day. Careless driving, vehicles misaligned or malfunctioning headlights, and loose animals are the main causes of nighttime accidents. Lights allow you to see up to a distance of 35 meters, when the minimum distance necessary to react by applying the brakes is approximately 50 meters at a speed between 80 and 100 km/hour, provided that the tires and road conditions are optimal. Another issue to bear in mind is that peripheral vision, which is the human ability to see objects at almost 180 degrees, does not work at night, even without being aware of it.

The common risks of night driving are:

Drowsiness: This is one of the most common states that occur during night driving and is often the cause of those seemingly inexplicable accidents: it causes heaviness and dullness of the senses, blurred vision, greater sensitivity to distractions and errors in the perception of speed. Its most common causes are the ingestion of alcohol, drugs, medication or abundant meals, tiredness, depression, monotony of the road or changes in the environmental conditions of the cabin. Drowsiness can cause the driver to literally fall asleep or fall into the so-called white sleep, which consists of sleeping with the eyes open.

Glare: When vehicles come from the front, they produce a retinal stimulus that temporarily impairs visual capacity and it should be noted that in this case, age is a quality that can increase the risk, given that the older the driver, the longer it takes to recover from this situation. To reduce the risk, it is recommended not to look directly at the other vehicle's headlights and to look towards the right side of the road. It is necessary to reduce speed and if the glare causes you to lose vision, stop safely until vision is restored. On rainy days, special attention is required, since the blinding effect is doubled due to the reflection of light on the wet road.

Recommendations:

Stop for a break at least every 200 km or every 2 hours.

Do not take medications that cause drowsiness, eat lightly and do not drink alcohol.

Always maintain proper ventilation and avoid high temperatures in the vehicle.

Avoid bad posture or clothing that restricts blood circulation.

If feeling drowsy, stop to rest in a safe place (service station or toll booth).

Drive below the speed limit.

Do not blind or engage in a headlight battle if the oncoming vehicle does not low its lights, as the situation can be very dangerous for both.

Drive with a clean windshield inside and out to reduce glare, clean the headlight glass and do not place acrylic or plastic over them.

When overtaking another vehicle, indicate this with the turn signal.

Reduce the intensity of the dashboard light and try not to turn on the vehicle's interior light.

Plan the trip, since it is more difficult to identify streets or signs at night.

Article No. 48 – "Evacuation Plan and Complementary Actions": This consists of the organized exit of all workers from the construction area. The Safety Protocol to be followed from the moment the accident is detected is detailed below, as are the actions to be carried out immediately (disconnection of electrical power, use of fire

extinguishers, etc.), the evacuation itself and the reception of the Emergency Brigades (Firefighters, Police, Ambulances, etc.).

Evacuation Safety Protocol:

1.- The worker or group of workers who detect the emergency will immediately give the evacuation signal to all occupants of the site, while simultaneously disconnecting the energized tools or removing work equipment.

2.- In an orderly and rapid manner, the site will be evacuated to the safe space (meeting or gathering point).

3.- Evacuation routes will be free of obstacles such as tools, work materials, etc., for which the Order and Cleanliness instructions must prevail.

4.- In the external meeting point, the count of workers will be carried out.

5.- Trained personnel will supervise the evacuation process and, if necessary, use portable fire extinguishers in the following situations:

To clear fire from evacuation paths.

To assist colleagues who may be exposed to fire.

If the fire is small and extinguishing it can prevent greater risks.

It is important to highlight that all workers must know and be informed of the Contingency Plan. To this end, it is essential to carry out evacuation drills (at least once a year) in order to verify the effectiveness of its implementation (taking evacuation times, for example) and therefore detect possible errors and modify them.

Article No. 49 – "Confinement Plan": It consists of remaining organized within a safe location (business premises, service station, toll booth, etc.), in situations of external danger (criminal activity, attack, fire, etc.). Basically, what must be done in these cases is to lock oneself inside, place yourself in the area furthest from the danger and immediately ask for outside help (police, firefighters, emergency services, etc.) and wait for their instructions.

Article No. 50 – "Rescue Plan": If any type of complication arises, either concerning personnel (such as a worker experiencing a health issue) or logistical failures of the implemented safety actions (such as failures in any of the parts of the Safety Protocol), immediate assistance must be provided, taking into account that the first few minutes are essential to avoid causing problems with major consequences.

In order to comply with the above, the Work Supervisor (Site Manager) must take the following measures:

1 – Verify that the injured person is conscious and not experiencing panic. If they are conscious and calm, they may be able to initiate their own Self-Rescue.

2 – If the victim is not conscious, immediately initiate a rescue process with the assistance of other workers. This should be done while considering previously mentioned safety concepts, and at least two workers should help secure and transport the injured person slowly, avoiding additional harm.

3 - While the rescue work is being carried out, the Site Manager will immediately notify the Emergency Services (firefighters, police, hospital, etc.) and will proceed to clear the area of third parties and nearby vehicles to facilitate victim's transportation to the nearest medical center.

ANNEX XVIII

ENVIRONMENTAL CONTROL AND PROTECTION

General Index

"ENVIRONMENTAL CONTROL AND PROTECTION"

CHAPTER I:

GENERAL CONSIDERATIONS:

Article No. 1 – "Introduction": The purpose of this specification is to establish the standards and behaviors to be followed in order to comply with environmental studies - Environmental Impact Study - File No. 01801-0051154-0 of the Ministry of the Environment of the Province of Santa Fe.

The Contractor must comply with the provisions of Provincial Law No. 11,717 on Environment and Sustainable Development, Regulatory Decrees No. 1844/02 and 101/03, complementary standards, and, in particular, the conditions for the execution of the work established in the Resolutions and Opinions issued by the Provincial Authority as a result of the Evaluation process of the Environmental Impact Study of the project.

These standards must be considered as mandatory requirements for the Contractor to comply with in the planning for the execution of the Work, the presentation of construction details according to the construction progress sequence, acceptance tests and instructions for the operation and maintenance of the work, which must be taken into account in the preparation of the Bid proposal.

Tasks related to Environmental Management and Control will not be measured or receive any direct payment, considering that their cost is included within the contract items that receive payment. Such cost includes the actions necessary to carry out all the measures described in this specification, the provision of equipment and tools, and any other task or resources necessary for the purposes of complying with this specification and the Inspection's orders.

Article No. 2 – "General Requirements to be Considered by the Bidder": The Contractor must comply with the observations, requirements or sanctions imposed by the national, provincial and/or municipal authorities and regulatory agencies, assuming full responsibility for all associated costs, taxes, fees, fines or any other sums due for any reason. The Contractor is required to comply with the provisions of the preceding points, and under no circumstances will request for additional payments or extension of project deadlines be accepted for these obligations.

The Contractor must hold the Principal harmless against any judicial or extrajudicial claims arising from non-compliance with environmental regulations in the execution of its work. From the moment the Contract starts, the Contractor will be responsible for the analysis and evaluation of the climate data, in order to establish alert mechanisms that are necessary to implement measures to avoid damage to the works. The Contractor assumes full risk for any potential damage to the works due to climatic contingencies.

Article No. 3 – "Environmental Manager": The Contractor must appoint a professional with a university degree as the Environmental Manager, who will be responsible for

ensuring compliance with the environmental requirements throughout all stages of the Work.

The Environmental Manager will act as an intermediary in all socio-environmental aspects between the Contractor, the Competent Authorities, and the Principal.

The Contractor will be solely and entirely responsible for any damages caused to third parties due to non-compliance with these specifications. Therefore, the Contractor will be required to cover all economic expenses and compensation necessary.

The Environmental Manager's responsibilities include, but are not limited to:

•Submitting monthly reports to the Inspection detailing the degree of progress and compliance with the Environmental Management Plan and the general and specific environmental technical specifications, if applicable.

• Verifying compliance with the required Monitoring Plan.

• Notifying the Inspection of any contingency within 12 hours after the event occurs, specifying the location, origin, description, consequences, measures taken and results obtained.

• Keeping the Record of Contingencies that have occurred on site for consultation by the Inspection and the competent provincial or municipal authorities.

• Implementing and keeping the record of Hazardous Waste Management operations.

Article No. 4 – "Environmental Permits": The Contractor will undertake the necessary procedures to obtain the permits for the use, exploitation or allocation of the resources necessary for the construction and operation of the work, or of those resources or assets that are temporarily affected for construction reasons, including equipment and service infrastructure. For this purpose, the Contractor is authorized to contact the authorities, concessionaires or owners to obtain the respective permits or, in the event that a modification to any of the permits or authorizations required for the execution of the project is necessary.

The Contractor must submit to the Inspection a detailed program and a management plan for all permits and licenses required for the work that are not provided by the Principal and that are required to execute the work. The costs of all actions, permits, exploitations and declarations must be included within the Contractor's general expenses, not receiving any direct payment for these concepts.

The permits that the Contractor must obtain include, but are not limited to, the following operational permits for the execution of the project:

• Permit for the soil borrow pit exploitation. Issued by the Ministry of Environment and Climate Change and the Ministry of Production of the Province of Santa Fe.

• Water extraction permits. Requested from the Ministry of Public Works of the Province of Santa Fe.

• Permit for Water Treatment Plant Discharge. Issued by the Ministry of Public Works and by the Ministry of Environment and Climate Change of the Province of Santa Fe.

• Permit for the establishment of camps and workshops. Issued by the relevant Commune or Municipality.

• Hazardous waste management. Registration as a temporary generator of hazardous waste in the Ministry of Environment and Climate Change of the Province of Santa Fe.

• Transportation and final disposal of hazardous waste by an authorized company.

• Permit to continue construction after findings related to Cultural Heritage have been made, including archaeological and paleontological sites.

• Registration of liquid fuel dispensing points, with the Secretariat of Energy of the Ministry of Federal Planning, Public Investment and Services.

• Collection and disposal of waste similar to urban waste. Issued by the relevant Commune or Municipality.

• Permits for temporary road closure and detour of access to private properties, or construction of local access roads. Issued by the relevant Commune or Municipality.

• Authorization for use of pressure vessels and equipment – Provincial Law No. 1373 and regulatory decrees.

• Permit for tree felling, pruning, thinning or clearing issued by an agency with jurisdiction of the Ministry of Environment and Climate Change.

The Contractor must comply with all stipulations and meet all requirements of each granted permit, ensuring that project execution adheres to the resolutions and opinions issued by the relevant provincial and municipal authorities. The Contractor shall be solely responsible for any delays in the Work due to permit processing.

CHAPTER II:

ENVIRONMENTAL MANAGEMENT PLAN FOR THE CONSTRUCTION OF THE WORK (PGAc):

Article No. 5 – "General Considerations": The Contractor will develop and implement a specific Environmental Management Plan for the construction stage (PGAc) based on these Specifications, on the recommendations of the Environmental Studies and on the authorization conditions that may have been established by the relevant provincial and/or municipal authorities. The PGAc must be submitted by the Contractor to the Inspection and to the Directorate of Sustainable Development Directorate of the Ministry of Environment and Climate Change to be attached to the Environmental Impact Study of the approved project, within 15 (fifteen) calendar days after the signing of the Contract.

The PGAc must include all the specific environmental management measures for the activities directly and indirectly related to the construction, such as: selection of the sites for the camp, the construction site, the auxiliary facilities, material loans, exploitation of deposits or quarries, installation and operation of the materials plant, installation and operation of machinery, training of personnel, supplies required to carry out the proposed work, earthworks, crossings of water channels, storage of fuels, pesticides, paints and degreasers, management and disposal of waste of any nature and in any state of aggregation and the abandonment phase, and any other action inherent to the construction stage. This PGAc must be accompanied by a schedule prepared in accordance with the work schedule.

The PGAc aims to detail the construction and control procedures and methodologies on the construction site, which allow guaranteeing the execution of the works with the minimum possible environmental impact. A guide for its preparation is established in the following points, which must be in full accordance with the current environmental legislation referenced in Article 1.

For the design of the PGAC, the project will be broken down into its activities, in order to identify the environmental risk and the possible impacts that each of them involves in order to adjust the corresponding environmental management measures and procedures aimed at preventing or mitigating these risks and negative impacts, in the construction stage.

The PGAC must include, at least, the following Programs:

A. Training Program.

B. Action Program.

C. Contingency Program.

D. Monitoring Program.

E. Communication Program.

Article No. 5. A – "Training Program": Training and education are considered fundamental activities in all stages of the project, including the personnel admission phase (environmental induction). Training will be carried out both verbally and in writing.

The Contractor must provide training and instruction on technical procedures and standards that must be used for compliance with the PGAC of the contracted Work.

The Contractor must submit the Induction and Training Program on environmental protection and all matters related to Occupational Health and Safety for the work, for all its personnel and that of its Subcontractors, indicating the number of man-hours of training offered, a schedule with the execution dates, the syllabus and the tools to be used. During the execution of the contract, it must keep updated records of the inductions and training carried out. No personnel of the Contractor or Subcontractor may enter the work site without first receiving induction and training in environmental protection.

Article No. 5. B – "PGAc Action Program": The Action Program establishes the set of activities that must ensure the elimination, prevention or control of the risks and negative environmental impacts. The Program must include at least the following chapters:

Pollution Control

Water and wastewater:

- Treatment of operational wastewater (camp, workshop and equipment maintenance, among others).

- Sediment control.

- Prevention of material discharge into water bodies (rivers, streams, lagoons, irrigation canals).

Air:

- Control of particulate matter emissions from traffic, earthworks, stockpiles, workshops, asphalt or concrete plants.

- Control of emissions from mobile sources.

- Noise control.

Fauna:

- Control of hunting, fishing, transport, possession and trade of local wildlife species. Inventory of the roadkill fauna species, indicating the species, location, date and time (day or night) of the event.

Flora:

- Control of felling, pruning, thinning, trimming and use of forest species (particularly protected species).

- Prevention and control of forest fires.

- Management, handling and control of tree extraction.

Soil:

- Management, handling and disposal of waste of any form and in any state.

- Control of activities that cause erosion.

- Control of soil movements.

- Control and management of deposits and quarries.

Article No. 5. C– "PGAc Contingency Program": The CONTRACTOR must prepare and submit for approval to the INSPECTION, a Contingency Program to deal with emergencies, aimed at preserving the integrity of all individuals that for any reason are related to the work, including workers, visitors, the community and natural resources. Likewise, it must tend to preserve the goods and assets from potential damage caused

as a result of accidents, taking into account not only their economic value, but also their strategic value for the work and for the community in general.

The Program must identify risk sources, and the key vulnerable elements potentially affected and clearly define the course of action in case of an emergency, including communication and alert circuits.

The Program must include at least:

• Reduction or control of risks according to the activities carried out or to be carried out in the work.

• Reduction or control of risks for extraordinary events (severe weather, pluvial and/or fluvial flooding).

• Facilities for partial or total evacuation of the work fronts and temporary facilities at any time, for all the personnel and the community.

• Facilities and means for rescuing people located in any work front or temporary facilities.

• First aid response.

• Emergency protocol.

Additionally, the environment must be protected from the risks of contamination and damage associated directly or indirectly with the activities of the construction stage, including:

• Spills of hazardous substances on the ground or water sources.

• Atmospheric emissions.

• Handling, transportation and disposal of hazardous substances

• Fires.

• Road accidents

The CONTRACTOR must establish a plan of actions to be carried out in the emergency and evacuation drills at each camp, construction site and work front, which must be carried out every 180 days. The contractor will notify the INSPECTION at least one week in advance of the drill. Once carried out, the CONTRACTOR must submit a drill evaluation and report to the INSPECTION.

Likewise, the emergencies or contingencies that may arise in the demobilization and restoration phase or abandonment phase must be considered.

Article No. 5. D – "Monitoring Program": Its objective is to detect and correct possible failures in the PGAc in a timely manner. The Contractor must establish mechanisms and actions that allow adequate monitoring of the PGAc.

The minimum activities to be developed are:

- Monitoring.

- Inspections.

- Reports.

The Contractor will be responsible for carrying it out, and must submit a Monthly Report on the components and variables to be monitored, providing the analyses, tests in duly certified laboratories, and the audit report including dated photographs, signed by the Environmental Manager and the Contractor's Technical Representative.

The aforementioned Reports will be submitted by the Contractor to the Inspection, containing the progress and compliance status of the PGAc and a summary of the environmental and work-related incidents and accidents, with annexes that illustrate the problems presented and the measures proposed and/or adopted in this regard. All information provided by the Contractor will be considered a Sworn Statement.

Environmental monitoring:

Monitoring is the set of activities that allow the qualification of changes in environmental parameters. The Contractor must schedule sampling in order to guarantee the good operation of its construction technologies, treatment of water for human consumption and discharge of wastewater from different activities.

The Contractor will prepare a Monitoring Plan as part of the PGAc Monitoring Program.

The Monitoring Plan will allow, through sampling and measurements, early detection of unfavorable changes in the conditions of the environmental components: atmosphere, soil, water, flora and fauna, social factors (social and cultural patterns) and landscape, as essential references for the project area.

Below, the variables or monitoring indicators and the frequency of the analyses and/or reports that must be presented as a minimum in the environmental monitoring plan are listed according to the affected environmental component and by possible impact. In case of discrepancies, for this Plan, between what is required in these Specifications and the applicable Standards in the field, the latter shall prevail, after notification and authorization from the Inspection.

Environmental component: **ATMOSPHERE**

Impact: **Atmospheric pollution from fixed mixing plants.**

Objective: Verify correct operation

MEASURE	INDICATOR	FREQUENCY
Dust emission control	Suspended particles	Monthly
Moistening excavation surfaces to prevent suspended particles in the atmosphere	PM 10 analysis. This will not be necessary if the distance from the sites generating particulate matter is more than 500 meters from any sensitive receptor (residential or urbanized area)	Monthly

Impact: **Noise**

Objective: Develop a noise monitoring program by evaluating daytime noise emission sources in populated areas.

MEASURE	INDICATOR	FREQUENCY
Control of equipment and working hours	Disturbing noise according to IRAM Standard No. 4,062/01. Noise level limit according to Res. 295/03- Annex V	Monthly

Environmental component: **SOIL**

Impact: **Soil contamination by hazardous waste.**

Objective: Verify the correct functioning and efficiency of hazardous waste management plans.

MEASURE	INDICATOR	FREQUENCY
Hazardous Waste Management. Placement of containers for the storage of solid waste, complying with provincial regulations regarding hazardous waste management.	Volumes of hazardous waste generated. Number of containers used. Camp cleanliness level express as a percentage. Existence of manifests and certificates for transportation and final disposal of hazardous waste according to regulations	Monthly
Upon completion of the work, clean the land and condition the soil with the removed soil layer used for setting up the camp.	Volume and location of the removed soil.	One time, upon site abandonment.

Impact: **Soil contamination by hazardous substances.**

Objective: Establish a soil contamination monitoring program for hydrocarbons as part of the Site Abandonment Plan.

MEASURE	INDICATOR	FREQUENCY
Closure and abandonment audit of workshop, camp and mixing plant areas	Photographic record before occupation of the areas for the camp, workshops and processing plants; and after abandonment. Soil sampling at the points most exposed to hydrocarbon spills. Analysis of TPH on the surface and at 20 cm depth, at least 1 sampling point for every 50 m^2 in the most exposed areas.	One time, upon site abandonment.

Impact: **Soil contamination by non-hazardous waste.**

Objective: Verify the proper operation and effectiveness of the domestic waste management plan.

MEASURE	INDICATOR	FREQUENCY
Management of waste similar to household waste	Volumes of garbage collected. Number and location of containers used. Existence of delivery receipts to the authorized household waste disposal center.	Monthly

Impact: **Erosion**

Objective: Verify the effectiveness of measures to prevent erosive processes.

MEASURE	INDICATOR	FREQUENCY
Design parameters and erosion control works	Percentage of eroded surface on slopes and embankments.	Quarterly

Environmental component: **WATER**

Impact: **Surface water pollution by workshops, plants, camps or works planned over water courses**.

Objective: Develop a surface water quality monitoring program.

MEASURE	INDICATOR	FREQUENCY
Control of disposal of liquid and solid effluents. Criteria for the use of water for the work	Temperature, BOD; COD, pH, conductivity, turbidity, TSS and total hydrocarbons. Compare concentrations with applicable provincial regulations. Georefe rence sampling sites	Quarterly

Impact: **Groundwater pollution**.

Objective: Develop a groundwater quality monitoring program.

MEASURE	INDICATOR	FREQUENCY
Control of disposal of liquid and solid effluents. Water use criteria for the project. Management of waste and hazardous substances; disposal of sewage effluents in workshops	pH, Total/Fecal Coliforms, conductivity, Total Hydrocarbons. Compare concentrations with applicable provincial regulations. Georeference sampling sites.	Quarterly

Impact: **Modification of natural drainage**

Objective: Minimize alterations to natural drainage.

MEASURE	INDICATOR	FREQUENCY
Smooth out cut and fill slopes.	Photographic record before and after the action.	Monthly

Environmental component: **FLORA AND FAUNA**

Impact: **Death of animals in operational area.**

Objective: Develop a system for recording animals affected by accidents. Verify the effectiveness of fauna protection measures.

MEASURE	INDICATOR	FREQUENCY
Environmental induction. Staff training indicating the effects of poaching on wildlife	Number of man-hours use for training.	Monthly
Wildlife roadkill record.	Record of road-killed animals, specifying species, context and location of the finding	Monthly

Impact: **Destruction of vegetation cover.**

Objective: Establish mechanisms to verify compliance with the measures intended to prevent vegetation loss and to restore vegetation cover.

MEASURE	INDICATOR	FREQUENCY
Separation, conservation and replacement of organic soils	Uncovered areas and time spent in that state (bare). Compliance level with the measure. Execution of soil movement Percentage of revegetation in covered areas (% covered by vegetation)	Monthly
Prohibit fires and bonfires due to the risks of spreading fire and destruction of vegetation cover (both natural and artificial)	Number of fires detected. Total number of trained individuals to prevent this impact and frequency of training.	Quarterly

Environmental component: **SOCIAL**

Impact: **Reduction in road safety**.

Objective: Verify the effectiveness of measures aimed at maintaining/increasing road safety.

MEASURE	INDICATOR	FREQUENCY
Speed control signage. Personnel training. Distribution of information brochures	Record of road accidents, with details of the place, time, number of people involved and apparent cause. Method of intervention by the contractor (warning, road closure, etc.).	Monthly

Impact: Disturbance to drivers, residents and users.

Objective: Verify the correct functioning of the Social Communication Plan and consolidate its registration system.

MEASURE	INDICATOR	FREQUENCY
Social communication plan. Preventive signage measures. Environmental induction for personnel.	Record of queries, complaints and claims received by the representative for the company's communication with the community, as defined in the Social Communication Plan.	Monthly

	Presence of signage and safety fences for pedestrians and vehicles.	

Impact: **Workplace accidents**

Objective: Verify the efficiency of measures aimed at preserving the integrity of workers and people in general

MEASURE	INDICATOR	FREQUENCY
Availability of a first aid kit. Availability of fire extinguishers. Establishment of a security system in the work areas to prevent unauthorized people from entering the work area.	Monitoring of the Contractor's Occupational Health and Safety Service. Number of work accidents. Number of injured people not involved in the work. Number of injured construction workers. Records of work accident reported to the A.R.T. Report issued by the A.R.T. containing the accidents reported by the company.	Monthly

Environmental component: **CULTURAL HERITAGE**

Impact: **Impact on cults and sanctuaries**

Objective: Minimize possible alterations and loss of places of worship and sanctuary

MEASURE	INDICATOR	FREQUENCY
Relocation of places of worship and sanctuaries to safe access places within the construction area	Identification of places of worship and sanctuary. Photographic record of each of the sites that must be relocated	Monthly

Impact: **Potential impact on archaeological or paleontological cultural heritage**.

Objective: Minimize any potential negative impacts

MEASURE	INDICATOR	FREQUENCY
Monitoring the management of valuable discoveries	Location, photographic record and fencing. Proof of complaint to the competent enforcement authority. Rescue or discard actions implemented, with the name of the personnel involved. Monthly report.	Monthly

Environmental component: **LANDSCAPE**

Impact: **Abandonment material deposits areas for the work**.

Objective: Develop a monitoring program for restoration tasks in deposit areas.

MEASURE	INDICATOR	FREQUENCY
Compliance with the measure. Exploitation of deposits in accordance with the approved Environmental Impact Study.	State of exploitation, abandonment or restoration of each of the sites. Percentage of restoration of each site.	Monthly

Article No. 5. E – "Social Communication Program": The general objective of the Program is to ensure that the community within the project area has the appropriate information and means of participation to exercise its right to an active role in the project management.

This will be achieved through the following specific objectives:

• Provide clear, concise and non-technical information to the population in the project's area of influence.

• Establish appropriate participation mechanisms.

• Communicate to those responsible for the project's social and environmental management the inquiries, doubts, opinions and complaints made by the population, so that they can be addressed in a timely manner.

• Monitor compliance with this program.

The CONTRACTOR must appoint an individual as the Communication Agent for the project, with experience in social communication and whose background must be submitted to the INSPECTION, at the start of the contract execution.

The Communication Agent will be provided by the CONTRACTOR with a physical space in the construction site, where they may receive suggestions, concerns or queries from interested parties in person, by telephone or through email and other possible means of communication. The aforementioned physical space will be called a "Community Point" and must be properly equipped, with the corresponding furniture, a computer with a broadband Internet connection, a printer, a landline telephone, project plans, forms for receiving queries, brochures and other elements that will be included according to the needs.

The Communication Agent must disseminate the location, functions and hours of operation of the Community Point, as well as the different means of communication with it, to the entire community within the project's area of influence. This will be done through local and regional media, graphic materials posted and distributed in high traffic areas (such as schools, churches, police stations, community centers, etc.)

The Communication Agent will represent the CONTRACTOR in all actions related to community communication and participation.

The Communication Agent must carry out the systematization and follow-up of the queries and/or complaints made and report them to the Inspection according to the attached Form.

The CONTRACTOR must ensure the participation of the Communication Agent and/or personnel with the necessary technical knowledge (such as an Engineer), in the community communication and awareness activities outlined in this Plan and in addressing emerging issues related to the project.

Workers of the CONTRACTOR and SUBCONTRACTORS must respect the cultural guidelines of the local settlements in the area.

<table>
<tr><td colspan="8">Environmental Management Plan Construction Stage</td></tr>
<tr><td colspan="4">Work:</td><td colspan="4">Company Name:</td></tr>
<tr><td colspan="8">INQUIRY REGISTRATION FORM</td></tr>
<tr><td colspan="8">Inquiry data</td></tr>
<tr><td colspan="4">Date and time</td><td colspan="4">Inquiry channel</td></tr>
<tr><td>Day</td><td>Month</td><td>Year</td><td>Time</td><td>Community point</td><td>Telephone</td><td colspan="2">E-mail</td></tr>
<tr><td colspan="4">Inquiry Response Officer:</td><td colspan="4"></td></tr>
<tr><td colspan="4">Name and surname of the consultant:</td><td colspan="2">Telephone:</td><td colspan="2">E-Mail:</td></tr>
<tr><td colspan="4">Inquiry received:</td><td colspan="4"></td></tr>
<tr><td colspan="8">Treatment of the Response</td></tr>
<tr><td colspan="2">Response:</td><td colspan="2">Immediate:</td><td colspan="2">Of Specialist:</td><td>24 hs</td><td>48 hs</td><td>72 hs</td></tr>
<tr><td colspan="8">Response sent:</td></tr>
<tr><td colspan="8">Notices: To the Inspection</td></tr>
<tr><td colspan="8">Case follow-up</td></tr>
<tr><td colspan="8">Success Indicator</td></tr>
</table>

Article No. 6 – "Control of Noise, Vibration and Air Pollution in the work area": The Bidder must include in its Bid a Noise, Vibration and Air Pollution Control Program in the area directly affected by the works, deposits and access roads, which includes the tasks, works, services and actionss to be developed, under its direct responsibility, incorporating the costs of the Program within the Cost of the Contract. The Program must comply with the requirements of current legislation, in particular with the provisions of Provincial Resolution No. 201/04 on Prevention, control and correction of air pollution situations.

The Contractor, prior to the start of the tasks of installation of on-site facilities, clearing and earthworks, and in areas directly affected by the works, must inspect its mobile or

fixed equipment to ensure that the noise levels comply with the requirements of current regulations, according to the physical area in which the works are carried out.

With regard to noise and vibration levels related to Occupational Health And Safety, the Contractor must comply with Law No. 19,587, resolution No. 295/03 - Annex V and any other legislation that replaces or complements it.

In peri-urban and urban environments, the Contractor must comply with the legislation on noise and vibrations applicable to each particular jurisdiction, taking extreme measures to avoid affecting people and local fauna.

If the Environmental Inspection deems it appropriate, the Contractor must measure the noise and vibration levels of all its machinery and transport vehicles, with octave band analysis, to evaluate frequencies and verify compliance with the relevant standards.

If the equipment produces gaseous emissions that exceed current regulations, the Contractor must adopt the necessary measures to reduce the emission of pollutants until acceptable values are reached. In particular, special precautions must be taken in those areas with a higher concentration of human settlements, personnel and/or fauna susceptibility.

Article No. 7 – "Mitigation of Impacts on Public Services and Infrastructure during the Work": The Contractor must identify all Infrastructure and Public Services Works that may be affected as a result of the execution of the Work, including deposits and the activities of transporting supplies or moving equipment and machinery that could cause deterioration of the infrastructure or limitations in the provision of services.

The Contractor must permanently maintain in service all infrastructure affected by the works and activities related to the construction, including that located in the air, on the surface or underground. In particular, the Contractor must maintain in service the transmission and distribution lines for electric power, telecommunications and television, roads, bridges and sewers, the evacuation systems for excess water and sewage, industrial and municipal effluents, aerial and underground pipelines, canal systems, etc. and restore all existing risk and information signaling systems in the area affected by the work.

The Contractor must carry out the procedures to obtain authorization from those responsible for the infrastructure and services that will be affected and/or from the relevant regulatory authority, assuming the costs for any losses in the provision of services and for the restoration of the affected infrastructure. Likewise, the Contractor must coordinate with the public or private organizations providing the services or those responsible for the infrastructure and with the relevant control authorities, the measures and actions to be taken to maintain the service and restore the damages, carrying out the work to their complete satisfaction.

In the case of public roads, the Contractor must coordinate the development of the works, avoiding interruptions to public circulation, whether of vehicles or people. If it is necessary to close, block or divert public communication routes, the Contractor must

establish and assume the costs and responsibilities of maintaining alternative passage means to avoid inconveniences in traffic circulation.

The alternative transit routes must comply with traffic conditions similar to those existing on the affected communication route, even in situations of intensive circulation, heavy or bulky loads or adverse weather conditions.

The Contractor shall be directly and solely responsible for the correct protection and signage in the affected areas of the infrastructure and must install effective fencing and warning signs that function correctly in any weather condition, day and night, and must permanently maintain the system in correct working order.

In the event of causing damage or inconvenience to the infrastructure and public services, provided by the state or private, work must be suspended until the necessary precautions have been taken for their protection and the applicable authorization has been obtained in each case.

The Contractor shall be solely responsible for accidents, damages and limitations or inconveniences that occur due to effects on the services and infrastructure during the development of the work and shall be solely responsible for the immediate solution of the problem.

The Contractor shall give priority to the use of existing accesses and roads for the circulation of machinery and equipment.

Once the works are completed, the Contractor shall restore the temporarily affected infrastructure to its original conditions, to the full satisfaction of the owners.

Article No. 8 – "Contractor's Withdrawal upon Completion of the Construction Work": The Bidder must provide in its Bid a Contractor's Withdrawal Program to be implemented upon completion of the Works. This program shall include: the erection of construction sites, the adaptation of the landscape in the construction area, the cleaning and/or remediation of areas contaminated by construction activities, the final disposal of waste, the removal of recyclable materials, machinery and equipment used in construction, the restoration of temporary accesses and routes, the scenic and landscape enhancements of deposits, etc. The program must specify the services and actions to be performed, under its direct responsibility, with the costs of the Program incorporated into the Contract Cost. The Program must comply with the obligations established by current legislation.

Article No. 9 – "Waste Management": The Contractor must submit a Waste Management Program in order to take precautions and ensure the availability of adequate equipment for the collection, storage and final disposal of waste. These include the disposal of residual materials produced during the cleaning of work sites, the proper location and identification of containers to store different types of waste materials, the collection and disposal of organic waste, grease, oil, fuel and the development of measures and actions to avoid spills, losses and the unnecessary generation of waste.

The Contractor will allocate a specific area of the construction site for the temporary disposal of hazardous waste, within which containers specially enabled for this purpose will be located, duly labeled and identified with respect to the type of contaminants that the waste contains and the associated risks. Warning signs must be posted in this area to indicate potential hazards. The placement of fuel and lubricant tanks must comply with the maximum safety regulations, including a containment enclosure. Floor and edges waterproofing is mandatory to prevent any spills from contaminating the soil. Pipelines must be visible, protected from traffic, and designed to prevent underground leaks. The final disposal of hazardous waste must be carried out in places or treatment plants expressly authorized for this purpose by the relevant Regulatory Authority.

All other types of solid waste (in accordance with the criteria established in Law 24,051) must be properly collected and stored in a system of appropriate containers with airtight lids and must be transported by authorized carriers to the areas approved by local authorities for their final disposal.

Article No. 10 – ". Installation of the Workshop": The choice of the site for the installation of workshops and camps must be communicated to the Inspection.

Authorization or a no-objection certificate from the Communal or Municipal government will be required to install camps in urban areas.

In the construction of camps, land excavation, filling, and vegetation removal will be avoided. As far as possible, the facilities will be prefabricated. All camps will have septic tanks. Under no circumstances shall wastewater be discharged into watercourses. A plan of the sanitary facilities, including the number and quality necessary to meet personnel needs, and wastewater treatment system, must be submitted for approval by the Inspection. In the case of chemical toilets, a certificate of environmentally safe disposal of the waste by the contracted company must be submitted.

It is prohibited to dispose of or abandon waste, in any form or state, in watercourses, slopes or forested areas. All waste generated by any activity will be managed in accordance with the applicable regulations. The Contractor may agree with the local Municipal or Communal government the periodic removal of waste similar to household waste, subject to prior authorization from the Inspection.

Decree No. 1844/02 establishes which waste is considered hazardous and therefore subject to the Law and creates a Register of Generators and Operators of hazardous waste. The generator must comply with the obligation to declare the generation of this waste and register it in the pertinent Registers according to the categorization. Likewise, transport manifests must be available, duly signed by the operators involved in waste management.

For the disposal of rubble or unused materials and to remove all large inert waste from view, until all work areas are clean and clear, the Contractor must select one or more locations outside any forested areas, which must be approved by the Inspection. The rubble deposit or deposits with layered stacking will not rise above the surrounding land level. The final layer will consist of organic soil, to restore the natural land configuration and vegetation of the area.

Camps will be equipped with fire extinguishing equipment and have a person responsible for first aid supplies and an emergency and contingency response team, in compliance with occupational health and safety regulations. Fire extinguishing equipment must be kept in perfect working condition throughout the entire duration of the project.

Access to the camps, plants and work areas must be adequately signposted, considering both vehicle and pedestrian movement. Warning signs must be placed near the camp to alert road users, indicating that they should reduce their speed and take the necessary precautions due to the movement of heavy machinery. Special emphasis must be placed on the camp's entrance and exit areas, ensuring a secure access route for both users and project workers. This signage is temporary and will only be in effect during the construction phase.

Workshops and fuel pumps must undergo specific adaptations related to the waterproofing of the ground, for which it is necessary to spread a layer of concrete covering the area of the workshops with a perimeter trap or channel system to collect grease, oil, motor fluids, and fuel residues, directing them to a grease trap. The same system must be implemented for the disposal of fuel storage as well as for storing and paints, lubricant drums, additives, asphalt emulsion tanks and other hazardous products or substances that may contaminate the soil in case of accidental spills or leaks. Therefore, lateral walls and slopes towards an internal spill concentration area (a sealed container or pit) will be used for their extraction, transportation, treatment and proper final disposal. Tanks must be placed above ground level, never buried.

Once construction is completed, the camp areas, workshops and all fixed or removable installations that the Contractor has installed for the execution of the work, as well as scrap metal, debris, fences, partitions, filling pits, dismantling or filling loading and unloading ramps, machinery, equipment, etc. must be removed. The soil in the affected area must be restored to its previous state, remediating any areas that may be contaminated by an authorized company. Remediation tasks or operations must be supervised, so the Contractor must inform the Inspection of the start date of the tasks or operations with due notice.

Camps will be dismantled once the works have ceased, leaving the area in perfect condition and integrated into the surrounding environment. In the event that the facilities located outside the road area could be of future benefit for the community, they may be donated to the local communities.

The Contractor will submit the Inspection a donation agreement stating the conditions in which the facilities are delivered and the responsibility for their maintenance. In no case may environmental liabilities, such as the pits of the exploited deposits or quarries, be donated.

Fuel storage in workshops: It is prohibited to store fuel in places close to sources of spontaneous ignition (power lines, heat sources, work areas with open flames). All provisions outlined in Decree No. 1844/02 on hazardous waste must be strictly followed.

Article No. 11 – "Extraction of materials": The soils to be used for construction may be extracted from deposits and/or quarries specifically exploited for this work or from pre-existing legally authorized and licensed deposits and/or quarries.

The extraction areas will be selected by the Contractor, following an analysis of alternatives that must be submitted for approval to the Inspection. These zones must be located at least 200 meters away from any type of road and not be visible from them.

For each deposit or quarry that is intended to be exploited, the Bidder must submit an Environmental Impact Study to the Ministry of Environment and Climate Change, through the Directorate of Sustainable Development of the province of Santa Fe. This assessment must be approved prior to the extraction of materials.

To facilitate the recovery of the previous land use, it is recommended to select sites where it is possible to expand the exploitation area and reduce its depth. This will help to avoid the formation of ponds. It is recommended to give priority to the selection of sites that allow obtaining a topographic profile in the form of a gentle valley, avoiding abrupt depressions.

For the selection, the least impact on the watercourses involved in the project and surrounding ecological environment will be taken into account, to avoid altering hydraulic dynamics, creating pits and depressions in riverbeds. Likewise, it will be necessary to avoid affecting pristine wetlands and marshes, preferring to use sites that have already been impacted.

The exploitation plan must include the initial removal and stockpiling the organic soil layer from the area strictly necessary for extraction. The collected material must be accumulated in mounds of no more than 3 m in height, protected from wind, water erosion, compaction, and contaminants that may alter its qualities to support vegetation. If stored for more than one year, it is recommended to plant local legumes and grass on the mounds and add fertilizers, to prevent soil degradation.

The Contractor must submit to the Inspection, before beginning soil extraction, the Authorization for the exploitation of the deposits or quarries, with all the required permits and licenses issued by the competent authority of the Province of Santa Fe.

This activity generates noise, displaces wildlife, affects the structure of the landscape and produces significant amounts of particulate material. The construction and conditioning of access routes alter vegetation, disturb soil horizons and increase soil compaction in surrounding areas due to traffic density. Of the impacts described here, some are not mitigable, such as the noise generated during the extraction and transportation. To the compacted area, specific and constant transport routes must be established to avoid the intrusion into surrounding areas. To mitigate airborne particulate matter, water spraying or sprinkling will be carried out to control dust emissions.

The extracted material, if deposited, must be placed far from water currents or visible channels, even if these do not have surface flow at the time or are sporadic or intermittent. Additionally, live barriers should be established to act as traps so that the sediments are retained especially in areas such as camps and material crushing zones. Complementary to the works described for erosion control, it is necessary to encourage

the growth of existing vegetation, allowing natural repopulation processes in the areas surrounding the clearing sites, as well as reusing the existing organic soil layer.

The location, the exploitation plan and subsequent morphological recovery, revegetation and closure will be presented to the Inspection, together with the approved Environmental Impact Study. In addition, the Contractor must present a record of images of the site's condition before extraction begins.

The Contractor shall select a suitable location for depositing rubble or unused materials and for removing all large-sized waste from view, ensuring that the area is clean and clear. The location, together with the morphological recovery and revegetation plan, shall be submitted for the Inspection's approval. The debris deposit must be filled with layered material, ensuring it does not rise above the level of the surrounding land.

The organic soils from the top layer of the deposits must be preserved and stored for later use in covering excavations to promote the regrowth of native vegetation. All excavations must have proper drainage.

All excavations shall have proper drainage and sufficient revegetation and reforestation to ensure erosion control on slopes. In cases where it is considered that in the future the extracted areas may become ponds, if they are near populated areas, special stabilization measures must be implemented to prevent erosion and the formation of unstable surfaces that may become an access trap. This is particularly important if the resulting ponds could be perceived as recreational areas.

Once the work is completed, the excavations of borrow pits and debris deposits must be adapted to the surrounding topography, in order to facilitate the rooting of vegetation, prevent risks or inconveniences for people and animals, and ensure proper runoff of water from the surrounding area towards the natural drainage channels.

When abandoning the deposits or quarries, the Contractor must restore the land to recover its hydrological characteristics (avoiding the exposure of the water table), surface features, and will cover the area with the Organic soils from the cleaning, according to the Closure Plan or Abandonment Stage Plan approved in the Environmental Study.

Article No. 12 – "Auxiliary Roads": Before starting work on the various work fronts, the Contractor will submit for approval the plans corresponding to the detours or auxiliary roads and equipment parking areas that will be used during construction. The Contractor must ensure proper daytime and nighttime signage for these temporary detours in order to maintain safe and continuous traffic flow.

The Contractor must permanently have at the work site the elements that are necessary to assist vehicles and their occupants who are unable to continue traveling as a result of the inconveniences caused by the execution of the works.

Traffic and parking will be prohibited in roadside areas with native vegetation or any other significant characteristic that, in the opinion of the Inspection and from an environmental point of view, deserves to be preserved.

As the work fronts shift and auxiliary roads and machinery parking sites are abandoned, the Contractor must scarify the areas compacted by construction traffic and equipment parking and restore the structure on vegetation with the soil removed during the clearing process.

The Contractor must submit to the Inspection, with sufficient advance notice before the start of the work, a Traffic Management Program for the work to be carried out within urban areas. This must include the diagrams or plans of the streets and important environmental components, the plan of the proposed temporary access and detour routes for the area of influence and must also include data on the volume of pedestrian and vehicular traffic in order to be able to visualize the main characteristics of the current intersections and develop alternatives at the level of private, public and pedestrian transport. The tasks cannot be started without the approval of the aforementioned Program by the corresponding Municipality or Commune. The program must contain at least:

Objectives: Develop a proposal for traffic management program during construction, prevent potential accidents in vehicles, avoid pedestrian accidents on the road and warn about possible dangers in certain areas, using temporary or permanent preventive, regulatory and informative signs according to the needs. The program must include the following aspects:

Detour routes or available alternative routes selected based on their condition, capacity, degree of saturation, current volume of traffic and entry and exit alterations.

Optional routes that include other roads that can lead to the same destination, but do not depend directly on the affected road. The selection must take into account the type of vehicles and machinery to be used in the work.

Traffic Authority Permits for road closures, traffic management and detours in accordance with rules and regulations.

Information mechanisms for transporters and the community in general (billboards, flyers, radio and others).

Management of road closures, which must include:

Definition of affected roads.

Scheduling of closures during the day and at night if necessary.

Coordination with the Traffic Authority.

Temporary signage

The Contractor must implement the use of signs to be used in works carried out in public spaces, ensuring compliance with the standards established by the National Road Authority.

Pedestrian Crossings Pedestrian flow management must allow pedestrians to move safely and comfortably around the affected road or sidewalk, with special attention to vehicular traffic.

The Contractor must guarantee at all times the access and circulation for residents and to businesses along the work, including access to parking areas for vehicles. Likewise, safe pedestrian pathways must be installed, fenced and properly conditioned to ensure transitability, even on rainy days.

In educational institutions located on roads used for the transport of materials from quarries and also in a Work area, the Contractor must:

- Make truck drivers aware of the maximum speed in school zones and throughout the route.

- Place vertical signs of "Caution - School".

- Organize visits to schools to implement a road safety awareness program and/or conduct a Road Safety Awareness Workshop.

- Periodically water the roads near schools to minimize dust pollution caused by traffic.

Article No. 13 – "Installation of material production plants": When installing materials production plants, the site must be cleared of vegetation and located away from watercourses and drainage lines.

During the operation of the plant, reduced emission of noise, smoke, gases and waste or particles must be ensured, following the provisions of the Noise, Vibration and Air Pollution Control Program.

All material production and construction tasks must be carried out during daylight hours. Emission standards and operating hours will be agreed upon with the Construction Inspection according to the type of equipment and its location.

Article No. 14 – "Protection of Vegetation, Wildlife and Habitat": The Contractor must prevent damage to soil and vegetation; both inside and outside the work area, vegetation that is essential for safety reasons will be cut with the appropriate equipment, and the land will be cleared to the minimum width compatible with the execution of the work, in order to maintain the largest possible surface area with the existing vegetation cover. The trees to be cut must be cut so that they fall on the road area, thus avoiding that, when they fall, they damage the surrounding forest. Any activity related to clearing, deforestation, stump removal, felling, pruning, trimming or vegetation clearing of the land must be previously approved by the relevant Authority.

All products from these activities will be stored in the places indicated by the Inspection, in order not to interfere with the progress of the work, nor modify the drainage or the natural landscape, and they may not be eliminated by the action of fire.

The Contractor will not use wood from trees previously cut from the road area for tasks that require wood. The same must be commercial plantations, unless expressly authorized by the Inspection.

The Contractor will take all necessary precautions to prevent and eliminate fires, preventing workers from lighting fires that are not essential to the tasks of the road works, prohibiting lighting fires on the ground and providing all equipment and facilities with adequate elements to ensure the extinguishment of the fire, in the event of a fire. Likewise, the Contingency Plan will identify the procedures to follow in the event of an emergency of this type.

It is expressly prohibited for workers to carry out predatory activities on fauna and flora; they must not place nails in trees, ropes, cables or chains; handle fuels, lubricants or chemical products in root zones; pile material against trunks; drive machinery outside the intended places; cut branches and cut roots; leave roots uncovered in trenches and cleared areas.

Hunting activities are prohibited in the areas surrounding the construction zone, construction sites, camps, as well as the purchase or exchange of live wild animals or by-products from local communities.

In order to adequately protect the fauna and its habitat during the construction period, clearing work will be duly authorized by the Inspection.

Article No. 15 – "Detection and Rescue of Archaeological Heritage": The Bidder must provide in its Offer a Program for the Detection and Rescue of Archaeological and Cultural Heritage that includes the tasks, works, services and actions to be developed, under their direct responsibility. The costs of the Program must be incorporated into the Contract Cost. The Program must comply with the obligations arising from current Legislation.

In terms of legislation on archaeological and paleontological heritage, the National Law No. 25,743 on the Protection of Archaeological and Paleontological Heritage, promulgated in June 2003 and subsequently regulated by decree 1022/2004 (10/08/2004). According to the national law, the competent authority for archaeological assets is the National Institute of Anthropology and Latin American Thought, while for paleontological assets, the agency is the Bernardino Rivadavia National Museum of Natural Sciences of Buenos Aires.

In the province of Santa Fe, the Ministry of Innovation and Culture is the competent body responsible for enforcing the aforementioned National Law.

Additionally, the personnel in charge of the work and those who carry out excavations must be previously informed about the probability of locating archaeological materials or sites. If any findings occur, they must immediately communicate the discovery, stopping the tasks until the Archaeologist carries out an evaluation of the situation.

If archaeological materials are discovered during the course of the work, the archaeologist must notify the relevant authority and determine the appropriate course of action. This includes stopping the work on site and conducting rescue excavations in the affected area by means of systematic excavation and following archaeological methodologies. Likewise, the archeologist must notify the Inspection and the Competent Authority of such circumstance.

Until the continuation of the work is authorized, the Contractor must ensure the protection of the remains, placing a perimeter fence to delimit the area of the discovery and must arrange, under their responsibility, for security personnel to prevent possible looting.

The Contractor must avoid the development of tasks or activities under their responsibility or those of the subcontractors that affect the correct development of the tasks of site survey, rescue operation, and transportation of findings. The Contractor may not request additional costs or extension of the project deadlines due to the discovery of cultural heritage material protected under current legislation.

Article No. 16 – "Reports to be Prepared by the Contractor":

● **Regular Reports During the Execution of the Work**: These will be issued monthly from the date of the signing of the staking out certificate. They will be used for environmental and archaeological monitoring, and will record incidents, observations and application of the measures established in the PGA.

● **Reports During the Warranty Period**: In the time between the signing of the Provisional Acceptance Report of the works and the Final Acceptance Report. These will detail the evolution and efficiency of the measures implemented.

● **Extraordinary Reports before Provisional Acceptance**: These reports will contain detailed information on the protective and corrective measures implemented: degree of effectiveness, residual impacts generated by the measures taken, complementary actions, etc.

● **Extraordinary Reports before to Final Acceptance**: These will include the following aspects: conclusions of the previous provisional acceptance report, actions carried out during the warranty period, actions executed, effectiveness and status of the operations carried out.

● **Special Reports**: If any previously unforeseen or undetected negative impacts arise that require action to be avoided or corrected, an urgent report will be issued providing all the necessary information to act accordingly.

Article No. 17 – "Responsibility": Damages caused to the environment and/or third parties, as a result of construction activities, are the exclusive responsibility of the Contractor, who must remedy them or compensate for it at their own expense.

Article No. 18 – "Penalties"

The provisional acceptance of the works will not take place until the Environmental Aspects mentioned in this Specification and all the requirements of the current regulations and of the Competent Authorities in the field have been fulfilled.

For the Provisional Acceptance of the Works, the Contractor must comply with the following conditions and documentation:

- Closure of Deposits or Quarries in accordance with the provisions of the environmental studies mentioned in the relevant sections of the Technical Environmental Specifications (ETAs for its acronym in Spanish) and those required by the Competent Authority in the field.

- Closure of Workshops, Work Yards, Concrete Plant in full compliance with the provisions of the ETAs.

For the Final Acceptance of the Works, the Contractor must comply with the following conditions and submit the required documentation:

- Manifests and Certificates for Hazardous Waste (Operations Book) as required in the relevant sections of the ETAs.

- Satisfactory health condition of vegetation works, ensuring successful vegetation establishment in all designated areas, particularly in the urban area.

- Monitoring Plan Results Report.

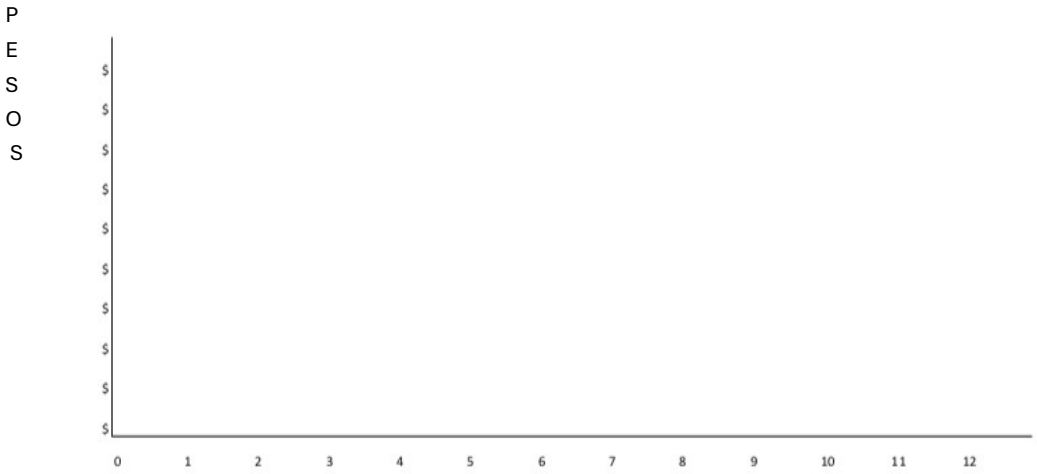
- Contingency Register Report.

- Any other requirement arising from these specifications.

ANNEX XV

INVESTMENT CURVE

INVESTMENT CURVE



DEADLINE IN MONTHS

Bidder
Name, signature and clarification seal
Legal Address

ANNEX XX - FIRST PART

WAIVER OF RECOURSE CLAUSE BY THE ART AGAINST THE PRINCIPAL

The following text must be included as part of the Workers' Risk Insurance contract that the contractor submits in a timely manner

"**(Indicate the name of the Workers' Risk Insurance [A.R.T. for its acronym in Spanish])** A.R.T. expressly waives the right to initiate any action for repetition or recourse against the Principal, its officers, employees or workers, whether based on Art. 39 section.5 of Law 24,557 or any other legal provision, for in-kind or monetary benefits that it is obligated to pay to the employees or former employees of **(Indicate the name of the contractor company)** covered under this policy, due to work related accidents or occupational diseases suffered or contracted as a result of or in connection with their work, or during travel between the worker's home and the workplace or vice versa.- **(Indicate the name of the A.R.T.)** A.R.T. also undertakes to communicate to the Provincial Executive Unit, in a reliable manner, the non-compliance with the policy incurred by the insured, and especially in the non- payment within the due term, within ten (10) days of verification.-

ANNEX XX – SECOND PART

PERFORMANCE GUARANTEE TEMPLATE (BANK GUARANTEE)

(Unconditional)

INTERNATIONAL PUBLIC TENDER No. 01/2025

[The selected Bank/Bidder issuing this Guarantee must complete this form according to the instructions indicated in brackets, if the Principal requests this type of guarantee.]

[Indicate the Name of the Bank, and the address of the branch issuing the guarantee]

Beneficiary: [indicate the name and address of the Principal] Date: [indicate the date]

PERFORMANCE GUARANTEE No. [indicate the number of the Performance Guarantee]

We have been informed that [indicate name of Contractor] (hereinafter referred to as "the Contractor") has entered into Contract No. [indicate Contract reference number] dated [indicate date] with its entity for the execution of [indicate name of Contract and a brief description of the Works] hereinafter referred to as "the Contract").

We also understand that, in accordance with the conditions of the Contract, a Performance Guarantee is required.

At the Contractor's request, we [indicate name of Bank] hereby irrevocably undertake to pay to your entity a sum or sums, not exceeding a total amount of [indicate the amount in figures] [indicate the amount in words], which shall be paid by us in the types and proportions of currencies in which the Contract is to be paid, upon receipt at our offices of your first written request, accompanied by a written communication declaring that the Contractor is in breach of its obligations under the terms of the Contract without your entity having to provide evidence supporting its claim or the amount claimed.

This Guarantee shall expire not later than sixty days from the date of issuance of the Final Acceptance Certificate of the Works, based on a copy of such Certificate to be provided to us, or on the [indicate day] day of the [indicate month] month of the [indicate year], whichever occurs first. Accordingly, any request for payment under this Guarantee must be received by this institution on or before this date.

[Signature(s) of the authorized representative(s) of the bank]

BANK ADVANCE PAYMENT GUARANTEE TEMPLATE

INTERNATIONAL PUBLIC TENDER No. 01/2025

[The selected Bank / Bidder, which submits this Guarantee, must complete this form in accordance with the instructions indicated in brackets, if an advance payment is to be made under the Contract]

[Indicate the Name of the Bank, and the address of the branch issuing the guarantee] Beneficiary: [Name and address of the Principal]

Date: [indicate the date]

ADVANCE PAYMENT GUARANTEE No.: [indicate the number]

We have been informed that [name of the Contractor] (hereinafter referred to as "the Contractor") has entered into contract No. [contract reference number] dated [indicate the date of the contract], for the execution of [indicate the name of the contract and a brief description of the Works] (hereinafter referred to as "the Contract").

We further understand that, in accordance with the terms of the Contract, an advance payment will be granted to the Contractor against an advance payment guarantee for the sum or sums stated below.

At the request of the Contractor, we [indicate name of Bank] hereby irrevocably undertake to pay to you a sum or sums, not exceeding in total [indicate sum(s) in figures and words] upon receipt of your first written request, stating that the Contractor is in breach of its obligations under the Contract, because the Contractor has used the advance payment for purposes other than those stipulated for the execution of the Works.

As a condition for submitting any claim and enforcing this guarantee, the aforementioned payment must have been received by the Contractor in its account number [indicate number] at [indicate name and address of bank].

The maximum amount of this guarantee shall be progressively reduced as the amount of the advance is reimbursed by the Contractor as indicated in the copies of the periodic payment statements or payment certificates submitted to us. This guarantee shall expire no later than upon receipt at our institution of a copy of the Interim Payment Certificate

indicating that eighty (80) percent of the Contract Price has been certified for payment, or on the [indicate number] day of the [indicate month] of [indicate year], whichever occurs first. Therefore, any demand for payment under this guarantee must be received at this office on or before this date.

[Signature(s) of the authorized representative(s) of the Bank].

I, Guadalupe Turrado, Sworn Translator of English, Register No. 840, granted by the Association of Sworn Translators of the Province of Córdoba, hereby certify that the foregoing is a true translation into English of the document written in Spanish I have had before me. And for the record, I sign this translation in the City of Córdoba on the twenty eighth day of February of the year two thousand twenty five.