

ANÁLISIS DE PRECIOS UNITARIOS

PROYECTO:ACUEDUCTO PALO LARGO PANTANO GRANDE

ITEM:Desviación del cause para la bocatoma de fondo

UNIDAD :

I. EQUIPO

| Descripción       | Tipo | Tarifa/Hora | Rendimiento | Valor-Unit.  |              |
|-------------------|------|-------------|-------------|--------------|--------------|
| Herramienta menor | %    | 1,241.00    | 10%         | \$ 10,920.80 | \$ 10,920.80 |
| Sub-Total         |      |             |             |              |              |

II. MATERIALES EN OBRA

| Descripción             | Unidad | Precio-Unit. | Cantidad | Valor-Unit.  |              |
|-------------------------|--------|--------------|----------|--------------|--------------|
| Tubo Sanitario 4" x 6 m | UN     | \$ 95,900.00 | 1        | \$ 95,900.00 | \$ 95,900.00 |
| Sub-Total               |        |              |          |              |              |

III. TRANSPORTES

| Material  | Vol-peso ó C | Distancia | M3-Km | Tarifa | Valor-Unit. |      |
|-----------|--------------|-----------|-------|--------|-------------|------|
|           |              |           |       |        |             |      |
| Sub-Total |              |           |       |        |             | \$ - |

IV. MANO DE OBRA

| Trabajador | Jornal       | Cantidad | Prestaciones | Jornal Total  | Rendimiento | Valor-Unit.   |  |
|------------|--------------|----------|--------------|---------------|-------------|---------------|--|
| Oficial    | \$ 76,160.00 | 1        | 80%          | \$ 137,088.00 | 1           | \$ 137,088.00 |  |
| Obrero     | \$ 57,226.00 | 1        | 80%          | \$ 103,006.80 | 1           | \$ 103,006.80 |  |
| Sub-Total  |              |          |              |               |             |               |  |

Total Costo Directo\$ 346,915.60

V. COSTOS INDIRECTOS

| Descripción    | Porcentaje | Valor Total   |               |
|----------------|------------|---------------|---------------|
| Administración | 29.5%      | \$ 102,340.10 | \$ 121,420.46 |
| Imprevistos    | 0.5%       | \$ 1,734.58   |               |
| Utilidades     | 5%         | \$ 17,345.78  |               |
| Sub-Total      |            |               |               |

Precio unitario total aproximado al peso\$ 468,337.00

ANÁLISIS DE PRECIOS UNITARIOS

PROYECTO:ACUEDUCTO PALO LARGO PANTANO GRANDE

ITEM:Localización, replanteo, cerramiento y señalización

UNIDAD :

I. EQUIPO

| Descripción       | Tipo | Tarifa/Hora | Rendimiento | Valor-Unit. |             |
|-------------------|------|-------------|-------------|-------------|-------------|
| Herramienta menor | %    | 1,241.00    | 10%         | \$ 1,365.10 | \$ 1,365.10 |
| Sub-Total         |      |             |             |             |             |

II. MATERIALES EN OBRA

| Descripción                      | Unidad | Precio-Unit.  | Cantidad | Valor-Unit.   |               |
|----------------------------------|--------|---------------|----------|---------------|---------------|
| Polisombra tela verde 50m *2.10m | UN     | \$ 159,300.00 | 1        | \$ 159,300.00 | \$ 217,100.00 |
| Puntillas                        | lb     | \$ 13,800.00  | 1        | \$ 13,800.00  |               |
| Durmientes de madera             | UN     | \$ 11,000.00  | 4        | \$ 44,000.00  |               |
| Sub-Total                        |        |               |          |               |               |

III. TRANSPORTES

| Material  | Vol-peso ó C | Distancia | M3-Km | Tarifa | Valor-Unit. |      |
|-----------|--------------|-----------|-------|--------|-------------|------|
|           |              |           |       |        |             |      |
| Sub-Total |              |           |       |        |             | \$ - |

IV. MANO DE OBRA

| Trabajador | Jornal       | Cantidad | Prestaciones | Jornal Total  | Rendimiento | Valor-Unit.   |               |
|------------|--------------|----------|--------------|---------------|-------------|---------------|---------------|
| Oficial    | \$ 76,160.00 | 1        | 80%          | \$ 137,088.00 | 1           | \$ 137,088.00 | \$ 240,094.80 |
| Obrero     | \$ 57,226.00 | 1        | 80%          | \$ 103,006.80 | 1           | \$ 103,006.80 |               |
| Sub-Total  |              |          |              |               |             |               |               |

Total Costo Directo\$ 458,559.90

V. COSTOS INDIRECTOS

| Descripción    | Porcentaje | Valor Total   |               |
|----------------|------------|---------------|---------------|
| Administración | 29.5%      | \$ 135,275.17 | \$ 160,495.97 |
| Imprevistos    | 0.5%       | \$ 2,292.80   |               |
| Utilidades     | 5%         | \$ 22,928.00  |               |
|                |            |               |               |

Precio unitario total aproximado al peso\$ 619,056.00

ANÁLISIS DE PRECIOS UNITARIOS

PROYECTO:

ACUEDUCTO PALO LARGO PANTANO GRANDE

ITEM:

Descapote de material orgánico en las estructuras hidraulicas

UNIDAD :

I. EQUIPO

| Descripción       | Tipo | Tarifa/Hora | Rendimiento | Valor-Unit. |  |
|-------------------|------|-------------|-------------|-------------|--|
| Herramienta menor | %    | 1,241.00    | 10%         | \$ 1,365.10 |  |
|                   |      |             |             | Sub-Total   |  |

\$1,365.10

II. MATERIALES EN OBRA

| Descripción | Unidad | Precio-Unit. | Cantidad | Valor-Unit. |  |
|-------------|--------|--------------|----------|-------------|--|
|             |        |              |          |             |  |
|             |        |              |          | Sub-Total   |  |

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III. TRANSPORTES

| Material  | Vol-peso ó Ca | Distancia | M3-Km | Tarifa | Valor-Unit. |      |
|-----------|---------------|-----------|-------|--------|-------------|------|
|           |               |           |       |        |             |      |
| Sub-Total |               |           |       |        |             | \$ - |

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IV. MANO DE OBRA

| Trabajador | Jornal       | Cantidad | Prestaciones | Jornal Total  | Rendimiento | Valor-Unit. |  |
|------------|--------------|----------|--------------|---------------|-------------|-------------|--|
| Oficial    | \$ 76,160.00 | 1        | 80%          | \$ 137,088.00 | 14          | \$ 9,792.00 |  |
| Obrero     | \$ 57,226.00 | 1        | 80%          | \$ 103,006.80 | 14          | \$ 7,357.63 |  |

Sub-Total

\$17,149.63

Total Costo Directo

\$18,514.73

V. COSTOS INDIRECTOS

| Descripción    | Porcentaje | Valor Total |  |
|----------------|------------|-------------|--|
| Administración | 29.5%      | \$ 5,461.84 |  |
| Imprevistos    | 0.5%       | \$ 92.57    |  |
| Utilidades     | 5.0%       | \$ 925.74   |  |

\$6,480.16

Precio unitario total aproximado al peso

\$24,995.00

ANÁLISIS DE PRECIOS UNITARIOS

PROYECTO:

ACUEDUCTO PALO LARGO PANTANO GRANDE

ITEM:

Excavación manual de material según especificiones en planos

UNIDAD :

I. EQUIPO

| Descripción       | Tipo | Tarifa/Hora | Rendimiento | Valor-Unit. |  |
|-------------------|------|-------------|-------------|-------------|--|
| Herramienta menor | %    | \$ 1,998.00 | 10%         | \$ 2,197.80 |  |
|                   |      |             |             | Sub-Total   |  |

\$2,197.80

II. MATERIALES EN OBRA

| Descripción | Unidad | Precio-Unit. | Cantidad | Valor-Unit. |  |
|-------------|--------|--------------|----------|-------------|--|
|             |        |              |          |             |  |
|             |        |              |          | Sub-Total   |  |

III. TRANSPORTES

| Material | Vol-peso ó Can | Distancia | M3-Km | Tarifa | Valor-Unit. |      |
|----------|----------------|-----------|-------|--------|-------------|------|
|          |                |           |       |        |             |      |
|          |                |           |       |        | Sub-Total   |      |
|          |                |           |       |        |             | \$ - |

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IV. MANO DE OBRA

| Trabajador | Jornal       | Cantidad | Prestaciones | Jornal Total  | Rendimiento | Valor-Unit.  |  |
|------------|--------------|----------|--------------|---------------|-------------|--------------|--|
| Oficial    | \$ 76,160.00 | 1        | 80%          | \$ 137,088.00 | 4.5         | \$ 30,464.00 |  |
| Obrero     | \$ 57,226.00 | 2        | 80%          | \$ 206,013.60 | 4.5         | \$ 45,780.80 |  |

Sub-Total

\$76,244.80

Total Costo Directo

\$78,442.60

V. COSTOS INDIRECTOS

| Descripción    | Porcentaje | Valor Total  |  |
|----------------|------------|--------------|--|
| Administración | 29.5%      | \$ 23,140.57 |  |
| Imprevistos    | 0.5%       | \$ 392.21    |  |
| Utilidades     | 5%         | \$ 3,922.13  |  |

\$27,454.91

Precio unitario total aproximado al peso

\$105,898.00

ANÁLISIS DE PRECIOS UNITARIOS

PROYECTO:

ACUEDUCTO PALO LARGO PANTANO GRANDE

ITEM:

Excavación manual de material según especificiones en planos

UNIDAD :

I. EQUIPO

| Descripción       | Tipo | Tarifa/Hora | Rendimiento | Valor-Unit. | \$ 2,197.80 |
|-------------------|------|-------------|-------------|-------------|-------------|
| Herramienta menor | %    | \$ 1,998.00 | 10%         | \$ 2,197.80 |             |
| Sub-Total         |      |             |             |             |             |

II. MATERIALES EN OBRA

| Descripción | Unidad | Precio-Unit. | Cantidad | Valor-Unit. |  |
|-------------|--------|--------------|----------|-------------|--|
|             |        |              |          |             |  |
| Sub-Total   |        |              |          |             |  |

III. TRANSPORTES

| Material  | Vol-peso ó Cant. | Distancia | M3-Km | Tarifa | Valor-Unit. |  |
|-----------|------------------|-----------|-------|--------|-------------|--|
|           |                  |           |       |        |             |  |
| Sub-Total |                  |           |       |        |             |  |

IV. MANO DE OBRA

| Trabajador | Jornal       | Cantidad | Prestaciones | Jornal Total  | Rendimiento | Valor-Unit.  |              |
|------------|--------------|----------|--------------|---------------|-------------|--------------|--------------|
| Oficial    | \$ 76,160.00 | 1        | 80%          | \$ 137,088.00 | 4.5         | \$ 30,464.00 |              |
| Obrero     | \$ 57,226.00 | 2        | 80%          | \$ 206,013.60 | 4.5         | \$ 45,780.80 |              |
| Sub-Total  |              |          |              |               |             |              | \$ 76,244.80 |

Total Costo Directo\$ 78,442.60

V. COSTOS INDIRECTOS

| Descripción    | Porcentaje | Valor Total  |              |
|----------------|------------|--------------|--------------|
| Administración | 29.5%      | \$ 23,140.57 |              |
| Imprevistos    | 0.5%       | \$ 392.21    |              |
| Utilidades     | 5%         | \$ 3,922.13  |              |
|                |            |              | \$ 27,454.91 |

Precio unitario total aproximado al peso\$ 105,898.00

ANÁLISIS DE PRECIOS UNITARIOS

PROYECTO:

ACUEDUCTO PALO LARGO PANTANO GRANDE

ITEM:

Excavación manual de material comun para la instalacion de redes

UNIDAD :

I. EQUIPO

| Descripción       | Tipo | Tarifa/Hora | Rendimiento | Valor-Unit. | \$ 2,197.80 |
|-------------------|------|-------------|-------------|-------------|-------------|
| Herramienta menor | %    | \$ 1,998.00 | 10%         | \$ 2,197.80 |             |
| Sub-Total         |      |             |             |             |             |

II. MATERIALES EN OBRA

| Descripción | Unidad | Precio-Unit. | Cantidad | Valor-Unit. |  |
|-------------|--------|--------------|----------|-------------|--|
|             |        |              |          |             |  |
| Sub-Total   |        |              |          |             |  |

III. TRANSPORTES

| Material  | Vol-peso ó Cant. | Distancia | M3-Km | Tarifa | Valor-Unit. |  |
|-----------|------------------|-----------|-------|--------|-------------|--|
|           |                  |           |       |        |             |  |
| Sub-Total |                  |           |       |        |             |  |

IV. MANO DE OBRA

| Trabajador | Jornal       | Cantidad | Prestaciones | Jornal Total  | Rendimiento | Valor-Unit. |             |
|------------|--------------|----------|--------------|---------------|-------------|-------------|-------------|
| Oficial    | \$ 76,160.00 | 1        | 80%          | \$ 137,088.00 | 90          | \$ 1,523.20 |             |
| Obrero     | \$ 57,226.00 | 3        | 80%          | \$ 309,020.40 | 90          | \$ 3,433.56 |             |
| Sub-Total  |              |          |              |               |             |             | \$ 4,956.76 |

Total Costo Directo\$ 7,154.56

V. COSTOS INDIRECTOS

| Descripción    | Porcentaje | Valor Total |             |
|----------------|------------|-------------|-------------|
| Administración | 29.5%      | \$ 2,110.60 |             |
| Imprevistos    | 0.5%       | \$ 35.77    |             |
| Utilidades     | 5%         | \$ 357.73   |             |
|                |            |             | \$ 2,504.10 |

Precio unitario total aproximado al peso\$ 9,659.00

ANÁLISIS DE PRECIOS UNITARIOS

PROYECTO:ACUEDUCTO PALO LARGO PANTANO GRANDE

ITEM:Nivelación y conformación del terreno para las estructuras hidraulicas

UNIDAD :

I. EQUIPO

| Descripción       | Tipo | Tarifa/Hora | Rendimiento | Valor-Unit. |  |
|-------------------|------|-------------|-------------|-------------|--|
| Herramienta menor | %    | \$ 1,998.00 | 10%         | \$ 2,197.80 |  |
| Sub-Total         |      |             |             | \$ 2,197.80 |  |

II. MATERIALES EN OBRA

| Descripción | Unidad | Precio-Unit. | Cantidad | Valor-Unit. |  |
|-------------|--------|--------------|----------|-------------|--|
|             |        |              |          |             |  |
| Sub-Total   |        |              |          | \$ -        |  |

III. TRANSPORTES

| Material  | Vol-peso ó Cant. | Distancia | M3-Km | Tarifa | Valor-Unit. |  |
|-----------|------------------|-----------|-------|--------|-------------|--|
|           |                  |           |       |        |             |  |
| Sub-Total |                  |           |       |        | \$ -        |  |

IV. MANO DE OBRA

| Trabajador | Jornal       | Cantidad | Prestaciones | Jornal Total  | Rendimiento | Valor-Unit.  |              |
|------------|--------------|----------|--------------|---------------|-------------|--------------|--------------|
| Oficial    | \$ 76,160.00 | 1        | 80%          | \$ 137,088.00 | 10          | \$ 13,708.80 |              |
| Obrero     | \$ 57,226.00 | 2        | 80%          | \$ 206,013.60 | 10          | \$ 20,601.36 |              |
| Sub-Total  |              |          |              |               |             |              | \$ 34,310.16 |

Total Costo Directo\$ 36,507.96

V. COSTOS INDIRECTOS

| Descripción    | Porcentaje | Valor Total  |              |
|----------------|------------|--------------|--------------|
| Administración | 29.5%      | \$ 10,769.85 |              |
| Imprevistos    | 0.5%       | \$ 182.54    |              |
| Utilidades     | 5%         | \$ 1,825.40  |              |
|                |            |              | \$ 12,777.79 |

Precio unitario total aproximado al peso\$ 49,286.00

ANÁLISIS DE PRECIOS UNITARIOS

PROYECTO:ACUEDUCTO PALO LARGO PANTANO GRANDE

ITEM:Aplicación de concreto ciclópeo en concreto pobre para cimentaciones

UNIDAD :

I. EQUIPO

| Descripción              | Tipo     | Tarifa/Hora | Rendimiento | Valor-Unit.  |  |
|--------------------------|----------|-------------|-------------|--------------|--|
| Concreteadora 1.5 bultos | Gasolina | \$ 9,375.00 | 10%         | \$ 10,312.50 |  |
| Herramienta menor        | %        | \$ 1,998.00 | 10%         | \$ 2,197.80  |  |
| Sub-Total                |          |             |             | \$ 12,510.30 |  |

II. MATERIALES EN OBRA

| Descripción | Unidad | Precio-Unit.  | Cantidad | Valor-Unit.   |  |
|-------------|--------|---------------|----------|---------------|--|
| Agua        | Lts    | \$ 90.00      | 154      | \$ 13,860.00  |  |
| Cemento     | Kg     | \$ 700.00     | 190      | \$ 133,000.00 |  |
| Arena       | m³     | \$ 90,000.00  | 0.297    | \$ 26,730.00  |  |
| Triturado   | m³     | \$ 100,000.00 | 0.671    | \$ 67,100.00  |  |
| Sub-Total   |        |               |          | \$ 226,830.00 |  |

III. TRANSPORTES

| Material  | Vol-peso ó Cant. | Distancia | M3-Km         | Tarifa | Valor-Unit.  |  |
|-----------|------------------|-----------|---------------|--------|--------------|--|
| Agregados | 0.968            | 63        | \$ 100,000.00 | 600000 | \$ 96,800.00 |  |
| Sub-Total |                  |           |               |        | \$ 96,800.00 |  |

IV. MANO DE OBRA

| Trabajador | Jornal       | Cantidad | Prestaciones | Jornal Total  | Rendimiento | Valor-Unit.   |               |
|------------|--------------|----------|--------------|---------------|-------------|---------------|---------------|
| Oficial    | \$ 76,160.00 | 1        | 80%          | \$ 137,088.00 | 1.5         | \$ 91,392.00  |               |
| Obrero     | \$ 57,226.00 | 2        | 80%          | \$ 206,013.60 | 1.5         | \$ 137,342.40 |               |
| Sub-Total  |              |          |              |               |             |               | \$ 228,734.40 |

Total Costo Directo\$ 564,874.70

V. COSTOS INDIRECTOS

| Descripción    | Porcentaje | Valor Total   |               |
|----------------|------------|---------------|---------------|
| Administración | 29.5%      | \$ 166,638.04 |               |
| Imprevistos    | 0.5%       | \$ 2,824.37   |               |
| Utilidades     | 5%         | \$ 28,243.74  |               |
|                |            |               | \$ 197,706.15 |

Precio unitario total aproximado al peso\$ 762,581.00

ANÁLISIS DE PRECIOS UNITARIOS

PROYECTO:ACUEDUCTO PALO LARGO PANTANO GRANDE

ITEM:Construcción de vigas de cimentación de acuerdo con los planos para la bocatoma de fondo

UNIDAD :

| I. EQUIPO                |          |             |             |               |               |
|--------------------------|----------|-------------|-------------|---------------|---------------|
| Descripción              | Tipo     | Tarifa/Hora | Rendimiento | Valor-Unit.   |               |
| Concreteadora 1.5 bultos | Gasolina | \$ 9,375.00 | 10%         | \$ 165,000.00 |               |
| Herramienta menor        | %        | \$ 1,998.00 | 10%         | \$ 35,164.80  |               |
| Sub-Total                |          |             |             |               | \$ 200,164.80 |

| II. MATERIALES EN OBRA             |        |              |          |               |               |
|------------------------------------|--------|--------------|----------|---------------|---------------|
| Descripción                        | Unidad | Precio-Unit. | Cantidad | Valor-Unit.   |               |
| Varilla de acero corrugado 1/2"*6m | UND    | \$ 22,680.00 | 26       | \$ 589,680.00 |               |
| Varilla de acero corrugado 3/8"*6m | UND    | \$ 13,100.00 | 9        | \$ 117,900.00 |               |
| Alambre negro                      | Kg     | \$ 7,900.00  | 1        | \$ 7,900.00   |               |
| Agua                               | Lts    | \$ 90.00     | 58       | \$ 5,220.00   |               |
| Cemento                            | Kg     | \$ 700.00    | 126      | \$ 88,200.00  |               |
| Arena                              | m³     | \$ 55,000.00 | 0.17     | \$ 9,350.00   |               |
| Triturado                          | m³     | \$ 75,000.00 | 0.17     | \$ 12,750.00  |               |
| Sub-Total                          |        |              |          |               | \$ 831,000.00 |

| III. TRANSPORTES |                  |           |               |               |              |               |
|------------------|------------------|-----------|---------------|---------------|--------------|---------------|
| Material         | Vol-peso ó Cant. | Distancia | M3-Km         | Tarifa        | Valor-Unit.  |               |
| Agregado         | 0.34             | 63        | \$ 100,000.00 | \$ 600,000.00 | \$ 34,000.00 |               |
| Acero            | 161              | 27        | \$ 600.00     | \$ 600,000.00 | \$ 96,600.00 |               |
| Sub-Total        |                  |           |               |               |              | \$ 130,600.00 |

| IV. MANO DE OBRA |              |          |              |               |             |               |               |
|------------------|--------------|----------|--------------|---------------|-------------|---------------|---------------|
| Trabajador       | Jornal       | Cantidad | Prestaciones | Jornal Total  | Rendimiento | Valor-Unit.   |               |
| Oficial          | \$ 76,160.00 | 1        | 80%          | \$ 137,088.00 | 0.5         | \$ 274,176.00 |               |
| Obrero           | \$ 57,226.00 | 2        | 80%          | \$ 206,013.60 | 0.5         | \$ 412,027.20 |               |
| Sub-Total        |              |          |              |               |             |               | \$ 686,203.20 |

Total Costo Directo

\$ 1,847,968.00

| V. COSTOS INDIRECTOS |            |               |               |
|----------------------|------------|---------------|---------------|
| Descripción          | Porcentaje | Valor Total   |               |
| Adiministración      | 29.5%      | \$ 545,150.56 |               |
| Imprevistos          | 0.5%       | \$ 9,979.03   |               |
| Utilidades           | 5%         | \$ 92,398.40  |               |
|                      |            |               | \$ 647,527.99 |

Precio unitario total aproximado al peso

\$ 2,495,496.00

ANÁLISIS DE PRECIOS UNITARIOS

PROYECTO:ACUEDUCTO PALO LARGO PANTANO GRANDE

ITEM:Construcción de placa de cimentación de acuerdo con los planos para la bocatoma de fondo

UNIDAD :

| I. EQUIPO                      |           |              |             |               |               |
|--------------------------------|-----------|--------------|-------------|---------------|---------------|
| Descripción                    | Tipo      | Tarifa/Hora  | Rendimiento | Valor-Unit.   |               |
| Vibrador concreto 3-4M 25-40MM | Electrica | \$ 18,750.00 | 10%         | \$ 330,000.00 |               |
| Concreteadora 1.5 bultos       | Gasolina  | \$ 9,375.00  | 10%         | \$ 165,000.00 |               |
| Herramienta menor              | %         | \$ 1,998.00  | 10%         | \$ 35,164.80  |               |
| Sub-Total                      |           |              |             |               | \$ 530,164.80 |

| II. MATERIALES EN OBRA      |        |               |          |               |               |
|-----------------------------|--------|---------------|----------|---------------|---------------|
| Descripción                 | Unidad | Precio-Unit.  | Cantidad | Valor-Unit.   |               |
| Malla electrosoldada XX 378 | UND    | \$ 350,000.00 | 1        | \$ 350,000.00 |               |
| Alambre negro               | Kg     | \$ 7,900.00   | 1        | \$ 7,900.00   |               |
| Agua                        | Lts    | \$ 90.00      | 224      | \$ 20,160.00  |               |
| Cemento                     | Kg     | \$ 700.00     | 489      | \$ 342,300.00 |               |
| Arena                       | m³     | \$ 55,000.00  | 0.66     | \$ 36,300.00  |               |
| Triturado                   | m³     | \$ 75,000.00  | 0.66     | \$ 49,500.00  |               |
| Rejilla 0.4* 0.5 m          | UND    | \$ 100,000.00 | 1        | \$ 100,000.00 |               |
| Sub-Total                   |        |               |          |               | \$ 906,160.00 |

| III. TRANSPORTES |                  |           |               |               |               |               |
|------------------|------------------|-----------|---------------|---------------|---------------|---------------|
| Material         | Vol-peso ó Cant. | Distancia | M3-Km         | Tarifa        | Valor-Unit.   |               |
| Agregados        | 1.32             | 63        | \$ 100,000.00 | \$ 600,000.00 | \$ 132,000.00 |               |
| Acero            | 86               | 27        | \$ 600.00     | \$ 600,000.00 | \$ 51,600.00  |               |
|                  |                  |           |               |               | Sub-Total     | \$ 183,600.00 |

| IV. MANO DE OBRA |              |          |              |               |             |               |               |
|------------------|--------------|----------|--------------|---------------|-------------|---------------|---------------|
| Trabajador       | Jornal       | Cantidad | Prestaciones | Jornal Total  | Rendimiento | Valor-Unit.   |               |
| Oficial          | \$ 76,160.00 | 1        | 80%          | \$ 137,088.00 | 0.5         | \$ 274,176.00 |               |
| Obrero           | \$ 57,226.00 | 2        | 80%          | \$ 206,013.60 | 0.5         | \$ 412,027.20 |               |
| Sub-Total        |              |          |              |               |             |               | \$ 686,203.20 |

Total Costo Directo

\$ 2,306,128.00

| V. COSTOS INDIRECTOS |            |               |               |
|----------------------|------------|---------------|---------------|
| Descripción          | Porcentaje | Valor Total   |               |
| Adminstración        | 29.5%      | \$ 680,307.76 |               |
| Imprevistos          | 0.5%       | \$ 11,530.64  |               |
| Utilidades           | 5%         | \$ 115,306.40 |               |
|                      |            |               | \$ 807,144.80 |

Precio unitario total aproximado al peso

\$ 3,113,273.00

ANÁLISIS DE PRECIOS UNITARIOS

PROYECTO:ACUEDUCTO PALO LARGO PANTANO GRANDE  
ITEM:Construcción de vigas de cimentación de acuerdo con los planos para el desarenadc UNIDAD :

| I. EQUIPO                      |           |              |             |               |               |
|--------------------------------|-----------|--------------|-------------|---------------|---------------|
| Descripción                    | Tipo      | Tarifa/Hora  | Rendimiento | Valor-Unit.   |               |
| Vibrador concreto 3-4M 25-40MM | Electrica | \$ 18,750.00 | 10%         | \$ 495,000.00 |               |
| Concreteadora 1.5 bultos       | Gasolina  | \$ 9,375.00  | 10%         | \$ 247,500.00 |               |
| Herramienta menor              | %         | \$ 1,998.00  | 10%         | \$ 52,747.20  |               |
| Sub-Total                      |           |              |             |               | \$ 795,247.20 |

| II. MATERIALES EN OBRA            |        |              |          |                 |                 |
|-----------------------------------|--------|--------------|----------|-----------------|-----------------|
| Descripción                       | Unidad | Precio-Unit. | Cantidad | Valor-Unit.     |                 |
| Alambre negro                     | Kg     | \$ 7,900.00  | 2        | \$ 15,800.00    |                 |
| Varilla de acero corrugado 3/8*6m | UND    | \$ 13,100.00 | 26       | \$ 340,600.00   |                 |
| Varilla de acero corrugado 3/4*6m | UND    | \$ 50,900.00 | 26       | \$ 1,323,400.00 |                 |
| Agua                              | Lts    | \$ 90.00     | 297      | \$ 26,730.00    |                 |
| Cemento                           | Kg     | \$ 700.00    | 681      | \$ 476,700.00   |                 |
| Arena                             | m³     | \$ 55,000.00 | 0.92     | \$ 50,600.00    |                 |
| Triturado                         | m³     | \$ 75,000.00 | 0.92     | \$ 69,000.00    |                 |
| Sub-Total                         |        |              |          |                 | \$ 2,302,830.00 |

| III. TRANSPORTES |                  |           |               |               |               |               |
|------------------|------------------|-----------|---------------|---------------|---------------|---------------|
| Material         | Vol-peso ó Cant. | Distancia | M3-Km         | Tarifa        | Valor-Unit.   |               |
| Agregados        | 1.84             | 63        | \$ 100,000.00 | \$ 600,000.00 | \$ 184,000.00 |               |
| Acero            | 438.02           | 27        | \$ 600.00     | \$ 600,000.00 | \$ 262,812.00 |               |
| Sub-Total        |                  |           |               |               |               | \$ 446,812.00 |

| IV. MANO DE OBRA |              |          |              |               |             |               |                 |
|------------------|--------------|----------|--------------|---------------|-------------|---------------|-----------------|
| Trabajador       | Jornal       | Cantidad | Prestaciones | Jornal Total  | Rendimiento | Valor-Unit.   |                 |
| Oficial          | \$ 76,160.00 | 1        | 80%          | \$ 137,088.00 | 0.33        | \$ 415,418.18 |                 |
| Obrero           | \$ 57,226.00 | 2        | 80%          | \$ 206,013.60 | 0.33        | \$ 624,283.64 |                 |
|                  |              |          |              |               |             | Sub-Total     | \$ 1,039,701.82 |

Total Costo Directo\$ 4,584,591.02

| V. COSTOS INDIRECTOS |            |                 |                 |
|----------------------|------------|-----------------|-----------------|
| Descripción          | Porcentaje | Valor Total     |                 |
| Administración       | 29.5%      | \$ 1,352,454.35 |                 |
| Imprevistos          | 0.5%       | \$ 22,922.96    |                 |
| Utilidades           | 5%         | \$ 229,229.55   |                 |
|                      |            |                 | \$ 1,604,606.86 |

Precio unitario total aproximado al peso\$ 6,189,198.00

ANÁLISIS DE PRECIOS UNITARIOS

PROYECTO:ACUEDUCTO PALO LARGO PANTANO GRANDE  
ITEM:Construcción de placa de cimentación de acuerdo con los planos para el desarenador UNIDAD :

| I. EQUIPO                      |           |              |             |               |               |
|--------------------------------|-----------|--------------|-------------|---------------|---------------|
| Descripción                    | Tipo      | Tarifa/Hora  | Rendimiento | Valor-Unit.   |               |
| Vibrador concreto 3-4M 25-40MM | Electrica | \$ 18,750.00 | 10%         | \$ 495,000.00 |               |
| Concreteadora 1.5 bultos       | Gasolina  | \$ 9,375.00  | 10%         | \$ 247,500.00 |               |
| Herramienta menor              | %         | \$ 1,998.00  | 10%         | \$ 52,747.20  |               |
| Sub-Total                      |           |              |             |               | \$ 795,247.20 |

| II. MATERIALES EN OBRA      |        |               |          |               |                 |
|-----------------------------|--------|---------------|----------|---------------|-----------------|
| Descripción                 | Unidad | Precio-Unit.  | Cantidad | Valor-Unit.   |                 |
| Malla electrosoldada XX 378 | UND    | \$ 350,000.00 | 1        | \$ 350,000.00 |                 |
| Agua                        | Lts    | \$ 90.00      | 475      | \$ 42,750.00  |                 |
| Cemento                     | Kg     | \$ 700.00     | 1036     | \$ 725,200.00 |                 |
| Arena                       | m³     | \$ 55,000.00  | 1.4      | \$ 77,000.00  |                 |
| Triturado                   | m³     | \$ 75,000.00  | 1.4      | \$ 105,000.00 |                 |
| Sub-Total                   |        |               |          |               | \$ 1,299,950.00 |

| III. TRANSPORTES |                  |           |               |               |               |  |
|------------------|------------------|-----------|---------------|---------------|---------------|--|
| Material         | Vol-peso ó Cant. | Distancia | M3-Km         | Tarifa        | Valor-Unit.   |  |
| Agregados        | 2.8              | 63        | \$ 100,000.00 | \$ 600,000.00 | \$ 280,000.00 |  |
| Acero            | 85               | 27        | \$ 600.00     | \$ 600,000.00 | \$ 51,000.00  |  |
| Sub-Total        |                  |           |               |               | \$ 331,000.00 |  |

| IV. MANO DE OBRA |              |          |              |               |             |               |                 |
|------------------|--------------|----------|--------------|---------------|-------------|---------------|-----------------|
| Trabajador       | Jornal       | Cantidad | Prestaciones | Jornal Total  | Rendimiento | Valor-Unit.   |                 |
| Oficial          | \$ 76,160.00 | 1        | 80%          | \$ 137,088.00 | 0.33        | \$ 415,418.18 |                 |
| Obrero           | \$ 57,226.00 | 2        | 80%          | \$ 206,013.60 | 0.33        | \$ 624,283.64 |                 |
|                  |              |          |              |               |             | Sub-Total     | \$ 1,039,701.82 |

Total Costo Directo\$ 3,465,899.02

| V. COSTOS INDIRECTOS |            |              |               |
|----------------------|------------|--------------|---------------|
| Descripción          | Porcentaje | Valor Total  |               |
| Adminstración        | 29.5%      | \$ 97,645.00 |               |
| Imprevistos          | 0.5%       | \$ 1,655.00  |               |
| Utilidades           | 5%         | \$ 16,550.00 |               |
|                      |            |              | \$ 115,850.00 |

Precio unitario total aproximado al peso\$ 3,581,750.00

ANÁLISIS DE PRECIOS UNITARIOS

PROYECTO: ACUEDUCTO PALO LARGO PANTANO GRANDE  
ITEM: Construcción de vigas de cimentación de acuerdo con los planos para el tanque de almacenamiento UNIDAD :

| I. EQUIPO                      |           |              |             |               |               |
|--------------------------------|-----------|--------------|-------------|---------------|---------------|
| Descripción                    | Tipo      | Tarifa/Hora  | Rendimiento | Valor-Unit.   |               |
| Vibrador concreto 3-4M 25-40MM | Electrica | \$ 18,750.00 | 10%         | \$ 495,000.00 |               |
| Concreteadora 1.5 bultos       | Gasolina  | \$ 9,375.00  | 10%         | \$ 247,500.00 |               |
| Herramienta menor              | %         | \$ 1,998.00  | 10%         | \$ 52,747.20  |               |
| Sub-Total                      |           |              |             |               | \$ 795,247.20 |

| II. MATERIALES EN OBRA             |        |              |          |                 |                 |
|------------------------------------|--------|--------------|----------|-----------------|-----------------|
| Descripción                        | Unidad | Precio-Unit. | Cantidad | Valor-Unit.     |                 |
| Alambre negro                      | Kg     | \$ 7,900.00  | 2        | \$ 15,800.00    |                 |
| Varilla de acero corrugado 3/8 *6m | UND    | \$ 13,100.00 | 48       | \$ 628,800.00   |                 |
| Varilla de acero corrugado 3/4 *6m | UND    | \$ 50,900.00 | 48       | \$ 2,443,200.00 |                 |
| Agua                               | Lts    | \$ 90.00     | 740      | \$ 66,600.00    |                 |
| Cemento                            | Kg     | \$ 700.00    | 1613     | \$ 1,129,100.00 |                 |
| Arena                              | m³     | \$ 55,000.00 | 2.184    | \$ 120,120.00   |                 |
| Triturado                          | m³     | \$ 75,000.00 | 2.184    | \$ 163,800.00   |                 |
| Sub-Total                          |        |              |          |                 | \$ 4,567,420.00 |

| III. TRANSPORTES |                |           |               |               |               |
|------------------|----------------|-----------|---------------|---------------|---------------|
| Material         | Vol-peso ó Car | Distancia | M3-Km         | Tarifa        | Valor-Unit.   |
| Agregados        | 4.368          | 63        | \$ 100,000.00 | \$ 600,000.00 | \$ 436,800.00 |
| Acero            | 806.96         | 27        | \$ 600.00     | \$ 600,000.00 | \$ 484,176.00 |
| Sub-Total        |                |           |               |               | \$ 920,976.00 |

| IV. MANO DE OBRA |              |          |              |               |             |               |
|------------------|--------------|----------|--------------|---------------|-------------|---------------|
| Trabajador       | Jornal       | Cantidad | Prestaciones | Jornal Total  | Rendimiento | Valor-Unit.   |
| Oficial          | \$ 76,160.00 | 1        | 80%          | \$ 137,088.00 | 0.33        | \$ 411,264.00 |
| Obrero           | \$ 57,226.00 | 1        | 80%          | \$ 103,006.80 | 0.33        | \$ 309,020.40 |
| Sub-Total        |              |          |              |               |             | \$ 720,284.40 |

Total Costo Directo\$ 7,003,927.60

| V. COSTOS INDIRECTOS |            |                 |
|----------------------|------------|-----------------|
| Descripción          | Porcentaje | Valor Total     |
| Administración       | 29.5%      | \$ 2,066,158.64 |
| Imprevistos          | 0.5%       | \$ 35,019.64    |
| Utilidades           | 5%         | \$ 350,196.38   |
|                      |            | \$ 2,451,374.66 |

Precio unitario total aproximado al peso\$ 9,455,303.00

ANÁLISIS DE PRECIOS UNITARIOS

PROYECTO: ACUEDUCTO PALO LARGO PANTANO GRANDE  
ITEM: Construcción de placa de cimentación de acuerdo con los planos para el tanque de almacenamiento UNIDAD :

| I. EQUIPO                      |           |              |             |               |               |
|--------------------------------|-----------|--------------|-------------|---------------|---------------|
| Descripción                    | Tipo      | Tarifa/Hora  | Rendimiento | Valor-Unit.   |               |
| Vibrador concreto 3-4M 25-40MM | Electrica | \$ 18,750.00 | 10%         | \$ 495,000.00 |               |
| Concreteadora 1.5 bultos       | Gasolina  | \$ 9,375.00  | 10%         | \$ 247,500.00 |               |
| Herramienta menor              | %         | \$ 1,998.00  | 10%         | \$ 52,747.20  |               |
| Sub-Total                      |           |              |             |               | \$ 795,247.20 |

| II. MATERIALES EN OBRA      |        |               |          |                 |                 |
|-----------------------------|--------|---------------|----------|-----------------|-----------------|
| Descripción                 | Unidad | Precio-Unit.  | Cantidad | Valor-Unit.     |                 |
| Malla electrosoldada XX 378 | UND    | \$ 350,000.00 | 5        | \$ 1,750,000.00 |                 |
| Agua                        | Lts    | \$ 90.00      | 200      | \$ 18,000.00    |                 |
| Cemento                     | Kg     | \$ 700.00     | 79       | \$ 55,300.00    |                 |
| Arena                       | m³     | \$ 55,000.00  | 5        | \$ 275,000.00   |                 |
| Triturado                   | m³     | \$ 75,000.00  | 5        | \$ 375,000.00   |                 |
| Sub-Total                   |        |               |          |                 | \$ 2,473,300.00 |

| III. TRANSPORTES |                  |           |               |               |                 |
|------------------|------------------|-----------|---------------|---------------|-----------------|
| Material         | Vol-peso ó Cant. | Distancia | M3-Km         | Tarifa        | Valor-Unit.     |
| Agregados        | 10               | 63        | \$ 100,000.00 | \$ 600,000.00 | \$ 1,000,000.00 |
| Acero            | 425              | 27        | \$ 600.00     | \$ 600,000.00 | \$ 255,000.00   |
| Sub-Total        |                  |           |               |               | \$ 1,255,000.00 |

| IV. MANO DE OBRA |              |          |              |               |             |               |
|------------------|--------------|----------|--------------|---------------|-------------|---------------|
| Trabajador       | Jornal       | Cantidad | Prestaciones | Jornal Total  | Rendimiento | Valor-Unit.   |
| Oficial          | \$ 76,160.00 | 1        | 80%          | \$ 137,088.00 | 0.33        | \$ 411,264.00 |
| Obrero           | \$ 57,226.00 | 1        | 80%          | \$ 103,006.80 | 0.33        | \$ 309,020.40 |
| Sub-Total        |              |          |              |               |             | \$ 720,284.40 |

Total Costo Directo\$ 5,243,831.60

| V. COSTOS INDIRECTOS |            |                 |
|----------------------|------------|-----------------|
| Descripción          | Porcentaje | Valor Total     |
| Administración       | 29.5%      | \$ 1,546,930.32 |
| Imprevistos          | 0.5%       | \$ 26,219.16    |
| Utilidades           | 5%         | \$ 262,191.58   |
|                      |            | \$ 1,835,341.06 |

Precio unitario total aproximado al peso\$ 7,079,173.00

ANÁLISIS DE PRECIOS UNITARIOS

PROYECTO:ACUEDUCTO PALO LARGO PANTANO GRANDE

ITEM:Construcción de muros estructurales de concreto según planos del desarenador

UNIDAD :

| I. EQUIPO                      |          |              |             |               |               |
|--------------------------------|----------|--------------|-------------|---------------|---------------|
| Descripción                    | Tipo     | Tarifa/Hora  | Rendimiento | Valor-Unit.   |               |
| Vibrador concreto 3-4M 25-40MM | ACPM     | \$ 18,750.00 | 10%         | \$ 495,000.00 |               |
| Formaleta                      | UN       | \$ 1,275.00  | 10%         | \$ 143,055.00 |               |
| Concreteadora 1.5 bultos       | Gasolina | \$ 9,375.00  | 10%         | \$ 247,500.00 |               |
| Herramienta menor              | %        | \$ 1,998.00  | 10%         | \$ 52,747.20  |               |
|                                |          |              |             | Sub-Total     | \$ 938,302.20 |

| II. MATERIALES EN OBRA            |        |               |          |               |                 |
|-----------------------------------|--------|---------------|----------|---------------|-----------------|
| Descripción                       | Unidad | Precio-Unit.  | Cantidad | Valor-Unit.   |                 |
| Varilla de acero corrugado 3/8*6m | UND    | \$ 13,100.00  | 6        | \$ 78,600.00  |                 |
| Varilla de acero corrugado 1/2*6m | UND    | \$ 22,680.00  | 6        | \$ 136,080.00 |                 |
| Alambre negro                     | Kg     | \$ 7,900.00   | 2        | \$ 15,800.00  |                 |
| Malla electrosoldada XX 378       | UND    | \$ 350,000.00 | 2        | \$ 700,000.00 |                 |
| Agua                              | Lts    | \$ 90.00      | 189      | \$ 17,010.00  |                 |
| Cemento                           | Kg     | \$ 700.00     | 411      | \$ 287,700.00 |                 |
| Arena                             | m³     | \$ 55,000.00  | 0.56     | \$ 30,800.00  |                 |
| Triturado                         | m³     | \$ 75,000.00  | 0.56     | \$ 42,000.00  |                 |
|                                   |        |               |          | Sub-Total     | \$ 1,307,990.00 |

| III. TRANSPORTES |                  |           |               |               |               |
|------------------|------------------|-----------|---------------|---------------|---------------|
| Material         | Vol-peso ó Cant. | Distancia | M3-Km         | Tarifa        | Valor-Unit.   |
| Agregados        | 1.12             | 63        | \$ 100,000.00 | \$ 600,000.00 | \$ 112,000.00 |
| Acero            | 227.92           | 27        | \$ 600.00     | \$ 600,000.00 | \$ 136,752.00 |
|                  |                  |           |               | Sub-Total     | \$ 248,752.00 |

| IV. MANO DE OBRA |              |          |              |               |             |               |                 |
|------------------|--------------|----------|--------------|---------------|-------------|---------------|-----------------|
| Trabajador       | Jornal       | Cantidad | Prestaciones | Jornal Total  | Rendimiento | Valor-Unit.   |                 |
| Oficial          | \$ 76,160.00 | 1        | 80%          | \$ 137,088.00 | 0.33        | \$ 415,418.18 |                 |
| Obrero           | \$ 57,226.00 | 2        | 80%          | \$ 206,013.60 | 0.33        | \$ 624,283.64 |                 |
|                  |              |          |              |               | Sub-Total   |               |                 |
|                  |              |          |              |               |             |               | \$ 1,039,701.82 |

Total Costo Directo

\$ 3,534,746.02

| V. COSTOS INDIRECTOS |            |                 |
|----------------------|------------|-----------------|
| Descripción          | Porcentaje | Valor Total     |
| Administración       | 29.5%      | \$ 1,042,750.08 |
| Imprevistos          | 0.5%       | \$ 17,673.73    |
| Utilidades           | 5%         | \$ 176,737.30   |
|                      |            | \$ 1,237,161.11 |

Precio unitario total aproximado al peso

\$ 4,771,908.00

ANÁLISIS DE PRECIOS UNITARIOS

PROYECTO:ACUEDUCTO PALO LARGO PANTANO GRANDE

ITEM:Construcción de muros estructurales de concreto según planos del desarenador

UNIDAD :

| I. EQUIPO                      |           |              |             |               |                 |
|--------------------------------|-----------|--------------|-------------|---------------|-----------------|
| Descripción                    | Tipo      | Tarifa/Hora  | Rendimiento | Valor-Unit.   |                 |
| Vibrador concreto 3-4M 25-40MM | Electrica | \$ 18,750.00 | 10%         | \$ 660,000.00 |                 |
| Formaleta                      | UN        | \$ 5,000.00  | 10%         | \$ 176,000.00 |                 |
| Concreteeras 1.5 bultos        | Gasolina  | \$ 9,375.00  | 10%         | \$ 330,000.00 |                 |
| Paral metalicos                | UN        | \$ 15,000.00 | 10%         | \$ 480,000.00 |                 |
| Andamios                       | UN        | \$ 3,750.00  | 10%         | \$ 120,000.00 |                 |
| Herramienta menor              | %         | \$ 1,998.00  | 10%         | \$ 70,329.60  |                 |
|                                |           |              |             | Sub-Total     | \$ 1,836,329.60 |

| II. MATERIALES EN OBRA             |        |               |          |                 |                 |
|------------------------------------|--------|---------------|----------|-----------------|-----------------|
| Descripción                        | Unidad | Precio-Unit.  | Cantidad | Valor-Unit.     |                 |
| Varilla de acerro corrugado 3/8*6m | UND    | \$ 13,100.00  | 27       | \$ 353,700.00   |                 |
| Varilla de acero corrugado 3/4*6m  | UND    | \$ 50,900.00  | 36       | \$ 1,832,400.00 |                 |
| Alambre negro                      | Kg     | \$ 7,900.00   | 5        | \$ 39,500.00    |                 |
| Malla electrosoldada XX 378        | UND    | \$ 116,334.00 | 5        | \$ 581,670.00   |                 |
| Agua                               | Lts    | \$ 90.00      | 1663     | \$ 149,670.00   |                 |
| Cemento                            | Kg     | \$ 700.00     | 3629     | \$ 2,540,300.00 |                 |
| Arena                              | m³     | \$ 55,000.00  | 4.91     | \$ 270,050.00   |                 |
| Triturado                          | m³     | \$ 75,000.00  | 4.91     | \$ 368,250.00   |                 |
|                                    |        |               |          | Sub-Total       | \$ 6,135,540.00 |

| III. TRANSPORTES |                  |           |        |           |                 |
|------------------|------------------|-----------|--------|-----------|-----------------|
| Material         | Vol-peso ó Cant. | Distancia | M3-Km  | Tarifa    | Valor-Unit.     |
| Agregados        | 9.82             | 63        | 100000 | 600000    | 982000          |
| Acero            | 1003.48          | 27        | 600    | 600000    | 602088          |
|                  |                  |           |        | Sub-Total | \$ 1,584,088.00 |

| IV. MANO DE OBRA |              |          |              |               |             |               |  |
|------------------|--------------|----------|--------------|---------------|-------------|---------------|--|
| Trabajador       | Jornal       | Cantidad | Prestaciones | Jornal Total  | Rendimiento | Valor-Unit.   |  |
| Oficial          | \$ 76,160.00 | 1        | 80%          | \$ 137,088.00 | 0.25        | \$ 548,352.00 |  |
| Obrero           | \$ 57,226.00 | 2        | 80%          | \$ 206,013.60 | 0.25        | \$ 824,054.40 |  |
| Sub-Total        |              |          |              |               |             |               |  |

Total Costo Directo

\$ 10,928,364.00

| V. COSTOS INDIRECTOS |            |                 |
|----------------------|------------|-----------------|
| Descripción          | Porcentaje | Valor Total     |
| Administración       | 29.5%      | \$ 3,223,867.38 |
| Imprevistos          | 0.5%       | \$ 54,641.82    |
| Utilidades           | 5%         | \$ 546,418.20   |
|                      |            | \$ 3,824,927.40 |

Precio unitario total aproximado al peso

\$ 14,753,292.00



ANÁLISIS DE PRECIOS UNITARIOS

PROYECTO: ACUEDUCTO PALO LARGO PANTANO GRANDE  
ITEM: Construcción de la placa de concreto según planos del desarenador  
UNIDAD :

| I. EQUIPO                      |           |              |             |               |               |
|--------------------------------|-----------|--------------|-------------|---------------|---------------|
| Descripción                    | Tipo      | Tarifa/Hora  | Rendimiento | Valor-Unit.   |               |
| Vibrador concreto 3-4M 25-40MM | Electrica | \$ 18,750.00 | 10%         | \$ 330,000.00 |               |
| Formaleta                      | UN        | \$ 5,000.00  | 10%         | \$ 88,000.00  |               |
| Concreteras 1.5 bultos         | Gasolina  | \$ 9,375.00  | 10%         | \$ 165,000.00 |               |
| Paral metalicos                | UN        | \$ 15,000.00 | 10%         | \$ 264,000.00 |               |
| Herramienta menor              | %         | \$ 1,998.00  | 10%         | \$ 35,164.80  |               |
|                                |           |              |             | Sub-Total     | \$ 882,164.80 |

| II. MATERIALES EN OBRA      |                |               |          |               |               |
|-----------------------------|----------------|---------------|----------|---------------|---------------|
| Descripción                 | Unidad         | Precio-Unit.  | Cantidad | Valor-Unit.   |               |
| Alambre negro               | Kg             | \$ 7,900.00   | 1        | \$ 7,900.00   |               |
| Malla electrosoldada XX 378 | UND            | \$ 116,334.00 | 2        | \$ 232,668.00 |               |
| Agua                        | Lts            | \$ 90.00      | 283      | \$ 25,470.00  |               |
| Cemento                     | Kg             | \$ 700.00     | 617      | \$ 431,900.00 |               |
| Arena                       | m <sup>3</sup> | \$ 55,000.00  | 0.83     | \$ 45,650.00  |               |
| Triturados                  | m <sup>3</sup> | \$ 75,000.00  | 0.83     | \$ 62,250.00  |               |
|                             |                |               |          | Sub-Total     | \$ 805,838.00 |

| III. TRANSPORTES |                  |           |        |        |             |               |
|------------------|------------------|-----------|--------|--------|-------------|---------------|
| Material         | Vol-peso ó Cant. | Distancia | M3-Km  | Tarifa | Valor-Unit. |               |
| Agregados        | 1.66             | 63        | 100000 | 600000 | 166000      |               |
| Acero            | 171              | 27        | 600    | 600000 | 102600      |               |
|                  |                  |           |        |        | Sub-Total   | \$ 268,600.00 |

| IV. MANO DE OBRA |              |          |              |               |             |               |               |
|------------------|--------------|----------|--------------|---------------|-------------|---------------|---------------|
| Trabajador       | Jornal       | Cantidad | Prestaciones | Jornal Total  | Rendimiento | Valor-Unit.   |               |
| Oficial          | \$ 76,160.00 | 1        | 80%          | \$ 137,088.00 | 0.5         | \$ 274,176.00 |               |
| Obrero           | \$ 57,226.00 | 2        | 80%          | \$ 206,013.60 | 0.5         | \$ 412,027.20 |               |
|                  |              |          |              |               |             | Sub-Total     | \$ 686,203.20 |

Total Costo Directo\$ 2,642,806.00

| V. COSTOS INDIRECTOS                     |            |               |                 |
|--|------------|---------------|-----------------|
| Descripción                              | Porcentaje | Valor Total   |                 |
| Administración                           | 29.5%      | \$ 779,627.77 |                 |
| Imprevistos                              | 0.5%       | \$ 13,214.03  |                 |
| Utilidades                               | 5%         | \$ 132,140.30 |                 |
|  |            |               | \$ 924,982.10   |
| Precio unitario total aproximado al peso |            |               | \$ 3,567,789.00 |

ANÁLISIS DE PRECIOS UNITARIOS

PROYECTO: ACUEDUCTO PALO LARGO PANTANO GRANDE  
ITEM: Construcción de muros estructurales de concreto según planos del tanque de almaceUNIDAD :

| I. EQUIPO                      |           |              |             |                 |                 |
|--------------------------------|-----------|--------------|-------------|-----------------|-----------------|
| Descripción                    | Tipo      | Tarifa/Hora  | Rendimiento | Valor-Unit.     |                 |
| Vibrador concreto 3-4M 25-40MM | Electrica | \$ 18,750.00 | 10%         | \$ 1,320,000.00 |                 |
| Formaleta                      | UN        | \$ 5,000.00  | 10%         | \$ 352,000.00   |                 |
| Concreteras 1.5 bultos         | Gasolina  | \$ 9,375.00  | 10%         | \$ 660,000.00   |                 |
| Paral metalicos                | UN        | \$ 15,000.00 | 10%         | \$ 1,056,000.00 |                 |
| Andamios                       | UN        | \$ 5,000.00  | 10%         | \$ 352,000.00   |                 |
| Herramienta menor              | %         | \$ 1,998.00  | 10%         | \$ 140,659.20   |                 |
|                                |           |              |             | Sub-Total       | \$ 3,880,659.20 |

| II. MATERIALES EN OBRA          |                |               |          |                 |                  |
|---------------------------------|----------------|---------------|----------|-----------------|------------------|
| Descripción                     | Unidad         | Precio-Unit.  | Cantidad | Valor-Unit.     |                  |
| Varilla de acero corrugado3/8   | UND            | \$ 13,100.00  | 76       | \$ 995,600.00   |                  |
| Varilla de acerro corrugado 3/4 | UND            | \$ 50,900.00  | 122      | \$ 6,209,800.00 |                  |
| Alambre negro                   | Kg             | \$ 7,900.00   | 5        | \$ 39,500.00    |                  |
| Malla electrosoldada XX 378     | UND            | \$ 350,000.00 | 13       | \$ 4,550,000.00 |                  |
| Agua                            | Lts            | \$ 90.00      | 3449     | \$ 310,410.00   |                  |
| Cemento                         | Kg             | \$ 700.00     | 7525     | \$ 5,267,500.00 |                  |
| Arena                           | m <sup>3</sup> | \$ 55,000.00  | 10.19    | \$ 560,450.00   |                  |
| Triturado                       | m <sup>3</sup> | \$ 75,000.00  | 10.19    | \$ 764,250.00   |                  |
|                                 |                |               |          | Sub-Total       | \$ 18,697,510.00 |

| III. TRANSPORTES |                  |           |        |        |                 |                 |
|------------------|------------------|-----------|--------|--------|-----------------|-----------------|
| Material         | Vol-peso ó Cant. | Distancia | M3-Km  | Tarifa | Valor-Unit.     |                 |
| Agregados        | 20.38            | 63        | 100000 | 600000 | \$ 2,038,000.00 |                 |
| Acero            | 3001.38          | 27        | 600    | 600000 | \$ 1,800,828.00 |                 |
|                  |                  |           |        |        | Sub-Total       | \$ 3,838,828.00 |

| IV. MANO DE OBRA |              |          |              |               |             |                 |                 |
|------------------|--------------|----------|--------------|---------------|-------------|-----------------|-----------------|
| Trabajador       | Jornal       | Cantidad | Prestaciones | Jornal Total  | Rendimiento | Valor-Unit.     |                 |
| Oficial          | \$ 76,160.00 | 1        | 80%          | \$ 137,088.00 | 0.125       | \$ 1,096,704.00 |                 |
| Obrero           | \$ 57,226.00 | 2        | 80%          | \$ 206,013.60 | 0.125       | \$ 1,648,108.80 |                 |
| Sub-Total        |              |          |              |               |             |                 | \$ 2,744,812.80 |

Total Costo Directo\$ 29,161,810.00

| V. COSTOS INDIRECTOS                     |            |                 |                  |
|--|------------|-----------------|------------------|
| Descripción                              | Porcentaje | Valor Total     |                  |
| Administración                           | 29.5%      | \$ 8,602,733.95 |                  |
| Imprevistos                              | 0.5%       | \$ 145,809.05   |                  |
| Utilidades                               | 5%         | \$ 1,458,090.50 |                  |
|  |            |                 | \$ 10,206,633.50 |
| Precio unitario total aproximado al peso |            |                 | \$ 39,368,444.00 |

ANÁLISIS DE PRECIOS UNITARIOS

PROYECTO:ACUEDUCTO PALO LARGO PANTANO GRANDE

ITEM:Construcción de la placa de concreto según planos del tanque de almacenamiento

UNIDAD :

| I. EQUIPO                      |           |              |             |               |              |
|--------------------------------|-----------|--------------|-------------|---------------|--------------|
| Descripción                    | Tipo      | Tarifa/Hora  | Rendimiento | Valor-Unit.   |              |
| Vibrador concreto 3-4M 25-40MM | Electrica | \$ 18,750.00 | 10%         | \$ 495,000.00 |              |
| Formaleta                      | UN        | \$ 5,000.00  | 10%         | \$ 132,000.00 |              |
| Concreteras 1.5 bultos         | Gasolina  | \$ 9,375.00  | 10%         | \$ 247,500.00 |              |
| Paral metalicos                | UN        | \$ 15,000.00 | 10%         | \$ 396,000.00 |              |
| Herramienta menor              | %         | \$ 1,998.00  | 10%         | \$ 52,747.20  |              |
| Sub-Total                      |           |              |             | \$            | 1,323,247.20 |

| II. MATERIALES EN OBRA         |                |               |          |                 |              |
|--------------------------------|----------------|---------------|----------|-----------------|--------------|
| Descripción                    | Unidad         | Precio-Unit.  | Cantidad | Valor-Unit.     |              |
| Varila de acero corrugado3/8   | UND            | \$ 13,100.00  | 6        | \$ 78,600.00    |              |
| Varilla de acero corrugado 1/2 | UND            | \$ 22,680.00  | 6        | \$ 136,080.00   |              |
| Alambre negro                  | Kg             | \$ 7,900.00   | 2        | \$ 15,800.00    |              |
| Malla electrosoldada XX 378    | UND            | \$ 350,000.00 | 5        | \$ 1,750,000.00 |              |
| Agua                           | Lts            | \$ 90.00      | 933      | \$ 83,970.00    |              |
| Cemento                        | Kg             | \$ 700.00     | 2036     | \$ 1,425,200.00 |              |
| Arena                          | m <sup>3</sup> | \$ 55,000.00  | 2.75     | \$ 151,250.00   |              |
| Triturado                      | m <sup>3</sup> | \$ 75,000.00  | 2.75     | \$ 206,250.00   |              |
| Sub-Total                      |                |               |          | \$              | 3,847,150.00 |

| III. TRANSPORTES |                  |           |        |        |             |               |
|------------------|------------------|-----------|--------|--------|-------------|---------------|
| Material         | Vol-peso ó Cant. | Distancia | M3-Km  | Tarifa | Valor-Unit. |               |
| Agregados        | 5.5              | 63        | 100000 | 600000 | 550000      |               |
| Acero            | 482.92           | 27        | 600    | 600000 | 289752      |               |
|                  |                  |           |        |        | Sub-Total   | \$ 839,752.00 |

| IV. MANO DE OBRA |              |          |              |               |             |               |                 |
|------------------|--------------|----------|--------------|---------------|-------------|---------------|-----------------|
| Trabajador       | Jornal       | Cantidad | Prestaciones | Jornal Total  | Rendimiento | Valor-Unit.   |                 |
| Oficial          | \$ 76,160.00 | 1        | 80%          | \$ 137,088.00 | 0.33        | \$ 411,264.00 |                 |
| Obrero           | \$ 57,226.00 | 2        | 80%          | \$ 206,013.60 | 0.33        | \$ 618,040.80 |                 |
|                  |              |          |              |               |             |               |                 |
| Sub-Total        |              |          |              |               |             |               | \$ 1,029,304.80 |

Total Costo Directo

\$7,039,454.00

| V. COSTOS INDIRECTOS |            |                 |                |
|----------------------|------------|-----------------|----------------|
| Descripción          | Porcentaje | Valor Total     |                |
| Administración       | 29.5%      | \$ 2,076,638.93 |                |
| Imprevistos          | 0.5%       | \$ 35,197.27    |                |
| Utilidades           | 5%         | \$ 351,972.70   |                |
|                      |            |                 | \$2,463,808.90 |

Precio unitario total aproximado al peso

\$9,503,263.00

ANÁLISIS DE PRECIOS UNITARIOS

PROYECTO:ACUEDUCTO PALO LARGO PANTANO GRANDE

ITEM:Construcción de la placa de concreto según planos del tanque de almacenamiento

UNIDAD :

| I. EQUIPO              |          |             |             |              |           |
|------------------------|----------|-------------|-------------|--------------|-----------|
| Descripción            | Tipo     | Tarifa/Hora | Rendimiento | Valor-Unit.  |           |
| Concreteras 1.5 bultos | Gasolina | \$ 9,375.00 | 10%         | \$ 10,312.50 |           |
| Andamios               | UN       | \$ 5,000.00 | 10%         | \$ 5,500.00  |           |
| Herramienta menor      | %        | \$ 1,998.00 | 10%         | \$ 2,197.80  |           |
| Sub-Total              |          |             |             | \$           | 18,010.30 |

| II. MATERIALES EN OBRA |                |              |          |             |          |
|------------------------|----------------|--------------|----------|-------------|----------|
| Descripción            | Unidad         | Precio-Unit. | Cantidad | Valor-Unit. |          |
| Agua                   | Lts            | \$ 90.00     | 6        | \$ 540.00   |          |
| Cemento                | Kg             | \$ 700.00    | 8        | \$ 5,600.00 |          |
| Arena                  | m <sup>3</sup> | \$ 55,000.00 | 0.025    | \$ 1,375.00 |          |
| Sub-Total              |                |              |          | \$          | 7,515.00 |

| III. TRANSPORTES |                  |           |        |        |             |             |
|------------------|------------------|-----------|--------|--------|-------------|-------------|
| Material         | Vol-peso ó Cant. | Distancia | M3-Km  | Tarifa | Valor-Unit. |             |
| Agregados        | 0.025            | 63        | 100000 | 600000 | 2500        |             |
| Sub-Total        |                  |           |        |        |             | \$ 2,500.00 |

| IV. MANO DE OBRA |              |          |              |               |             |             |              |
|------------------|--------------|----------|--------------|---------------|-------------|-------------|--------------|
| Trabajador       | Jornal       | Cantidad | Prestaciones | Jornal Total  | Rendimiento | Valor-Unit. |              |
| Oficial          | \$ 76,160.00 | 1        | 80%          | \$ 137,088.00 | 14.00       | \$ 9,792.00 |              |
| Obrero           | \$ 57,226.00 | 1        | 80%          | \$ 103,006.80 | 14.00       | \$ 7,357.63 |              |
|                  |              |          |              |               |             | Sub-Total   | \$ 17,149.63 |

Total Costo Directo

\$45,174.93

| V. COSTOS INDIRECTOS |            |              |             |
|----------------------|------------|--------------|-------------|
| Descripción          | Porcentaje | Valor Total  |             |
| Administración       | 29.5%      | \$ 13,326.60 |             |
| Imprevistos          | 0.5%       | \$ 225.87    |             |
| Utilidades           | 5%         | \$ 2,258.75  |             |
|                      |            |              | \$15,811.23 |

Precio unitario total aproximado al peso

\$60,987.00

ANÁLISIS DE PRECIOS UNITARIOS

PROYECTO:ACUEDUCTO PALO LARGO PANTANO GRANDE

ITEM:Instalación de tuberías hidráulicas según diseños y accesorios.

UNIDAD :

I. EQUIPO

| Descripción       | Tipo | Tarifa/Hora | Rendimiento | Valor-Unit.   |               |
|-------------------|------|-------------|-------------|---------------|---------------|
| Herramienta menor | %    | \$ 1,998.00 | 10%         | \$ 159,840.00 |               |
|                   |      |             |             | Sub-Total     | \$ 159,840.00 |

II. MATERIALES EN OBRA

| Descripción                          | Unidad | Precio-Unit.  | Cantidad | Valor-Unit.     |                  |
|--------------------------------------|--------|---------------|----------|-----------------|------------------|
| Tuberia RDE 21 de 4"                 | UND    | \$ 534,992.00 | 12       | \$ 6,419,904.00 |                  |
| Uniones 4"                           | UND    | \$ 62,128.00  | 14       | \$ 869,792.00   |                  |
| Codos 4"                             | UND    | \$ 128,248.00 | 2        | \$ 256,496.00   |                  |
| Llaves de 4"                         | UND    | \$ 459,502.00 | 2        | \$ 919,004.00   |                  |
| Tuberia RDE 21 de 2"                 | UND    | \$ 139,738.00 | 25       | \$ 3,493,450.00 |                  |
| Uniones Hidraulicas 2"               | UND    | \$ 5,836.00   | 27       | \$ 157,572.00   |                  |
| Codos 2"                             | UND    | \$ 15,862.00  | 6        | \$ 95,172.00    |                  |
| Tee hidraulicas 2"                   | UND    | \$ 20,267.00  | 3        | \$ 60,801.00    |                  |
| Llaves hidraulicas 2"                | UND    | \$ 68,412.00  | 4        | \$ 273,648.00   |                  |
| Tuberia RDE 13.5 de 1"               | UND    | \$ 56,101.00  | 75       | \$ 4,207,575.00 |                  |
| Uniones 1"                           | UND    | \$ 1,424.00   | 77       | \$ 109,648.00   |                  |
| Tee 1"                               | UND    | \$ 3,754.00   | 5        | \$ 18,770.00    |                  |
| Codos 1"                             | UND    | \$ 2,699.00   | 5        | \$ 13,495.00    |                  |
| Tuberia RDE 21 de 3/4"               | UND    | \$ 27,611.00  | 150      | \$ 4,141,650.00 |                  |
| Uniones 3/4"                         | UND    | \$ 869.00     | 152      | \$ 132,088.00   |                  |
| Tee 3/4"                             | UND    | \$ 1,922.00   | 5        | \$ 9,610.00     |                  |
| Tuberia RDE 13.5 de 1/2"             | UND    | \$ 22,283.00  | 25       | \$ 557,075.00   |                  |
| Uniones 1/2"                         | UND    | \$ 551.00     | 27       | \$ 14,877.00    |                  |
| Llave de paso 1/2"                   | UND    | \$ 13,571.00  | 7        | \$ 94,997.00    |                  |
| Tee 1/2"                             | UND    | \$ 1,136.00   | 5        | \$ 5,680.00     |                  |
| Manguera 2" calibre 60 peltizada*90m | METRO  | \$ 3,500.00   | 480      | \$ 1,680,000.00 |                  |
| Acoples de manguera 2"               | UND    | \$ 70,900.00  | 8        | \$ 567,200.00   |                  |
| Pegante soldadura PVC 1/4            | UND    | \$ 146,569.00 | 2        | \$ 293,138.00   |                  |
| Tuberia sanitaria de 4"              | UND    | \$ 209,648.00 | 4        | \$ 838,592.00   |                  |
| Codos sanitarios de 4"               | UND    | \$ 17,859.00  | 5        | \$ 89,295.00    |                  |
| Uniones sanitarias de 4"             | UND    | \$ 10,405.00  | 7        | \$ 72,835.00    |                  |
| Tee sanitarias de 4"                 | UND    | \$ 23,655.00  | 2        | \$ 47,310.00    |                  |
| Adactador salida                     | UND    | \$ 43,911.00  | 4        | \$ 175,644.00   |                  |
| Pintura epoxica                      | UND    | \$ 189,900.00 | 2        | \$ 379,800.00   |                  |
| Impermeabilizante                    | UND    | \$ 381,900.00 | 2        | \$ 763,800.00   |                  |
|                                      |        |               |          | Sub-Total       | \$ 18,293,722.00 |

III. TRANSPORTES

| Material             | Vol-peso ó Cant. | Distancia | M-Km | Tarifa | Valor-Unit. |               |
|----------------------|------------------|-----------|------|--------|-------------|---------------|
| Tuberia y accesorios | 1000             | 27        | 600  | 600000 | 600000      |               |
|                      |                  |           |      |        | Sub-Total   | \$ 600,000.00 |

IV. MANO DE OBRA

| Trabajado | Jornal       | Cantidad | Prestaciones | Jornal Total  | Rendimiento | Valor-Unit.     |                 |
|-----------|--------------|----------|--------------|---------------|-------------|-----------------|-----------------|
| Oficial   | \$ 76,160.00 | 1        | 80%          | \$ 137,088.00 | 0.1         | \$ 1,370,880.00 |                 |
| Obrero    | \$ 57,226.00 | 2        | 80%          | \$ 206,013.60 | 0.1         | \$ 2,060,136.00 |                 |
|           |              |          |              |               |             | Sub-Total       | \$ 3,431,016.00 |

Total Costo Directo\$ 22,484,578.00

V. COSTOS INDIRECTOS

| Descripción    | Porcentaje | Valor Total     |                 |
|----------------|------------|-----------------|-----------------|
| Administración | 29.5%      | \$ 6,632,950.51 |                 |
| Imprevistos    | 0.5%       | \$ 112,422.89   |                 |
| Utilidades     | 5%         | \$ 1,124,228.90 |                 |
|                |            |                 | \$ 7,869,602.30 |

Precio unitario total aproximado al peso\$ 30,354,181.00

ANÁLISIS DE PRECIOS UNITARIOS

PROYECTO:

ACUEDUCTO PALO LARGO PANTANO GRANDE

ITEM:

Prueba de redes Hidráulicas y aseo general

UNIDAD :

ML

I. EQUIPO

| Descripción       | Tipo | Tarifa/Hora | Rendimiento | Valor-Unit. |  |
|-------------------|------|-------------|-------------|-------------|--|
| Herramienta menor | %    | \$ 1,998.00 | 10%         | \$ 2,197.80 |  |
| Sub-Total         |      |             |             | \$ 2,197.80 |  |

II. MATERIALES EN OBRA

| Descripción | Unidad | Precio-Unit. | Cantidad | Valor-Unit. |  |
|-------------|--------|--------------|----------|-------------|--|
|             |        |              |          |             |  |
| Sub-Total   |        |              |          |             |  |

III. TRANSPORTES

| Material  | Vol-peso ó C | Distancia | M-Km | Tarifa | Valor-Unit. |  |
|-----------|--------------|-----------|------|--------|-------------|--|
|           |              |           |      |        |             |  |
| Sub-Total |              |           |      |        |             |  |

IV. MANO DE OBRA

| Trabajador | Jornal       | Cantidad | Prestaciones | Jornal Total  | Rendimiento | Valor-Unit. |  |
|------------|--------------|----------|--------------|---------------|-------------|-------------|--|
| Oficial    | \$ 76,160.00 | 1        | 80%          | \$ 137,088.00 | 200         | \$ 685.44   |  |
| Sub-Total  |              |          |              |               |             | \$ 685.44   |  |

Total Costo Directo

\$ 2,883.24

V. COSTOS INDIRECTOS

| Descripción    | Porcentaje | Valor Total |  |
|----------------|------------|-------------|--|
| Administración | 29.5%      | \$ 850.56   |  |
| Imprevistos    | 0.5%       | \$ 14.42    |  |
| Utilidades     | 5%         | \$ 144.16   |  |
|                |            | \$ 1,009.13 |  |

Precio unitario total aproximado al peso

\$ 3,893.00