

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 1.1.1

Zapata corrida ZC-1 de 0.70 x 0.25m armada con varillas No. 4 @ 0.20m ambos sentidos lecho inferior con plantilla de 5 cm de espesor de concreto f'c= 100kg/cm2. Concreto F'c=250 Kg/cm2, acero F'y= 4200Kg/cm2, incluye concreto, acero de refuerzo, material, equipo, herramientas, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. (Ver plano S01) P.U.O.T.

UNIDAD

m

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                                                    | UNIDAD | CANTIDAD | COSTO      | IMPORTE         | FACTOR AJUSTE | COSTO ACT  | IMPORTE         |
|--------------------------------------------------------------------|--------|----------|------------|-----------------|---------------|------------|-----------------|
| <b>MATERIALES</b>                                                  |        |          |            |                 |               |            |                 |
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM APASCO           | M3     | 0.184    | \$1,330.00 | \$244.72        | 1.0160        | \$1,351.28 | \$248.64        |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                             | M3     | 0.184    | \$260.00   | \$47.84         | 1.1522        | \$299.57   | \$55.12         |
| <b>SUBTOTAL</b>                                                    |        |          |            | <b>\$292.56</b> |               |            | <b>\$303.76</b> |
| <b>MANO DE OBRA</b>                                                |        |          |            |                 |               |            |                 |
|                                                                    |        |          |            | \$0.00          | 1.0600        | \$0.00     | \$0.00          |
| <b>SUBTOTAL</b>                                                    |        |          |            | <b>\$0.00</b>   |               |            | <b>\$0.00</b>   |
| <b>EQUIPO</b>                                                      |        |          |            |                 |               |            |                 |
|                                                                    |        |          |            | \$0.00          | 1.0000        | \$0.00     | \$0.00          |
| <b>SUBTOTAL</b>                                                    |        |          |            | <b>\$0.00</b>   |               |            | <b>\$0.00</b>   |
| <b>AUXILIARES</b>                                                  |        |          |            |                 |               |            |                 |
| PLANTILLA DE 5CM DE ESPESOR, CONCRETO F'c= 100 KG/CM2              | M2     | 0.8      | \$125.75   | \$100.60        | 1.0378        | \$130.50   | \$104.40        |
| COLADO DE CONCRETO PREMEZCLADO EN CIMENTACIONES, BASES, TRINCHERAS | M3     | 0.175    | \$263.01   | \$46.03         | 1.0658        | \$280.32   | \$49.06         |
| CIMBRA COMUN                                                       | M2     | 0.5      | \$250.08   | \$125.04        | 1.0409        | \$260.31   | \$130.16        |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN             | KG     | 6.47     | \$18.15    | \$117.43        | 1.093         | \$19.84    | \$128.36        |
| <b>SUBTOTAL</b>                                                    |        |          |            | <b>\$389.10</b> |               |            | <b>\$411.98</b> |
| <b>HERRAMIENTA MENOR</b>                                           |        |          |            |                 |               |            |                 |
|                                                                    | %      | 3.00%    |            | \$0.00          | 1.0600        | \$0.00     | \$0.00          |

|                        |                 |                 |
|------------------------|-----------------|-----------------|
| COSTO DIRECTO          | \$681.66        | \$715.74        |
| INDIRECTOS 7%          | \$47.72         | \$50.10         |
| COSTO FINANCIERO 0.00% | \$0.00          | \$0.00          |
| UTILIDAD 8%            | \$58.35         | \$61.27         |
| 0.20% CMIC             | \$1.58          | \$1.65          |
| <b>PRECIO UNITARIO</b> | <b>\$789.31</b> | <b>\$828.77</b> |

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
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 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCCION

## ANÁLISIS DE PRECIOS UNITARIOS

### CONCEPTO No. 1.1.2

Zapata corrida ZC-1 de 0.70 x 0.25m armada con varillas No. 4 @ 0.20m ambos sentidos lecho inferior con plantilla de 5 cm de espesor de concreto f'c= 100kg/cm2. Concreto F'c=250 Kg/cm2, acero F'y= 4200Kg/cm2, incluye concreto, acero de refuerzo, material, equipo, herramientas, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. (Ver plano S01) P.U.O.T.

UNIDAD m  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                                          | UNIDAD | CANTIDAD | COSTO      | IMPORTE         | FACTOR AJUSTE | COSTO ACT  | IMPORTE         |
|----------------------------------------------------------|--------|----------|------------|-----------------|---------------|------------|-----------------|
| <b>MATERIALES</b>                                        |        |          |            |                 |               |            |                 |
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM APASCO | M3     | 0.184    | \$1,330.00 | \$244.72        | 1.0160        | \$1,351.28 | \$248.64        |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                   | M3     | 0.184    | \$260.00   | \$47.84         | 1.1522        | \$299.57   | \$55.12         |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$292.56</b> |               |            | <b>\$303.76</b> |

|                     |  |  |  |               |        |        |               |
|---------------------|--|--|--|---------------|--------|--------|---------------|
| <b>MANO DE OBRA</b> |  |  |  |               |        |        |               |
|                     |  |  |  | \$0.00        | 1.0600 | \$0.00 | \$0.00        |
| <b>SUBTOTAL</b>     |  |  |  | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|                 |  |  |  |               |        |        |               |
|-----------------|--|--|--|---------------|--------|--------|---------------|
| <b>EQUIPO</b>   |  |  |  |               |        |        |               |
|                 |  |  |  | \$0.00        | 1.0000 | \$0.00 | \$0.00        |
| <b>SUBTOTAL</b> |  |  |  | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|                                                                    |    |       |          |                 |        |          |                 |
|--------------------------------------------------------------------|----|-------|----------|-----------------|--------|----------|-----------------|
| <b>AUXILIARES</b>                                                  |    |       |          |                 |        |          |                 |
| PLANTILLA DE 5CM DE ESPESOR, CONCRETO F'c= 100 KG/CM2              | M2 | 0.8   | \$125.75 | \$100.60        | 1.0378 | \$130.50 | \$104.40        |
| COLADO DE CONCRETO PREMEZCLADO EN CIMENTACIONES, BASES, TRINCHERAS | M3 | 0.175 | \$263.01 | \$46.03         | 1.0658 | \$280.32 | \$49.06         |
| CIMBRA COMUN                                                       | M2 | 0.5   | \$250.08 | \$125.04        | 1.0409 | \$260.31 | \$130.16        |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN             | KG | 6.47  | \$18.15  | \$117.43        | 1.093  | \$19.84  | \$128.36        |
| <b>SUBTOTAL</b>                                                    |    |       |          | <b>\$389.10</b> |        |          | <b>\$411.98</b> |

|                   |   |       |  |        |        |        |        |
|-------------------|---|-------|--|--------|--------|--------|--------|
| HERRAMIENTA MENOR | % | 3.00% |  | \$0.00 | 1.0600 | \$0.00 | \$0.00 |
|-------------------|---|-------|--|--------|--------|--------|--------|

|                        |                 |                 |
|------------------------|-----------------|-----------------|
| COSTO DIRECTO          | \$681.66        | \$715.74        |
| INDIRECTOS 7%          | \$47.72         | \$50.10         |
| COSTO FINANCIERO 0.00% | \$0.00          | \$0.00          |
| UTILIDAD 8%            | \$58.35         | \$61.27         |
| 0.20% CMIC             | \$1.58          | \$1.65          |
| <b>PRECIO UNITARIO</b> | <b>\$789.31</b> | <b>\$828.76</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
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 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 1.1.3

Zapata corrida ZC-2 de 0.80 x 0.30m armada con varillas No. 4 @ 0.20m ambos sentidos lecho inferior con plantilla de 5 cm de espesor de concreto f'c= 100kg/cm2. Concreto F'c=250 Kg/cm2, acero F'y= 4200Kg/cm2, incluye concreto, acero de refuerzo, material, equipo, herramientas, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. (Ver plano S01) P.U.O.T.

UNIDAD

m

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                                                             | UNIDAD | CANTIDAD | COSTO      | IMPORTE         | FACTOR AJUSTE | COSTO ACT  | IMPORTE         |
|-----------------------------------------------------------------------------|--------|----------|------------|-----------------|---------------|------------|-----------------|
| <b>MATERIALES</b>                                                           |        |          |            |                 |               |            |                 |
| CONCRETO PREMEZCLADO<br>F'c= 250 KG/CM2 GCC U<br>HOLCIM APASCO              | M3     | 0.252    | \$1,330.00 | \$335.16        | 1.0160        | \$1,351.28 | \$340.52        |
| BOMBEO CONCRETO DE GCC<br>U HOLCIM APASCO                                   | M3     | 0.252    | \$260.00   | \$65.52         | 1.1522        | \$299.57   | \$75.49         |
| <b>SUBTOTAL</b>                                                             |        |          |            | <b>\$400.68</b> |               |            | <b>\$416.01</b> |
| <b>MANO DE OBRA</b>                                                         |        |          |            |                 |               |            |                 |
|                                                                             |        |          |            | \$0.00          | 1.0600        | \$0.00     | \$0.00          |
| <b>SUBTOTAL</b>                                                             |        |          |            | <b>\$0.00</b>   |               |            | <b>\$0.00</b>   |
| <b>EQUIPO</b>                                                               |        |          |            |                 |               |            |                 |
|                                                                             |        |          |            | \$0.00          | 1.0000        | \$0.00     | \$0.00          |
| <b>SUBTOTAL</b>                                                             |        |          |            | <b>\$0.00</b>   |               |            | <b>\$0.00</b>   |
| <b>AUXILIARES</b>                                                           |        |          |            |                 |               |            |                 |
| PLANTILLA DE 5CM DE<br>ESPESOR, CONCRETO F'C= 100<br>KG/CM2                 | M2     | 0.9      | \$125.75   | \$113.18        | 1.0378        | \$130.50   | \$117.45        |
| COLADO DE CONCRETO<br>PREMEZCLADO EN<br>CIMENTACIONES, BASES,<br>TRINCHERAS | M3     | 0.24     | \$263.01   | \$63.12         | 1.0658        | \$280.32   | \$67.28         |
| CIMBRA COMUN                                                                | M2     | 0.6      | \$250.08   | \$150.05        | 1.0409        | \$260.31   | \$156.19        |
| ACERO DE REFUERZO,<br>SUMINISTRO, HABILITADO Y<br>COLOCACIÓN                | KG     | 7.5      | \$18.15    | \$136.13        | 1.093         | \$19.84    | \$148.80        |
| <b>SUBTOTAL</b>                                                             |        |          |            | <b>\$462.47</b> |               |            | <b>\$489.72</b> |
| HERRAMIENTA MENOR                                                           | %      | 3.00%    |            | \$0.00          | 1.0600        | \$0.00     | \$0.00          |

|                        |                 |
|------------------------|-----------------|
| COSTO DIRECTO          | \$863.15        |
| INDIRECTOS 7%          | \$60.42         |
| COSTO FINANCIERO 0.00% | \$0.00          |
| UTILIDAD 8%            | \$73.89         |
| 0.20% CMIC             | \$1.99          |
| <b>PRECIO UNITARIO</b> | <b>\$999.46</b> |

|                   |
|-------------------|
| \$905.73          |
| \$63.40           |
| \$0.00            |
| \$77.53           |
| \$2.09            |
| <b>\$1,048.75</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
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 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 1.1.4

Zapata corrida ZC-3 de 0.80 x 0.30m armada con varillas No. 4 @ 0.20m ambos sentidos lecho inferior con plantilla de 5 cm de espesor de concreto f'c= 100kg/cm2. Concreto F'c=250 Kg/cm2, acero F'y= 4200Kg/cm2, incluye concreto, acero de refuerzo, material, equipo, herramientas, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. (Ver plano S01) P.U.O.T.

UNIDAD

m

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                                                    | UNIDAD | CANTIDAD | COSTO      | IMPORTE         | FACTOR AJUSTE | COSTO ACT  | IMPORTE         |
|--------------------------------------------------------------------|--------|----------|------------|-----------------|---------------|------------|-----------------|
| <b>MATERIALES</b>                                                  |        |          |            |                 |               |            |                 |
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM APASCO           | M3     | 0.252    | \$1,330.00 | \$335.16        | 1.0160        | \$1,351.28 | \$340.52        |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                             | M3     | 0.252    | \$260.00   | \$65.52         | 1.1522        | \$299.57   | \$75.49         |
| <b>SUBTOTAL</b>                                                    |        |          |            | <b>\$400.68</b> |               |            | <b>\$416.01</b> |
| <b>MANO DE OBRA</b>                                                |        |          |            |                 |               |            |                 |
|                                                                    |        |          |            | \$0.00          | 1.0600        | \$0.00     | \$0.00          |
| <b>SUBTOTAL</b>                                                    |        |          |            | <b>\$0.00</b>   |               |            | <b>\$0.00</b>   |
| <b>EQUIPO</b>                                                      |        |          |            |                 |               |            |                 |
|                                                                    |        |          |            | \$0.00          | 1.0000        | \$0.00     | \$0.00          |
| <b>SUBTOTAL</b>                                                    |        |          |            | <b>\$0.00</b>   |               |            | <b>\$0.00</b>   |
| <b>AUXILIARES</b>                                                  |        |          |            |                 |               |            |                 |
| PLANTILLA DE 5CM DE ESPESOR, CONCRETO F'C= 100 KG/CM2              | M2     | 0.9      | \$125.75   | \$113.18        | 1.0378        | \$130.50   | \$117.45        |
| COLADO DE CONCRETO PREMEZCLADO EN CIMENTACIONES, BASES, TRINCHERAS | M3     | 0.24     | \$263.01   | \$63.12         | 1.0658        | \$280.32   | \$67.28         |
| CIMBRA COMUN                                                       | M2     | 0.6      | \$250.08   | \$150.05        | 1.0409        | \$260.31   | \$156.19        |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN             | KG     | 7.5      | \$18.15    | \$136.13        | 1.093         | \$19.84    | \$148.80        |
| <b>SUBTOTAL</b>                                                    |        |          |            | <b>\$462.47</b> |               |            | <b>\$489.72</b> |
| HERRAMIENTA MENOR                                                  | %      | 3.00%    |            | \$0.00          | 1.0600        | \$0.00     | \$0.00          |

|                        |                 |
|------------------------|-----------------|
| COSTO DIRECTO          | \$863.15        |
| INDIRECTOS 7%          | \$60.42         |
| COSTO FINANCIERO 0.00% | \$0.00          |
| UTILIDAD 8%            | \$73.89         |
| 0.20% CMIC             | \$1.99          |
| <b>PRECIO UNITARIO</b> | <b>\$999.46</b> |

|                   |
|-------------------|
| \$905.73          |
| \$63.40           |
| \$0.00            |
| \$77.53           |
| \$2.09            |
| <b>\$1,048.75</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 1.1.7

Rodapie (para ZC-1.5) de block de concreto 0.20x0.20x0.40m, celdas rellenas de concreto F'c=150kg/cm2, armado: 1 vs # 4 @ 20 cm + 1 vs # 3 @ 2 hiladas. Incluye:concreto, acero, material, mano de obra, herramienta y todo lo necesario para su correcta ejecucccion. (Ver plano S01) P.U.O.T.

UNIDAD

m2

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                                        | UNIDAD | CANTIDAD | COSTO      | IMPORTE                       | FACTOR AJUSTE | COSTO ACT  | IMPORTE         |
|--------------------------------------------------------|--------|----------|------------|-------------------------------|---------------|------------|-----------------|
| <b>MATERIALES</b>                                      |        |          |            |                               |               |            |                 |
| BLOCK CONCRETO 20 X 20 X 40                            | PZA    | 12.75    | \$12.40    | \$158.10                      | 1.0191        | \$12.64    | \$161.16        |
| <b>SUBTOTAL</b>                                        |        |          |            | <b>\$158.10</b>               |               |            | <b>\$161.16</b> |
| <b>MANO DE OBRA</b>                                    |        |          |            |                               |               |            |                 |
|                                                        |        |          |            | \$0.00                        | 1.0600        | \$0.00     | \$0.00          |
| <b>SUBTOTAL</b>                                        |        |          |            | <b>\$0.00</b>                 |               |            | <b>\$0.00</b>   |
| <b>EQUIPO</b>                                          |        |          |            |                               |               |            |                 |
|                                                        |        |          |            | \$0.00                        | 1.0000        | \$0.00     | \$0.00          |
| <b>SUBTOTAL</b>                                        |        |          |            | <b>\$0.00</b>                 |               |            | <b>\$0.00</b>   |
| <b>AUXILIARES</b>                                      |        |          |            |                               |               |            |                 |
| CUADRILLA 8 (1 OFICIAL ALBAÑIL + 1 PEON EN GENERAL )   | JOR    | 0.125    | \$1,063.39 | \$132.92                      | 1.0566        | \$1,123.58 | \$140.45        |
| MORTERO CEMENTO-ARENA 1:4                              | M3     | 0.022    | \$1,829.96 | \$40.26                       | 1.0386        | \$1,900.60 | \$41.81         |
| CONCRETO Fc= 150 KG/CM2 HECHO EN OBRA                  | M3     | 0.126    | \$1,529.25 | \$192.69                      | 1.0382        | \$1,587.67 | \$200.05        |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN | KG     | 6.7      | \$18.15    | \$121.61                      | 1.093         | \$19.84    | \$132.93        |
| <b>SUBTOTAL</b>                                        |        |          |            | <b>\$487.47</b>               |               |            | <b>\$515.24</b> |
| HERRAMIENTA MENOR                                      | %      | 3.00%    |            | \$0.00                        | 1.0600        | \$0.00     | \$0.00          |
|                                                        |        |          |            | <b>COSTO DIRECTO</b>          |               |            | <b>\$645.57</b> |
|                                                        |        |          |            | <b>INDIRECTOS 7%</b>          |               |            | <b>\$45.19</b>  |
|                                                        |        |          |            | <b>COSTO FINANCIERO 0.00%</b> |               |            | <b>\$0.00</b>   |
|                                                        |        |          |            | <b>UTILIDAD 8%</b>            |               |            | <b>\$55.26</b>  |
|                                                        |        |          |            | <b>0.20% CMIC</b>             |               |            | <b>\$1.49</b>   |
|                                                        |        |          |            | <b>PRECIO UNITARIO</b>        |               |            | <b>\$747.52</b> |
|                                                        |        |          |            |                               |               |            | <b>\$676.40</b> |
|                                                        |        |          |            |                               |               |            | <b>\$47.35</b>  |
|                                                        |        |          |            |                               |               |            | <b>\$0.00</b>   |
|                                                        |        |          |            |                               |               |            | <b>\$57.90</b>  |
|                                                        |        |          |            |                               |               |            | <b>\$1.56</b>   |
|                                                        |        |          |            |                               |               |            | <b>\$783.22</b> |

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 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

## ANÁLISIS DE PRECIOS UNITARIOS

### CONCEPTO No. 1.1.8

Rodapie (para ZC-2) de block de concreto 0.20x0.20x0.40m, celdas rellenas de concreto F'c=150kg/cm2, armado: 1 vs # 4 @ 20 cm + 1 vs # 3 @ 2 hiladas. Incluye:concreto, acero, material, mano de obra, herramienta y todo lo necesario para su correcta ejecucion. (Ver plano S01) P.U.O.T.

UNIDAD m2  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                        | UNIDAD | CANTIDAD | COSTO      | IMPORTE         | FACTOR AJUSTE | COSTO ACT  | IMPORTE         |
|--------------------------------------------------------|--------|----------|------------|-----------------|---------------|------------|-----------------|
| <b>MATERIALES</b>                                      |        |          |            |                 |               |            |                 |
| BLOCK CONCRETO 20 X 20 X 40                            | PZA    | 12.75    | \$12.40    | \$158.10        | 1.0191        | \$12.64    | \$161.16        |
| <b>SUBTOTAL</b>                                        |        |          |            | <b>\$158.10</b> |               |            | <b>\$161.16</b> |
| <b>MANO DE OBRA</b>                                    |        |          |            |                 |               |            |                 |
|                                                        |        |          |            | \$0.00          | 1.0600        | \$0.00     | \$0.00          |
| <b>SUBTOTAL</b>                                        |        |          |            | <b>\$0.00</b>   |               |            | <b>\$0.00</b>   |
| <b>EQUIPO</b>                                          |        |          |            |                 |               |            |                 |
|                                                        |        |          |            | \$0.00          | 1.0000        | \$0.00     | \$0.00          |
| <b>SUBTOTAL</b>                                        |        |          |            | <b>\$0.00</b>   |               |            | <b>\$0.00</b>   |
| <b>AUXILIARES</b>                                      |        |          |            |                 |               |            |                 |
| CUADRILLA 8 (1 OFICIAL ALBAÑIL + 1 PEON EN GENERAL)    | JOR    | 0.125    | \$1,063.39 | \$132.92        | 1.0566        | \$1,123.58 | \$140.45        |
| MORTERO CEMENTO-ARENA 1:4                              | M3     | 0.022    | \$1,829.96 | \$40.26         | 1.0386        | \$1,900.60 | \$41.81         |
| CONCRETO Fc= 150 KG/CM2 HECHO EN OBRA                  | M3     | 0.126    | \$1,529.25 | \$192.69        | 1.0382        | \$1,587.67 | \$200.05        |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN | KG     | 6.7      | \$18.15    | \$121.61        | 1.093         | \$19.84    | \$132.93        |
| <b>SUBTOTAL</b>                                        |        |          |            | <b>\$487.47</b> |               |            | <b>\$515.24</b> |
| HERRAMIENTA MENOR                                      | %      | 3.00%    |            | \$0.00          | 1.0600        | \$0.00     | \$0.00          |
| <b>COSTO DIRECTO</b>                                   |        |          |            | <b>\$645.57</b> |               |            | <b>\$676.40</b> |
| <b>INDIRECTOS 7%</b>                                   |        |          |            | <b>\$45.19</b>  |               |            | <b>\$47.35</b>  |
| <b>COSTO FINANCIERO 0.00%</b>                          |        |          |            | <b>\$0.00</b>   |               |            | <b>\$0.00</b>   |
| <b>UTILIDAD 8%</b>                                     |        |          |            | <b>\$55.26</b>  |               |            | <b>\$57.90</b>  |
| <b>0.20% CMIC</b>                                      |        |          |            | <b>\$1.49</b>   |               |            | <b>\$1.56</b>   |
| <b>PRECIO UNITARIO</b>                                 |        |          |            | <b>\$747.52</b> |               |            | <b>\$783.22</b> |

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 1.1.12

Dala DL-1 (para ZC-1.5) de 0.20 x 0.20m armada con 4 varillas No. 4, estribos No. 2 @ 0.20m. Concreto F'c=250 Kg/cm2, acero F'y= 4200Kg/cm2, incluye concreto, acero de refuerzo, cimbra, material, equipo, herramientas, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. (Ver plano S01) P.U.O.T.

UNIDAD M  
 FECHA COTIZACION 26 DE NOV DE 2019

#### ACTUALIZACION A:

2020

ABRIL

|                                                        | UNIDAD | CANTIDAD | COSTO      | IMPORTE         | FACTOR AJUSTE | COSTO ACT  | IMPORTE         |
|--------------------------------------------------------|--------|----------|------------|-----------------|---------------|------------|-----------------|
| <b>MATERIALES</b>                                      |        |          |            |                 |               |            |                 |
|                                                        |        |          |            | \$0.00          | 1.0000        | \$0.00     | \$0.00          |
| <b>SUBTOTAL</b>                                        |        |          |            | <b>\$0.00</b>   |               |            | <b>\$0.00</b>   |
| <b>MANO DE OBRA</b>                                    |        |          |            |                 |               |            |                 |
|                                                        |        |          |            | \$0.00          | 1.0600        | \$0.00     | \$0.00          |
| <b>SUBTOTAL</b>                                        |        |          |            | <b>\$0.00</b>   |               |            | <b>\$0.00</b>   |
| <b>EQUIPO</b>                                          |        |          |            |                 |               |            |                 |
|                                                        |        |          |            | \$0.00          | 1.0000        | \$0.00     | \$0.00          |
| <b>SUBTOTAL</b>                                        |        |          |            | <b>\$0.00</b>   |               |            | <b>\$0.00</b>   |
| <b>AUXILIARES</b>                                      |        |          |            |                 |               |            |                 |
| CONCRETO Fc= 250 KG/CM2 HECHO EN OBRA                  | M3     | 0.044    | \$1,817.97 | \$79.99         | 1.0390        | \$1,888.87 | \$83.12         |
| CUADRILLA 8 (1 OFICIAL ALBAÑIL + 1 PEON EN GENERAL )   | JOR    | 0.04     | \$1,063.39 | \$42.54         | 1.0566        | \$1,123.58 | \$44.94         |
| CIMBRA COMUN                                           | M2     | 0.4      | \$250.08   | \$100.03        | 1.0409        | \$260.31   | \$104.12        |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN | KG     | 5.1      | \$18.15    | \$92.57         | 1.093         | \$19.84    | \$101.18        |
| <b>SUBTOTAL</b>                                        |        |          |            | <b>\$315.12</b> |               |            | <b>\$333.36</b> |
| <b>HERRAMIENTA MENOR</b>                               |        |          |            |                 |               |            |                 |
|                                                        | %      | 3.00%    |            | \$0.00          | 1.0600        | \$0.00     | \$0.00          |

|                        |                 |
|------------------------|-----------------|
| COSTO DIRECTO          | \$315.12        |
| INDIRECTOS 7%          | \$22.06         |
| COSTO FINANCIERO 0.00% | \$0.00          |
| UTILIDAD 8%            | \$26.97         |
| 0.20% CMIC             | \$0.73          |
| <b>PRECIO UNITARIO</b> | <b>\$364.90</b> |

|                 |
|-----------------|
| \$333.36        |
| \$23.34         |
| \$0.00          |
| \$28.54         |
| \$0.77          |
| <b>\$386.01</b> |

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Signature

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 1.1.15

Placa de base PL-1 para C-3, de 8"x8"x3/8" espesor, acero A572-Gr50 con 2 anclas de 1/2" diametro x 0.45m longitud, acero A572 Gr50. Incluye placa de acero, anclas, soldadura, material, equipo, herramientas, mano de obra y todo lo necesario para su correcta ejecucion. (Ver plano S01) P.U.O.T.

UNIDAD  
 FECHA COTIZACION

PZA  
 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                                 | UNIDAD | CANTIDAD | COSTO   | IMPORTE         | FACTOR AJUSTE | COSTO ACT | IMPORTE         |
|-----------------------------------------------------------------|--------|----------|---------|-----------------|---------------|-----------|-----------------|
| <b>MATERIALES</b>                                               |        |          |         |                 |               |           |                 |
|                                                                 |        |          |         | \$0.00          | 1.0000        | \$0.00    | \$0.00          |
| <b>SUBTOTAL</b>                                                 |        |          |         | <b>\$0.00</b>   |               |           | <b>\$0.00</b>   |
| <b>MANO DE OBRA</b>                                             |        |          |         |                 |               |           |                 |
|                                                                 |        |          |         | \$0.00          | 1.0600        | \$0.00    | \$0.00          |
| <b>SUBTOTAL</b>                                                 |        |          |         | <b>\$0.00</b>   |               |           | <b>\$0.00</b>   |
| <b>EQUIPO</b>                                                   |        |          |         |                 |               |           |                 |
|                                                                 |        |          |         | \$0.00          | 1.0000        | \$0.00    | \$0.00          |
| <b>SUBTOTAL</b>                                                 |        |          |         | <b>\$0.00</b>   |               |           | <b>\$0.00</b>   |
| <b>AUXILIARES</b>                                               |        |          |         |                 |               |           |                 |
| Suministro, fabricacion y montaje de conexiones a base de placa | KG     | 3.938    | \$36.05 | \$141.96        | 0.9299        | \$33.52   | \$132.01        |
| <b>SUBTOTAL</b>                                                 |        |          |         | <b>\$141.96</b> |               |           | <b>\$132.01</b> |
| <b>HERRAMIENTA MENOR</b>                                        |        |          |         |                 |               |           |                 |
|                                                                 | %      | 3.00%    |         | \$0.00          | 1.0600        | \$0.00    | \$0.00          |
| <b>COSTO DIRECTO</b>                                            |        |          |         | <b>\$141.96</b> |               |           | <b>\$132.01</b> |
| <b>INDIRECTOS 7%</b>                                            |        |          |         | <b>\$9.94</b>   |               |           | <b>\$9.24</b>   |
| <b>COSTO FINANCIERO 0.00%</b>                                   |        |          |         | <b>\$0.00</b>   |               |           | <b>\$0.00</b>   |
| <b>UTILIDAD 8%</b>                                              |        |          |         | <b>\$12.15</b>  |               |           | <b>\$11.30</b>  |
| <b>0.20% CMIC</b>                                               |        |          |         | <b>\$0.33</b>   |               |           | <b>\$0.31</b>   |
| <b>PRECIO UNITARIO</b>                                          |        |          |         | <b>\$164.38</b> |               |           | <b>\$152.86</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUYENDO

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 1.1.26

Dado CC-1 de 0.50x0.50x0.70m armado con 22varillas No. 8, estribos No. 3 @ 0.20m, en desplante en Z-4. Concreto F'c=250 Kg/cm2, acero F'y= 4200Kg/cm2, incluye concreto, acero de refuerzo, cimbra, material, equipo, herramientas, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. (Ver plano S01 y S02) P.U.O.T.

UNIDAD

PZA

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                                                    | UNIDAD | CANTIDAD | COSTO      | IMPORTE           | FACTOR AJUSTE | COSTO ACT  | IMPORTE           |
|--------------------------------------------------------------------|--------|----------|------------|-------------------|---------------|------------|-------------------|
| <b>MATERIALES</b>                                                  |        |          |            |                   |               |            |                   |
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM APASCO           | M3     | 0.45     | \$1,330.00 | \$598.50          | 1.0160        | \$1,351.28 | \$608.08          |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                             | M3     | 0.45     | \$260.00   | \$117.00          | 1.1522        | \$299.57   | \$134.81          |
| <b>SUBTOTAL</b>                                                    |        |          |            | <b>\$715.50</b>   |               |            | <b>\$742.89</b>   |
| <b>MANO DE OBRA</b>                                                |        |          |            |                   |               |            |                   |
|                                                                    |        |          |            | \$0.00            | 1.0600        | \$0.00     | \$0.00            |
| <b>SUBTOTAL</b>                                                    |        |          |            | <b>\$0.00</b>     |               |            | <b>\$0.00</b>     |
| <b>EQUIPO</b>                                                      |        |          |            |                   |               |            |                   |
|                                                                    |        |          |            | \$0.00            | 1.0000        | \$0.00     | \$0.00            |
| <b>SUBTOTAL</b>                                                    |        |          |            | <b>\$0.00</b>     |               |            | <b>\$0.00</b>     |
| <b>AUXILIARES</b>                                                  |        |          |            |                   |               |            |                   |
| COLADO DE CONCRETO PREMEZCLADO EN CIMENTACIONES, BASES, TRINCHERAS | M3     | 0.43     | \$263.01   | \$113.09          | 1.0658        | \$280.32   | \$120.54          |
| CIMBRA COMUN                                                       | M2     | 3.4      | \$250.08   | \$850.27          | 1.0409        | \$260.31   | \$885.05          |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN             | KG     | 207      | \$18.15    | \$3,757.05        | 1.093         | \$19.84    | \$4,106.88        |
| <b>SUBTOTAL</b>                                                    |        |          |            | <b>\$4,720.42</b> |               |            | <b>\$5,112.47</b> |
| HERRAMIENTA MENOR                                                  | %      | 3.00%    |            | \$0.00            | 1.0600        | \$0.00     | \$0.00            |

|                        |                   |                   |
|------------------------|-------------------|-------------------|
| COSTO DIRECTO          | \$5,435.92        | \$5,855.36        |
| INDIRECTOS 7%          | \$380.51          | \$409.88          |
| COSTO FINANCIERO 0.00% | \$0.00            | \$0.00            |
| UTILIDAD 8%            | \$465.31          | \$501.22          |
| 0.20% CMIC             | \$12.56           | \$13.53           |
| <b>PRECIO UNITARIO</b> | <b>\$6,294.29</b> | <b>\$6,779.99</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 1.1.28

Placa de base T-1 (en D-1 para C-2 W14x120), de 0,53mx0,45mx3/4" espesor con 4 orificios de 1"+1/16" para pernos de 1" diametro x 0.60m longitud. Acero A572 Gr.50. Incluye placa de acero, pernos, soldadura, material, grout para nivelación, cimbra, equipo, herramientas, mano de obra y todo lo necesario para su correcta ejecucion. (Ver plano S01 y S02) P.U.O.T.

UNIDAD PZA  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                                   | UNIDAD | CANTIDAD | COSTO   | IMPORTE           | FACTOR AJUSTE | COSTO ACT | IMPORTE           |
|-------------------------------------------------------------------|--------|----------|---------|-------------------|---------------|-----------|-------------------|
| <b>MATERIALES</b>                                                 |        |          |         |                   |               |           |                   |
|                                                                   |        |          |         | \$0.00            | 1.0000        | \$0.00    | \$0.00            |
| <b>SUBTOTAL</b>                                                   |        |          |         | <b>\$0.00</b>     |               |           | <b>\$0.00</b>     |
| <b>MANO DE OBRA</b>                                               |        |          |         |                   |               |           |                   |
|                                                                   |        |          |         | \$0.00            | 1.0600        | \$0.00    | \$0.00            |
| <b>SUBTOTAL</b>                                                   |        |          |         | <b>\$0.00</b>     |               |           | <b>\$0.00</b>     |
| <b>EQUIPO</b>                                                     |        |          |         |                   |               |           |                   |
|                                                                   |        |          |         | \$0.00            | 1.0000        | \$0.00    | \$0.00            |
| <b>SUBTOTAL</b>                                                   |        |          |         | <b>\$0.00</b>     |               |           | <b>\$0.00</b>     |
| <b>AUXILIARES</b>                                                 |        |          |         |                   |               |           |                   |
| Suministro, fabricacion y montaje de conexiones a base de placa   | KG     | 35.755   | \$36.05 | \$1,288.97        | 0.9299        | \$33.52   | \$1,198.51        |
| Suministro y fabricación de anclas a base de varilla redonda lisa | KG     | 9.535    | \$36.62 | \$349.17          | 1.0858        | \$39.76   | \$379.11          |
| <b>SUBTOTAL</b>                                                   |        |          |         | <b>\$1,638.14</b> |               |           | <b>\$1,577.62</b> |
| <b>HERRAMIENTA MENOR</b>                                          |        |          |         |                   |               |           |                   |
|                                                                   | %      | 3.00%    |         | \$0.00            | 1.0600        | \$0.00    | \$0.00            |

|                        |                   |                   |
|------------------------|-------------------|-------------------|
| COSTO DIRECTO          | \$1,638.14        | \$1,577.62        |
| INDIRECTOS 7%          | \$114.67          | \$110.43          |
| COSTO FINANCIERO 0.00% | \$0.00            | \$0.00            |
| UTILIDAD 8%            | \$140.22          | \$135.04          |
| 0.20% CMIC             | \$3.79            | \$3.65            |
| <b>PRECIO UNITARIO</b> | <b>\$1,896.82</b> | <b>\$1,826.74</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 1.1.29

Placa de base T-2 (en D-1 para C-2 W14x120), de 0,53mx0,45mx 1 1/2" espesor con 4 orificios de 1"+1/16" para pernos de 1" diametro x 0.60m longitud. Acero A572 Gr.50. Incluye placa de acero, pernos, soldadura, material, grout para nivelación, cimbra, equipo, herramientas, mano de obra y todo lo necesario para su correcta ejecucion. (Ver plano S01 y S02) P.U.O.T.

UNIDAD PZA  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                                                   | UNIDAD | CANTIDAD | COSTO   | IMPORTE           | FACTOR AJUSTE | COSTO ACT | IMPORTE           |
|-------------------------------------------------------------------|--------|----------|---------|-------------------|---------------|-----------|-------------------|
| <b>MATERIALES</b>                                                 |        |          |         |                   |               |           |                   |
|                                                                   |        |          |         | \$0.00            | 1.0000        | \$0.00    | \$0.00            |
| <b>SUBTOTAL</b>                                                   |        |          |         | <b>\$0.00</b>     |               |           | <b>\$0.00</b>     |
| <b>MANO DE OBRA</b>                                               |        |          |         |                   |               |           |                   |
|                                                                   |        |          |         | \$0.00            | 1.0600        | \$0.00    | \$0.00            |
| <b>SUBTOTAL</b>                                                   |        |          |         | <b>\$0.00</b>     |               |           | <b>\$0.00</b>     |
| <b>EQUIPO</b>                                                     |        |          |         |                   |               |           |                   |
|                                                                   |        |          |         | \$0.00            | 1.0000        | \$0.00    | \$0.00            |
| <b>SUBTOTAL</b>                                                   |        |          |         | <b>\$0.00</b>     |               |           | <b>\$0.00</b>     |
| <b>AUXILIARES</b>                                                 |        |          |         |                   |               |           |                   |
| Suministro, fabricacion y montaje de conexiones a base de placa   | KG     | 71.55    | \$36.05 | \$2,579.38        | 0.9299        | \$33.52   | \$2,398.36        |
| Suministro y fabricación de anclas a base de varilla redonda lisa | KG     | 9.535    | \$36.62 | \$349.17          | 1.0858        | \$39.76   | \$379.11          |
| <b>SUBTOTAL</b>                                                   |        |          |         | <b>\$2,928.55</b> |               |           | <b>\$2,777.47</b> |
| <b>HERRAMIENTA MENOR</b>                                          |        |          |         |                   |               |           |                   |
|                                                                   | %      | 3.00%    |         | \$0.00            | 1.0600        | \$0.00    | \$0.00            |

|                        |                   |                   |
|------------------------|-------------------|-------------------|
| COSTO DIRECTO          | \$2,928.55        | \$2,777.47        |
| INDIRECTOS 7%          | \$205.00          | \$194.42          |
| COSTO FINANCIERO 0.00% | \$0.00            | \$0.00            |
| UTILIDAD 8%            | \$250.68          | \$237.75          |
| 0.20% CMIC             | \$6.77            | \$6.42            |
| <b>PRECIO UNITARIO</b> | <b>\$3,391.00</b> | <b>\$3,216.06</b> |

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

CONCEPTO No. 1.1.30

Placa de base T-2 (en D-2 para CC-2 y C-2 W14x120), de 0,53mx0,45mx 1 1/2" espesor con 4 orificios de 1"+1/16" para pernos de 1" diametro x 0.60m longitud. Acero A572 Gr.50. Incluye 8 varillas de 1 " diámetro x 0.60m longitud Acero A36, soldadas a parte superior de placa base para anclaje de varillas de columna CC-2 en encasquillado. Incluye placa de acero, pernos, soldadura, material, grout para nivelación, cimbra, equipo, herramientas, mano de obra y todo lo necesario para su correcta ejecución. (Ver plano

UNIDAD PZA  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020

|                                                                   | UNIDAD | CANTIDAD | COSTO   | IMPORTE    | FACTOR AJUSTE | COSTO ACT | IMPORTE    |
|-------------------------------------------------------------------|--------|----------|---------|------------|---------------|-----------|------------|
| <b>MATERIALES</b>                                                 |        |          |         |            |               |           |            |
|                                                                   |        |          |         | \$0.00     | 1.0000        | \$0.00    | \$0.00     |
| SUBTOTAL                                                          |        |          |         | \$0.00     |               |           | \$0.00     |
| <b>MANO DE OBRA</b>                                               |        |          |         |            |               |           |            |
|                                                                   |        |          |         | \$0.00     | 1.0600        | \$0.00    | \$0.00     |
| SUBTOTAL                                                          |        |          |         | \$0.00     |               |           | \$0.00     |
| <b>EQUIPO</b>                                                     |        |          |         |            |               |           |            |
|                                                                   |        |          |         | \$0.00     | 1.0000        | \$0.00    | \$0.00     |
| SUBTOTAL                                                          |        |          |         | \$0.00     |               |           | \$0.00     |
| <b>AUXILIARES</b>                                                 |        |          |         |            |               |           |            |
| Suministro, fabricacion y montaje de conexiones a base de placa   | KG     | 71.55    | \$36.05 | \$2,579.38 | 0.9299        | \$33.52   | \$2,398.36 |
| Suministro y fabricación de anclas a base de varilla redonda lisa | KG     | 9.535    | \$36.62 | \$349.17   | 1.0858        | \$39.76   | \$379.11   |
| SUBTOTAL                                                          |        |          |         | \$2,928.55 |               |           | \$2,777.47 |
| <b>HERRAMIENTA MENOR</b>                                          |        |          |         |            |               |           |            |
|                                                                   | %      | 3.00%    |         | \$0.00     | 1.0600        | \$0.00    | \$0.00     |
| COSTO DIRECTO                                                     |        |          |         | \$2,928.55 |               |           | \$2,777.47 |
| INDIRECTOS 7%                                                     |        |          |         | \$205.00   |               |           | \$194.42   |
| COSTO FINANCIERO 0.00%                                            |        |          |         | \$0.00     |               |           | \$0.00     |
| UTILIDAD 8%                                                       |        |          |         | \$250.68   |               |           | \$237.75   |
| 0.20% CMIC                                                        |        |          |         | \$6.77     |               |           | \$6.42     |
| PRECIO UNITARIO                                                   |        |          |         | \$3,391.00 |               |           | \$3,216.05 |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 1.1.31

Placa de base T-3 (en D-1 para C-1 W14x90), de 0,53mx0,44mx3/4" espesor con 4 orificios de 1"+1/16" para pernos de 1" diametro x 0.60m longitud. Acero A572 Gr.50. Incluye placa de acero, pernos, soldadura, material, grout para nivelación, cimbra, equipo, herramientas, mano de obra y todo lo necesario para su correcta ejecucion. (Ver plano S01 y S02) P.U.O.T.

UNIDAD PZA  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|            | UNIDAD | CANTIDAD | COSTO           | IMPORTE       | FACTOR AJUSTE | COSTO ACT | IMPORTE       |
|------------|--------|----------|-----------------|---------------|---------------|-----------|---------------|
| MATERIALES |        |          |                 | \$0.00        | 1.0000        | \$0.00    | \$0.00        |
|            |        |          | <b>SUBTOTAL</b> | <b>\$0.00</b> |               |           | <b>\$0.00</b> |

|              |  |  |                 |               |        |        |               |
|--------------|--|--|-----------------|---------------|--------|--------|---------------|
| MANO DE OBRA |  |  |                 | \$0.00        | 1.0600 | \$0.00 | \$0.00        |
|              |  |  | <b>SUBTOTAL</b> | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|        |  |  |                 |               |        |        |               |
|--------|--|--|-----------------|---------------|--------|--------|---------------|
| EQUIPO |  |  |                 | \$0.00        | 1.0000 | \$0.00 | \$0.00        |
|        |  |  | <b>SUBTOTAL</b> | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|                                                                   |    |       |                 |                   |        |         |                   |
|-------------------------------------------------------------------|----|-------|-----------------|-------------------|--------|---------|-------------------|
| AUXILIARES                                                        |    |       |                 |                   |        |         |                   |
| Suministro, fabricacion y montaje de conexiones a base de placa   | KG | 34.98 | \$36.05         | \$1,261.03        | 0.9299 | \$33.52 | \$1,172.53        |
| Suministro y fabricación de anclas a base de varilla redonda lisa | KG | 9.535 | \$36.62         | \$349.17          | 1.0858 | \$39.76 | \$379.11          |
|                                                                   |    |       | <b>SUBTOTAL</b> | <b>\$1,610.20</b> |        |         | <b>\$1,551.64</b> |

|                   |   |       |  |        |        |        |        |
|-------------------|---|-------|--|--------|--------|--------|--------|
| HERRAMIENTA MENOR | % | 3.00% |  | \$0.00 | 1.0600 | \$0.00 | \$0.00 |
|-------------------|---|-------|--|--------|--------|--------|--------|

|                        |                   |                   |
|------------------------|-------------------|-------------------|
| COSTO DIRECTO          | \$1,610.20        | \$1,551.64        |
| INDIRECTOS 7%          | \$112.71          | \$108.61          |
| COSTO FINANCIERO 0.00% | \$0.00            | \$0.00            |
| UTILIDAD 8%            | \$137.83          | \$132.82          |
| 0.20% CMIC             | \$3.72            | \$3.59            |
| <b>PRECIO UNITARIO</b> | <b>\$1,864.46</b> | <b>\$1,796.66</b> |



CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 1.1.32

Placa de base T-4 (en D-1 para C-1 W14x90), de 0,53mx0,44mx 1" espesor con 4 orificios de 1"+1/16" para pernos de 1" diametro x 0.60m longitud. Acero A572 Gr.50. Incluye placa de acero, pernos, soldadura, material, grout para nivelación, cimbra, equipo, herramientas, mano de obra y todo lo necesario para su correcta ejecucion. (Ver plano S01 y S02) P.U.O.T.

UNIDAD PZA  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                                   | UNIDAD | CANTIDAD | COSTO   | IMPORTE                       | FACTOR AJUSTE | COSTO ACT | IMPORTE           |
|-------------------------------------------------------------------|--------|----------|---------|-------------------------------|---------------|-----------|-------------------|
| <b>MATERIALES</b>                                                 |        |          |         |                               |               |           |                   |
|                                                                   |        |          |         | \$0.00                        | 1.0000        | \$0.00    | \$0.00            |
| <b>SUBTOTAL</b>                                                   |        |          |         | <b>\$0.00</b>                 |               |           | <b>\$0.00</b>     |
| <b>MANO DE OBRA</b>                                               |        |          |         |                               |               |           |                   |
|                                                                   |        |          |         | \$0.00                        | 1.0600        | \$0.00    | \$0.00            |
| <b>SUBTOTAL</b>                                                   |        |          |         | <b>\$0.00</b>                 |               |           | <b>\$0.00</b>     |
| <b>EQUIPO</b>                                                     |        |          |         |                               |               |           |                   |
|                                                                   |        |          |         | \$0.00                        | 1.0000        | \$0.00    | \$0.00            |
| <b>SUBTOTAL</b>                                                   |        |          |         | <b>\$0.00</b>                 |               |           | <b>\$0.00</b>     |
| <b>AUXILIARES</b>                                                 |        |          |         |                               |               |           |                   |
| Suministro, fabricacion y montaje de conexiones a base de placa   | KG     | 46.64    | \$36.05 | \$1,681.37                    | 0.9299        | \$33.52   | \$1,563.37        |
| Suministro y fabricación de anclas a base de varilla redonda lisa | KG     | 9.535    | \$36.62 | \$349.17                      | 1.0858        | \$39.76   | \$379.11          |
| <b>SUBTOTAL</b>                                                   |        |          |         | <b>\$2,030.54</b>             |               |           | <b>\$1,942.48</b> |
| <b>HERRAMIENTA MENOR</b>                                          |        |          |         |                               |               |           |                   |
|                                                                   | %      | 3.00%    |         | \$0.00                        | 1.0600        | \$0.00    | \$0.00            |
|                                                                   |        |          |         | <b>COSTO DIRECTO</b>          |               |           | <b>\$1,942.48</b> |
|                                                                   |        |          |         | <b>INDIRECTOS 7%</b>          |               |           | <b>\$135.97</b>   |
|                                                                   |        |          |         | <b>COSTO FINANCIERO 0.00%</b> |               |           | <b>\$0.00</b>     |
|                                                                   |        |          |         | <b>UTILIDAD 8%</b>            |               |           | <b>\$166.28</b>   |
|                                                                   |        |          |         | <b>0.20% CMIC</b>             |               |           | <b>\$4.49</b>     |
|                                                                   |        |          |         | <b>PRECIO UNITARIO</b>        |               |           | <b>\$2,249.21</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 1.2.2

Muro elevador , 20 cm de espesor, concreto F'c=250kg/cm2, armado interior y exterior: 1 vs # 3 @ 30 cm horizontal y 1 vs # 4 @ 28 cm vertical. Incluye: concreto, acero cimbra, material, mano de obra, herramienta y todo lo necesario para su correcta ejecucion. P.U.O.T.

UNIDAD M2  
 FECHA COTIZACION

ACTUALIZACION A:

26 DE NOV DE 2019

2020

ABRIL

|                                                          | UNIDAD | CANTIDAD | COSTO      | IMPORTE         | FACTOR AJUSTE | COSTO ACT  | IMPORTE         |
|----------------------------------------------------------|--------|----------|------------|-----------------|---------------|------------|-----------------|
| <b>MATERIALES</b>                                        |        |          |            |                 |               |            |                 |
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM APASCO | M3     | 0.22     | \$1,330.00 | \$292.60        | 1.0160        | \$1,351.28 | \$297.28        |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                   | M3     | 0.22     | \$260.00   | \$57.20         | 1.1522        | \$299.57   | \$65.91         |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$349.80</b> |               |            | <b>\$363.19</b> |

|                     |  |  |  |               |        |        |               |
|---------------------|--|--|--|---------------|--------|--------|---------------|
| <b>MANO DE OBRA</b> |  |  |  |               |        |        |               |
|                     |  |  |  | \$0.00        | 1.0600 | \$0.00 | \$0.00        |
| <b>SUBTOTAL</b>     |  |  |  | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|                 |  |  |  |               |        |        |               |
|-----------------|--|--|--|---------------|--------|--------|---------------|
| <b>EQUIPO</b>   |  |  |  |               |        |        |               |
|                 |  |  |  | \$0.00        | 1.0000 | \$0.00 | \$0.00        |
| <b>SUBTOTAL</b> |  |  |  | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|                                                        |    |     |          |                 |        |          |                   |
|--------------------------------------------------------|----|-----|----------|-----------------|--------|----------|-------------------|
| <b>AUXILIARES</b>                                      |    |     |          |                 |        |          |                   |
| COLADO DE CONCRETO PREMEZCLADO EN ALBAÑILERIA          | M3 | 0.2 | \$307.04 | \$61.41         | 1.0631 | \$326.41 | \$65.28           |
| CIMBRA COMUN                                           | M2 | 2   | \$250.08 | \$500.16        | 1.0409 | \$260.31 | \$520.61          |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN | KG | 22  | \$18.15  | \$399.30        | 1.093  | \$19.84  | \$436.48          |
| <b>SUBTOTAL</b>                                        |    |     |          | <b>\$960.87</b> |        |          | <b>\$1,022.37</b> |

|                   |   |       |  |        |        |        |        |
|-------------------|---|-------|--|--------|--------|--------|--------|
| HERRAMIENTA MENOR | % | 3.00% |  | \$0.00 | 1.0600 | \$0.00 | \$0.00 |
|-------------------|---|-------|--|--------|--------|--------|--------|

|                        |                   |                   |
|------------------------|-------------------|-------------------|
| COSTO DIRECTO          | \$1,310.67        | \$1,385.56        |
| INDIRECTOS 7%          | \$91.75           | \$96.99           |
| COSTO FINANCIERO 0.00% | \$0.00            | \$0.00            |
| UTILIDAD 8%            | \$112.19          | \$118.60          |
| 0.20% CMIC             | \$3.03            | \$3.20            |
| <b>PRECIO UNITARIO</b> | <b>\$1,517.64</b> | <b>\$1,604.36</b> |

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 1.4.1

Trazo y nivelacion de terreno con aparatos, estableciendo ejes fijos de referencia, incluye material, mano de obra, aparatos, herramientas, equipo, limpieza y todo lo necesario para su correcta ejecucion. P.U.O.T.

UNIDAD M2  
 FECHA  
 COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:

2020  
 ABRIL

| UNIDAD                 | CANTIDAD | COSTO | IMPORTE                       | FACTOR AJUSTE | COSTO ACT  | IMPORTE       |
|------------------------|----------|-------|-------------------------------|---------------|------------|---------------|
| <b>MATERIALES</b>      |          |       |                               |               |            |               |
| CALHIDRA               | SACO     | 0.006 | \$45.00                       | 1.0235        | \$46.06    | \$0.28        |
| CLAVO                  | KG       | 0.03  | \$17.84                       | 1.2124        | \$21.63    | \$0.65        |
|                        |          |       | <b>SUBTOTAL</b>               |               |            | <b>\$0.93</b> |
| <b>MANO DE OBRA</b>    |          |       |                               |               |            |               |
| TOPOGRAFO              | JOR      | 0.003 | \$1,068.95                    | 1.0600        | \$1,133.09 | \$3.40        |
| PEON EN GENERAL        | jor      | 0.003 | \$331.06                      | 1.0600        | \$350.91   | \$1.05        |
|                        |          |       | <b>SUBTOTAL</b>               |               |            | <b>\$4.45</b> |
| <b>EQUIPO</b>          |          |       |                               |               |            |               |
|                        |          |       | \$0.00                        | 1.0000        | \$0.00     | \$0.00        |
|                        |          |       | <b>SUBTOTAL</b>               |               |            | <b>\$0.00</b> |
| <b>AUXILIARES</b>      |          |       |                               |               |            |               |
|                        |          |       | \$0.00                        | 1.0000        | \$0.00     | \$0.00        |
|                        |          |       | <b>SUBTOTAL</b>               |               |            | <b>\$0.00</b> |
| HERRAMIENTA MENOR      | (%)mo    | 3.00% | \$4.20                        | 1.0600        | \$4.45     | \$0.13        |
| LIMPIEZA GRUESA Y FINA | (%)mo    | 3.00% | \$4.20                        | 1.0600        | \$4.45     | \$0.13        |
|                        |          |       | <b>SUBTOTAL</b>               |               |            | <b>\$0.26</b> |
|                        |          |       | <b>COSTO DIRECTO</b>          |               |            | <b>\$5.64</b> |
|                        |          |       | <b>INDIRECTOS 7%</b>          |               |            | <b>\$0.39</b> |
|                        |          |       | <b>COSTO FINANCIERO 0.00%</b> |               |            | <b>\$0.00</b> |
|                        |          |       | <b>UTILIDAD 8%</b>            |               |            | <b>\$0.48</b> |
|                        |          |       | <b>0.20% CMIC</b>             |               |            | <b>\$0.01</b> |
|                        |          |       | <b>PRECIO UNITARIO</b>        |               |            | <b>\$6.53</b> |



CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

CONCEPTO No. 1.4.2

Excavacion con maquinaria en cepas en material tipo "B". Incluye: equipo, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. P.U.O.T.

UNIDAD M3  
 FECHA  
 COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:

2020  
 ABRIL

| UNIDAD                                                 | CANTIDAD | COSTO | IMPORTE                | FACTOR AJUSTE | COSTO ACT | IMPORTE  |         |
|--------------------------------------------------------|----------|-------|------------------------|---------------|-----------|----------|---------|
| MATERIALES                                             |          |       |                        |               |           |          |         |
|                                                        |          |       | \$0.00                 | 1             | \$0.00    | \$0.00   |         |
| SUBTOTAL                                               |          |       | \$0.00                 |               |           | \$0.00   |         |
| MANO DE OBRA                                           |          |       |                        |               |           |          |         |
|                                                        |          |       | \$0.00                 | 1.0600        | \$0.00    | \$0.00   |         |
| SUBTOTAL                                               |          |       | \$0.00                 |               |           | \$0.00   |         |
| EQUIPO                                                 |          |       |                        |               |           |          |         |
| RETROEXCAVADORA<br>MARCA: CATERPILLAR<br>MODELO: 416-E | HR       | 0.15  | \$476.76               | \$71.51       | 1.0566    | \$503.74 | \$75.56 |
|                                                        |          |       | SUBTOTAL               | \$71.51       |           |          | \$75.56 |
| AUXILIARES                                             |          |       |                        |               |           |          |         |
|                                                        |          |       | \$0.00                 | 1.0000        | \$0.00    | \$0.00   |         |
|                                                        |          |       | SUBTOTAL               | \$0.00        |           |          | \$0.00  |
|                                                        |          |       |                        |               |           |          |         |
|                                                        |          |       | \$0.00                 | 1.0600        | \$0.00    | \$0.00   |         |
|                                                        |          |       |                        |               |           |          |         |
|                                                        |          |       | COSTO DIRECTO          | \$71.51       |           |          | \$75.56 |
|                                                        |          |       | INDIRECTOS 7%          | \$5.01        |           |          | \$5.29  |
|                                                        |          |       | COSTO FINANCIERO 0.00% | \$0.00        |           |          | \$0.00  |
|                                                        |          |       | UTILIDAD 8%            | \$6.12        |           |          | \$6.47  |
|                                                        |          |       | 0.20% CMIC             | \$0.17        |           |          | \$0.17  |
|                                                        |          |       | PRECIO UNITARIO        | \$82.81       |           |          | \$87.49 |
|                                                        |          |       |                        |               |           |          |         |
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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 1.4.3

Retiro de material producto de excavacion, hasta tiradero autorizado. Incluye: carga, acarreo, equipo y todo lo necesario para su correcta ejecucion. P.U.O.T.

UNIDAD M3  
 FECHA  
 COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:

2020  
 ABRIL

| UNIDAD                                           | CANTIDAD | COSTO | IMPORTE  | FACTOR AJUSTE | COSTO ACT | IMPORTE  |          |
|--------------------------------------------------|----------|-------|----------|---------------|-----------|----------|----------|
| MATERIALES                                       |          |       |          |               |           |          |          |
|                                                  |          |       | \$0.00   | 1             | \$0.00    | \$0.00   |          |
| SUBTOTAL                                         |          |       | \$0.00   |               |           | \$0.00   |          |
| MANO DE OBRA                                     |          |       |          |               |           |          |          |
|                                                  |          |       | \$0.00   | 1.0600        | \$0.00    | \$0.00   |          |
| SUBTOTAL                                         |          |       | \$0.00   |               |           | \$0.00   |          |
| EQUIPO                                           |          |       |          |               |           |          |          |
| RETROEXCAVADORA MARCA: CATERPILLAR MODELO: 416-E | HR       | 0.03  | \$476.76 | \$14.30       | 1.0566    | \$503.74 | \$15.11  |
| SUBTOTAL                                         |          |       | \$14.30  |               |           | \$15.11  |          |
| AUXILIARES                                       |          |       |          |               |           |          |          |
| Acarreo 1er. Kilómetro de materiales pétreos:    | m3       | 1.3   | \$12.45  | \$16.19       | 1.0568    | \$13.16  | \$17.11  |
| Acarreo kms. subsecuentes al 1er. Km. Del        | m3-K     | 20.8  | \$5.36   | \$111.49      | 1.0578    | \$5.67   | \$117.94 |
| SUBTOTAL                                         |          |       | \$127.67 |               |           | \$135.05 |          |
| COSTO DIRECTO                                    |          |       | \$141.98 |               |           | \$150.16 |          |
| INDIRECTOS 7%                                    |          |       | \$9.94   |               |           | \$10.51  |          |
| COSTO FINANCIERO 0.00%                           |          |       | \$0.00   |               |           | \$0.00   |          |
| UTILIDAD 8%                                      |          |       | \$12.15  |               |           | \$12.85  |          |
| 0.20% CMIC                                       |          |       | \$0.33   |               |           | \$0.35   |          |
| PRECIO UNITARIO                                  |          |       | \$164.40 |               |           | \$173.86 |          |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 1.4.4

Afine y compactacion de la superficie de fondo, en un espesor mínimo de 0.20 mt al 90 % de su PVSM determinado por la prueba ASTM D-1557. Incluye: herramienta, equipo, limpieza y todo lo necesario para su correcta ejecucion. P.U.O.T.

UNIDAD

M2

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

| UNIDAD                                                 | CANTIDAD | COSTO | IMPORTE         | FACTOR AJUSTE | COSTO ACT | IMPORTE        |
|--------------------------------------------------------|----------|-------|-----------------|---------------|-----------|----------------|
| <b>MATERIALES</b>                                      |          |       |                 |               |           |                |
| AGUA                                                   | M3       | 0.02  | \$80.00         | 1.0308        | \$82.46   | \$1.65         |
|                                                        |          |       | <b>SUBTOTAL</b> |               |           | <b>\$1.65</b>  |
| <b>MANO DE OBRA</b>                                    |          |       |                 |               |           |                |
| PEON EN GENERAL                                        | jor      | 0.09  | \$331.06        | 1.0600        | \$350.91  | \$31.58        |
|                                                        |          |       | <b>SUBTOTAL</b> |               |           | <b>\$31.58</b> |
| <b>EQUIPO</b>                                          |          |       |                 |               |           |                |
| COMPACTADORA BAILARINA<br>MARCA: MYKASA MODELO: MT-74F | HR       | 0.07  | \$132.64        | 1.0452        | \$138.64  | \$9.70         |
|                                                        |          |       | <b>SUBTOTAL</b> |               |           | <b>\$9.70</b>  |
| <b>AUXILIARES</b>                                      |          |       |                 |               |           |                |
|                                                        |          |       | \$0.00          | 1.0000        | \$0.00    | \$0.00         |
|                                                        |          |       | <b>SUBTOTAL</b> |               |           | <b>\$0.00</b>  |
| HERRAMIENTA MENOR                                      | (%)mo    | 3.00% | \$29.80         | 1.0600        | \$31.59   | \$0.95         |
| LIMPIEZA GRUESA Y FINA                                 | (%)mo    | 3.00% | \$29.80         | 1.0600        | \$31.59   | \$0.95         |
|                                                        |          |       | <b>SUBTOTAL</b> |               |           | <b>\$1.90</b>  |
|                                                        |          |       |                 |               |           |                |
| COSTO DIRECTO                                          |          |       |                 |               |           | \$44.83        |
| INDIRECTOS 7%                                          |          |       |                 |               |           | \$3.14         |
| COSTO FINANCIERO                                       |          |       |                 |               |           | \$0.00         |
| UTILIDAD 8%                                            |          |       |                 |               |           | \$3.84         |
| 0.20% CMIC                                             |          |       |                 |               |           | \$0.10         |
| <b>PRECIO UNITARIO</b>                                 |          |       |                 |               |           | <b>\$51.91</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 INGENIERIA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 1.4.7

Relleno con material de banco que cumpla con las especificaciones indicadas en el Estudio de Mecanica de Suelos, colocado en capas de 0.20 mt cada una, compactacion al 95% de su PVSM determinado por la prueba ASTM D-1557. Incluye: material, mano de obra, humectacion, limpieza y todo lo necesario para su correcta ejecucion. P.U.O.T.

UNIDAD M3  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                                          | UNIDAD | CANTIDAD | COSTO    | IMPORTE  | FACTOR AJUSTE | COSTO ACT | IMPORTE  |
|--------------------------------------------------------------------------|--------|----------|----------|----------|---------------|-----------|----------|
| <b>MATERIALES</b>                                                        |        |          |          |          |               |           |          |
| AGUA                                                                     | M3     | 0.08     | \$80.00  | \$6.40   | 1.0308        | \$82.46   | \$6.60   |
| BASE TRITURADA 1 1/2" A FINOS<br>(MATERIALES INDUSTRIALES GCC)(LAB OBRA) | M3     | 1.3      | \$147.00 | \$191.10 | 1.0319        | \$151.69  | \$197.20 |
| SUBTOTAL                                                                 |        |          |          | \$197.50 |               |           | \$203.80 |
| <b>MANO DE OBRA</b>                                                      |        |          |          |          |               |           |          |
| PEON EN GENERAL                                                          | jor    | 0.22     | \$331.06 | \$72.83  | 1.0600        | \$350.92  | \$77.20  |
| SUBTOTAL                                                                 |        |          |          | \$72.83  |               |           | \$77.20  |
| <b>EQUIPO</b>                                                            |        |          |          |          |               |           |          |
| COMPACTADORA BAILARINA<br>MARCA: MYKASA MODELO: MT-74F                   | HR     | 0.11     | \$132.64 | \$14.59  | 1.0452        | \$138.64  | \$15.25  |
| RETROEXCAVADORA MARCA: CATERPILLAR<br>MODELO: 416-E                      | HR     | 0.02     | \$476.76 | \$9.54   | 1.0566        | \$503.74  | \$10.07  |
| SUBTOTAL                                                                 |        |          |          | \$24.13  |               |           | \$25.32  |
| <b>AUXILIARES</b>                                                        |        |          |          |          |               |           |          |
|                                                                          |        |          |          | \$0.00   | 1.0000        | \$0.00    | \$0.00   |
| SUBTOTAL                                                                 |        |          |          | \$0.00   |               |           | \$0.00   |
| HERRAMIENTA MENOR                                                        | %      | 3.00%    | \$72.83  | \$2.18   | 1.0600        | \$77.20   | \$2.32   |
| LIMPIEZA GRUESA Y FINA                                                   | %      | 3.00%    | \$72.83  | \$2.18   | 1.0600        | \$77.20   | \$2.32   |
| SUBTOTAL                                                                 |        |          |          | \$4.37   |               |           | \$4.64   |
| COSTO DIRECTO                                                            |        |          |          | \$298.83 |               |           | \$310.96 |
| INDIRECTOS 7%                                                            |        |          |          | \$20.92  |               |           | \$21.77  |
| COSTO FINANCIERO                                                         |        |          |          | \$0.00   |               |           | \$0.00   |
| UTILIDAD 8%                                                              |        |          |          | \$25.58  |               |           | \$26.62  |
| 0.20% CMIC                                                               |        |          |          | \$0.69   |               |           | \$0.72   |
| PRECIO UNITARIO                                                          |        |          |          | \$346.01 |               |           | \$360.07 |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 1.4.8

Impermeabilización en rodapiés y dadas de cimentación, aplicación a dos manos. Incluye: material, mano de obra, desperdicios, limpieza y todo lo necesario para su correcta ejecución. P.U.O.T.

UNIDAD  
 FECHA COTIZACIÓN

M2  
 26 DE NOV DE 2019

ACTUALIZACIÓN A:  
 2020  
 ABRIL

|                                     | UNIDAD | CANTIDAD | COSTO    | IMPORTE        | FACTOR AJUSTE | COSTO ACT | IMPORTE        |
|-------------------------------------|--------|----------|----------|----------------|---------------|-----------|----------------|
| <b>MATERIALES</b>                   |        |          |          |                |               |           |                |
| IMPERTEX IMPRMEABILIZANTE ASFALTICO | LTO    | 0.5      | \$42.00  | \$21.00        | 1.0421        | \$43.77   | \$21.89        |
| <b>SUBTOTAL</b>                     |        |          |          | <b>\$21.00</b> |               |           | <b>\$21.89</b> |
| <b>MANO DE OBRA</b>                 |        |          |          |                |               |           |                |
| PEON EN GENERAL                     | jor    | 0.04     | \$331.06 | \$13.24        | 1.0600        | \$350.92  | \$14.04        |
| <b>SUBTOTAL</b>                     |        |          |          | <b>\$13.24</b> |               |           | <b>\$14.04</b> |
| <b>EQUIPO</b>                       |        |          |          |                |               |           |                |
|                                     |        |          |          | \$0.00         | 1.0000        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                     |        |          |          | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>AUXILIARES</b>                   |        |          |          |                |               |           |                |
|                                     |        |          |          | \$0.00         | 1.0000        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                     |        |          |          | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| HERRAMIENTA MENOR                   | %      | 3.00%    | \$13.24  | \$0.40         | 1.0600        | \$14.04   | \$0.42         |
| LIMPIEZA GRUESA Y FINA              | %      | 3.00%    | \$13.24  | \$0.40         | 1.0600        | \$14.04   | \$0.42         |
| <b>SUBTOTAL</b>                     |        |          |          | <b>\$0.79</b>  |               |           | <b>\$0.84</b>  |
| <b>COSTO DIRECTO</b>                |        |          |          | <b>\$35.04</b> |               |           | <b>\$36.77</b> |
| <b>INDIRECTOS 7%</b>                |        |          |          | <b>\$2.45</b>  |               |           | <b>\$2.57</b>  |
| <b>COSTO FINANCIERO</b>             |        |          |          | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>UTILIDAD 8%</b>                  |        |          |          | <b>\$3.00</b>  |               |           | <b>\$3.15</b>  |
| <b>0.20% CMIC</b>                   |        |          |          | <b>\$0.08</b>  |               |           | <b>\$0.08</b>  |
| <b>PRECIO UNITARIO</b>              |        |          |          | <b>\$40.57</b> |               |           | <b>\$42.58</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 2.1.2

Zapata asilada Z-E1, ejes (1,2,4,6)-(G) de 3.60 x 3.60 x 0.50 m armada con varillas No. 6 @ 0.17m ambos sentidos lecho inferior + varillas No. 5 @ 0.20m ambos sentidos lecho superior con plantilla de 5 cm de espesor de concreto f'c= 100kg/cm2. Concreto F'c=250 Kg/cm2, acero F'y= 4200Kg/cm2, incluye concreto, acero de refuerzo, material, equipo, herramientas, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. (Ver plano SE01. Estas cuatro (4) zapatas ya consideradas en Laboratorios) P.U.O.T.

UNIDAD

PZA

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                                                    | UNIDAD | CANTIDAD | COSTO      | IMPORTE            | FACTOR AJUSTE | COSTO ACT  | IMPORTE            |
|--------------------------------------------------------------------|--------|----------|------------|--------------------|---------------|------------|--------------------|
| <b>MATERIALES</b>                                                  |        |          |            |                    |               |            |                    |
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM APASCO           | M3     | 6.804    | \$1,330.00 | \$9,049.32         | 1.0160        | \$1,351.28 | \$9,194.11         |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                             | M3     | 6.804    | \$260.00   | \$1,769.04         | 1.1522        | \$299.57   | \$2,038.29         |
| <b>SUBTOTAL</b>                                                    |        |          |            | <b>\$10,818.36</b> |               |            | <b>\$11,232.40</b> |
| <b>MANO DE OBRA</b>                                                |        |          |            |                    |               |            |                    |
|                                                                    |        |          |            | \$0.00             | 1.0600        | \$0.00     | \$0.00             |
| <b>SUBTOTAL</b>                                                    |        |          |            | <b>\$0.00</b>      |               |            | <b>\$0.00</b>      |
| <b>EQUIPO</b>                                                      |        |          |            |                    |               |            |                    |
|                                                                    |        |          |            | \$0.00             | 1.0000        | \$0.00     | \$0.00             |
| <b>SUBTOTAL</b>                                                    |        |          |            | <b>\$0.00</b>      |               |            | <b>\$0.00</b>      |
| <b>AUXILIARES</b>                                                  |        |          |            |                    |               |            |                    |
| PLANTILLA DE 5CM DE ESPESOR, CONCRETO F'c= 100 KG/CM2              | m2     | 13.7     | \$125.75   | \$1,722.78         | 1.0378        | \$130.50   | \$1,787.85         |
| COLADO DE CONCRETO PREMEZCLADO EN CIMENTACIONES, BASES, TRINCHERAS | M3     | 6.48     | \$263.01   | \$1,704.30         | 1.0658        | \$280.32   | \$1,816.47         |
| CIMBRA COMUN                                                       | M2     | 7.2      | \$250.08   | \$1,800.58         | 1.0409        | \$260.31   | \$1,874.23         |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN             | KG     | 560      | \$18.15    | \$10,164.00        | 1.0930        | \$19.84    | \$11,110.40        |
| <b>SUBTOTAL</b>                                                    |        |          |            | <b>\$15,391.66</b> |               |            | <b>\$16,588.95</b> |
| HERRAMIENTA MENOR                                                  | %      | 3.00%    |            | \$0.00             | 1.0600        | \$0.00     | \$0.00             |

|                        |                    |
|------------------------|--------------------|
| COSTO DIRECTO          | \$26,210.02        |
| INDIRECTOS 7%          | \$1,834.70         |
| COSTO FINANCIERO 0.00% | \$0.00             |
| UTILIDAD 8%            | \$2,243.58         |
| 0.20% CMIC             | \$60.58            |
| <b>PRECIO UNITARIO</b> | <b>\$30,348.88</b> |

|                    |
|--------------------|
| \$27,821.35        |
| \$1,947.49         |
| \$0.00             |
| \$2,381.51         |
| \$64.30            |
| <b>\$32,214.66</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 2.3.2

Excavacion con maquinaria en cepas en material tipo "B". Incluye: equipo, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. P.U.O.T.

UNIDAD M3  
 FECHA  
 COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:

2020  
 ABRIL

| UNIDAD                                                 | CANTIDAD | COSTO           | IMPORTE                | FACTOR AJUSTE | COSTO ACT | IMPORTE        |
|--------------------------------------------------------|----------|-----------------|------------------------|---------------|-----------|----------------|
| <b>MATERIALES</b>                                      |          |                 |                        |               |           |                |
|                                                        |          |                 | \$0.00                 | 1             | \$0.00    | \$0.00         |
|                                                        |          | <b>SUBTOTAL</b> | <b>\$0.00</b>          |               |           | <b>\$0.00</b>  |
| <b>MANO DE OBRA</b>                                    |          |                 |                        |               |           |                |
|                                                        |          |                 | \$0.00                 | 1.0600        | \$0.00    | \$0.00         |
|                                                        |          | <b>SUBTOTAL</b> | <b>\$0.00</b>          |               |           | <b>\$0.00</b>  |
| <b>EQUIPO</b>                                          |          |                 |                        |               |           |                |
| RETROEXCAVADORA<br>MARCA: CATERPILLAR<br>MODELO: 416-E | HR       | 0.15            | \$476.76               | 1.0566        | \$503.74  | \$75.56        |
|                                                        |          | <b>SUBTOTAL</b> | <b>\$71.51</b>         |               |           | <b>\$75.56</b> |
| <b>AUXILIARES</b>                                      |          |                 |                        |               |           |                |
|                                                        |          |                 | \$0.00                 | 1             | \$0.00    | \$0.00         |
|                                                        |          | <b>SUBTOTAL</b> | <b>\$0.00</b>          |               |           | <b>\$0.00</b>  |
|                                                        |          |                 | \$0.00                 | 1.0600        | \$0.00    | \$0.00         |
|                                                        |          |                 | <b>COSTO DIRECTO</b>   |               |           | <b>\$75.56</b> |
|                                                        |          |                 | INDIRECTOS 7%          |               |           | \$5.29         |
|                                                        |          |                 | COSTO FINANCIERO 0.00% |               |           | \$0.00         |
|                                                        |          |                 | UTILIDAD 8%            |               |           | \$6.47         |
|                                                        |          |                 | 0.20% CMIC             |               |           | \$0.17         |
|                                                        |          |                 | <b>PRECIO UNITARIO</b> |               |           | <b>\$87.48</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 2.3.3

Retiro de material producto de excavacion, hasta tiradero autorizado. Incluye: carga, acarreo, equipo y todo lo necesario para su correcta ejecucion. P.U.O.T.

UNIDAD M3  
 FECHA 26 DE NOV DE 2019  
 COTIZACION

ACTUALIZACION A:

2020

ABRIL

| UNIDAD                                           |       | CANTIDAD | COSTO                  | IMPORTE  | FACTOR AJUSTE | COSTO ACT | IMPORTE  |
|--------------------------------------------------|-------|----------|------------------------|----------|---------------|-----------|----------|
| MATERIALES                                       |       |          |                        |          |               |           |          |
|                                                  |       |          |                        | \$0.00   | 1.0000        | \$0.00    | \$0.00   |
| SUBTOTAL                                         |       |          |                        | \$0.00   |               |           | \$0.00   |
| MANO DE OBRA                                     |       |          |                        |          |               |           |          |
|                                                  |       |          |                        | \$0.00   | 1.0600        | \$0.00    | \$0.00   |
| SUBTOTAL                                         |       |          |                        | \$0.00   |               |           | \$0.00   |
| EQUIPO                                           |       |          |                        |          |               |           |          |
| RETROEXCAVADORA MARCA: CATERPILLAR MODELO: 416-E | HR    | 0.03     | \$476.76               | \$14.30  | 1.0566        | \$503.74  | \$15.11  |
|                                                  |       |          | SUBTOTAL               | \$14.30  |               |           | \$15.11  |
| AUXILIARES                                       |       |          |                        |          |               |           |          |
| ACARREO 1ER KM TERRACERIAS                       | M3    | 1.3      | \$12.45                | \$16.19  | 1.0568        | \$13.16   | \$17.11  |
| ACARREO KM SUBSECUENTE PAVIMENTO KM 2-20         | M3-KM | 20.8     | \$5.36                 | \$111.49 | 1.0578        | \$5.67    | \$117.94 |
|                                                  |       |          | SUBTOTAL               | \$127.67 |               |           | \$135.05 |
|                                                  |       |          |                        |          |               |           |          |
| HERRAMIENTA MENOR                                | %     | 15.00%   |                        | \$0.00   | 1.0600        | \$0.00    | \$0.00   |
|                                                  |       |          | COSTO DIRECTO          | \$141.98 |               |           | \$150.16 |
|                                                  |       |          | INDIRECTOS 7%          | \$9.94   |               |           | \$10.51  |
|                                                  |       |          | COSTO FINANCIERO 0.00% | \$0.00   |               |           | \$0.00   |
|                                                  |       |          | UTILIDAD 8%            | \$12.15  |               |           | \$12.85  |
|                                                  |       |          | 0.20% CMIC             | \$0.33   |               |           | \$0.35   |
|                                                  |       |          | PRECIO UNITARIO        | \$164.40 |               |           | \$173.86 |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 2.3.4

Afine y compactacion de la superficie de fondo, en un espesor mínimo de 0.20 mt al 90 % de su PVSM determinado por la prueba ASTM D-1557. Incluye: herramienta, equipo, limpieza y todo lo necesario para su correcta ejecucion. P.U.O.T.

UNIDAD M2  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

| UNIDAD                                                 | CANTIDAD | COSTO | IMPORTE         | FACTOR AJUSTE           | COSTO ACT | IMPORTE        |
|--------------------------------------------------------|----------|-------|-----------------|-------------------------|-----------|----------------|
| <b>MATERIALES</b>                                      |          |       |                 |                         |           |                |
| AGUA                                                   | M3       | 0.02  | \$80.00         | 1.0308                  | \$82.46   | \$1.65         |
|                                                        |          |       | <b>SUBTOTAL</b> |                         |           | <b>\$1.65</b>  |
| <b>MANO DE OBRA</b>                                    |          |       |                 |                         |           |                |
| PEON EN GENERAL                                        | jor      | 0.09  | \$331.06        | 1.0600                  | \$350.92  | \$31.58        |
|                                                        |          |       | <b>SUBTOTAL</b> |                         |           | <b>\$31.58</b> |
| <b>EQUIPO</b>                                          |          |       |                 |                         |           |                |
| COMPACTADORA BAILARINA<br>MARCA: MYKASA MODELO: MT-74F | HR       | 0.07  | \$132.64        | 1.0452                  | \$138.64  | \$9.70         |
|                                                        |          |       | <b>SUBTOTAL</b> |                         |           | <b>\$9.70</b>  |
| <b>AUXILIARES</b>                                      |          |       |                 |                         |           |                |
|                                                        |          |       |                 | 1.0000                  | \$0.00    | \$0.00         |
|                                                        |          |       | <b>SUBTOTAL</b> |                         |           | <b>\$0.00</b>  |
| HERRAMIENTA MENOR                                      | (%)mo    | 3.00% | \$29.80         | 1.0600                  | \$31.59   | \$0.95         |
| LIMPIEZA GRUESA Y FINA                                 | (%)mo    | 3.00% | \$29.80         | 1.0600                  | \$31.59   | \$0.95         |
|                                                        |          |       | <b>SUBTOTAL</b> |                         |           | <b>\$1.90</b>  |
|                                                        |          |       |                 | <b>COSTO DIRECTO</b>    |           | <b>\$42.47</b> |
|                                                        |          |       |                 | <b>INDIRECTOS 7%</b>    |           | <b>\$2.97</b>  |
|                                                        |          |       |                 | <b>COSTO FINANCIERO</b> |           | <b>\$0.00</b>  |
|                                                        |          |       |                 | <b>UTILIDAD 8%</b>      |           | <b>\$3.64</b>  |
|                                                        |          |       |                 | <b>0.20% CMIC</b>       |           | <b>\$0.10</b>  |
|                                                        |          |       |                 | <b>PRECIO UNITARIO</b>  |           | <b>\$51.90</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 2.3.7

Relleno con material de banco que cumpla con las especificaciones indicadas en el Estudio de Mecanica de Suelos, colocado en capas de 0.20 mt cada una, compactacion al 95% de su PVSM determinado por la prueba ASTM D-1557. Incluye: material, mano de obra, humectacion, limpieza y todo lo necesario para su correcta ejecucion. P.U.O.T.

UNIDAD M3  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                                          | UNIDAD | CANTIDAD | COSTO    | IMPORTE         | FACTOR AJUSTE | COSTO ACT | IMPORTE         |
|--------------------------------------------------------------------------|--------|----------|----------|-----------------|---------------|-----------|-----------------|
| <b>MATERIALES</b>                                                        |        |          |          |                 |               |           |                 |
| AGUA                                                                     | M3     | 0.08     | \$80.00  | \$6.40          | 1.0308        | \$82.46   | \$6.60          |
| BASE TRITURADA 1 1/2" A FINOS<br>(MATERIALES INDUSTRIALES GCC)(LAB OBRA) | M3     | 1.3      | \$147.00 | \$191.10        | 1.0319        | \$151.69  | \$197.20        |
| <b>SUBTOTAL</b>                                                          |        |          |          | <b>\$197.50</b> |               |           | <b>\$203.80</b> |
| <b>MANO DE OBRA</b>                                                      |        |          |          |                 |               |           |                 |
| PEON EN GENERAL                                                          | jor    | 0.22     | \$331.06 | \$72.83         | 1.0600        | \$350.92  | \$77.20         |
| <b>SUBTOTAL</b>                                                          |        |          |          | <b>\$72.83</b>  |               |           | <b>\$77.20</b>  |
| <b>EQUIPO</b>                                                            |        |          |          |                 |               |           |                 |
| COMPACTADORA BAILARINA<br>MARCA: MYKASA MODELO: MT-74F                   | HR     | 0.11     | \$132.64 | \$14.59         | 1.0452        | \$138.64  | \$15.25         |
| RETROEXCAVADORA<br>CATERPILLAR MARCA: MODELO: 416-E                      | HR     | 0.02     | \$476.76 | \$9.54          | 1.0566        | \$503.74  | \$10.07         |
| <b>SUBTOTAL</b>                                                          |        |          |          | <b>\$24.13</b>  |               |           | <b>\$25.32</b>  |
| <b>AUXILIARES</b>                                                        |        |          |          |                 |               |           |                 |
|                                                                          |        |          |          | \$0.00          | 1.0000        | \$0.00    | \$0.00          |
| <b>SUBTOTAL</b>                                                          |        |          |          | <b>\$0.00</b>   |               |           | <b>\$0.00</b>   |
| HERRAMIENTA MENOR                                                        | %      | 3.00%    | \$72.83  | \$2.18          | 1.0600        | \$77.20   | \$2.32          |
| LIMPIEZA GRUESA Y FINA                                                   | %      | 3.00%    | \$72.83  | \$2.18          | 1.0600        | \$77.20   | \$2.32          |
| <b>SUBTOTAL</b>                                                          |        |          |          | <b>\$4.37</b>   |               |           | <b>\$4.64</b>   |
| <b>COSTO DIRECTO</b>                                                     |        |          |          | <b>\$298.83</b> |               |           | <b>\$310.96</b> |
| <b>INDIRECTOS 7%</b>                                                     |        |          |          | <b>\$20.92</b>  |               |           | <b>\$21.77</b>  |
| <b>COSTO FINANCIERO</b>                                                  |        |          |          | <b>\$0.00</b>   |               |           | <b>\$0.00</b>   |
| <b>UTILIDAD 8%</b>                                                       |        |          |          | <b>\$25.58</b>  |               |           | <b>\$26.62</b>  |
| <b>0.20% CMIC</b>                                                        |        |          |          | <b>\$0.69</b>   |               |           | <b>\$0.72</b>   |
| <b>PRECIO UNITARIO</b>                                                   |        |          |          | <b>\$346.01</b> |               |           | <b>\$360.07</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 INGENIERIA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 3.1.2

Dado Columna Co-3 de 0.72x0.80x1.00m armado con 16 varillas No. 8, estribos No. 3 @ 0.40m + dos ganchos No. 3 @ 0.40m. Concreto F'c=250 Kg/cm2, acero F'y= 4200Kg/cm2, incluye concreto, acero de refuerzo, cimbra, material, equipo, herramientas, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. (Ver plano SE01 y SE02) P.U.O.T.

UNIDAD

M

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

| UNIDAD | CANTIDAD | COSTO | IMPORTE | FACTOR AJUSTE | COSTO ACT | IMPORTE |
|--------|----------|-------|---------|---------------|-----------|---------|
|--------|----------|-------|---------|---------------|-----------|---------|

#### MATERIALES

|                                                          |    |      |            |          |        |            |            |
|----------------------------------------------------------|----|------|------------|----------|--------|------------|------------|
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM APASCO | M3 | 0.61 | \$1,330.00 | \$811.30 | 1.0160 | \$1,351.28 | \$824.28   |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                   | M3 | 0.61 | \$260.00   | \$158.60 | 1.1522 | \$299.57   | \$182.74   |
| SUBTOTAL                                                 |    |      |            |          |        |            | \$1,007.02 |

#### MANO DE OBRA

|          |  |  |  |        |        |        |        |
|----------|--|--|--|--------|--------|--------|--------|
|          |  |  |  | \$0.00 | 1.0600 | \$0.00 | \$0.00 |
| SUBTOTAL |  |  |  |        |        |        | \$0.00 |

#### EQUIPO

|          |  |  |  |        |        |        |        |
|----------|--|--|--|--------|--------|--------|--------|
|          |  |  |  | \$0.00 | 1.0000 | \$0.00 | \$0.00 |
| SUBTOTAL |  |  |  |        |        |        | \$0.00 |

#### AUXILIARES

|                                                                    |    |       |          |            |        |          |            |
|--------------------------------------------------------------------|----|-------|----------|------------|--------|----------|------------|
| COLADO DE CONCRETO PREMEZCLADO EN CIMENTACIONES, BASES, TRINCHERAS | M3 | 0.58  | \$263.01 | \$152.55   | 1.0658 | \$280.32 | \$162.59   |
| CIMBRA COMUN                                                       | M2 | 3.05  | \$250.08 | \$762.74   | 1.0409 | \$260.31 | \$793.95   |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN             | KG | 75    | \$18.15  | \$1,361.25 | 1.0930 | \$19.84  | \$1,488.00 |
| SUBTOTAL                                                           |    |       |          |            |        |          | \$2,444.54 |
| HERRAMIENTA MENOR                                                  | %  | 3.00% |          | \$0.00     | 1.0600 | \$0.00   | \$0.00     |

|                        |            |            |
|------------------------|------------|------------|
| COSTO DIRECTO          | \$3,246.44 | \$3,451.56 |
| INDIRECTOS 7%          | \$227.25   | \$241.61   |
| COSTO FINANCIERO 0.00% | \$0.00     | \$0.00     |
| UTILIDAD 8%            | \$277.90   | \$295.45   |
| 0.20% CMIC             | \$7.50     | \$7.98     |
| PRECIO UNITARIO        | \$3,759.09 | \$3,996.60 |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 INGENIERIA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 3.1.3

Dado Columna Co-5 de 0.70x0.50x1.00m armado con 16 varillas No. 6, estribos No. 3 @ 0.30m + dos ganchos No. 3 @ 0.30m. Concreto F'c=250 Kg/cm2, acero F'y=4200Kg/cm2, incluye concreto, acero de refuerzo, cimbra, material, equipo, herramientas, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. (Ver plano SE01 y SE02) P.U.O.T.

UNIDAD

M

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

| UNIDAD                                                             | CANTIDAD | COSTO | IMPORTE    | FACTOR AJUSTE | COSTO ACT | IMPORTE    |            |
|--------------------------------------------------------------------|----------|-------|------------|---------------|-----------|------------|------------|
| MATERIALES                                                         |          |       |            |               |           |            |            |
| CONCRETO PREMEZCLADO F'c=250 KG/CM2 GCC U HOLCIM APASCO            | M3       | 0.37  | \$1,330.00 | \$492.10      | 1.0160    | \$1,351.28 | \$499.97   |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                             | M3       | 0.37  | \$260.00   | \$96.20       | 1.1522    | \$299.57   | \$110.84   |
| SUBTOTAL                                                           |          |       |            | \$588.30      |           |            | \$610.81   |
| MANO DE OBRA                                                       |          |       |            |               |           |            |            |
|                                                                    |          |       |            | \$0.00        | 1.0600    | \$0.00     | \$0.00     |
| SUBTOTAL                                                           |          |       |            | \$0.00        |           |            | \$0.00     |
| EQUIPO                                                             |          |       |            |               |           |            |            |
|                                                                    |          |       |            | \$0.00        | 1.0000    | \$0.00     | \$0.00     |
|                                                                    |          |       | SUBTOTAL   | \$0.00        |           |            | \$0.00     |
| AUXILIARES                                                         |          |       |            |               |           |            |            |
| COLADO DE CONCRETO PREMEZCLADO EN CIMENTACIONES, BASES, TRINCHERAS | M3       | 0.35  | \$263.01   | \$92.05       | 1.0658    | \$280.32   | \$98.11    |
| CIMBRA COMUN                                                       | M2       | 2.4   | \$250.08   | \$600.19      | 1.0409    | \$260.31   | \$624.73   |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN             | KG       | 46    | \$18.15    | \$834.90      | 1.0930    | \$19.84    | \$912.64   |
|                                                                    |          |       | SUBTOTAL   | \$1,527.15    |           |            | \$1,635.48 |
| HERRAMIENTA MENOR                                                  |          |       |            |               |           |            |            |
| %                                                                  | 3.00%    |       |            | \$0.00        | 1.0600    | \$0.00     | \$0.00     |

|                        |                   |                   |
|------------------------|-------------------|-------------------|
| COSTO DIRECTO          | \$2,115.45        | \$2,246.29        |
| INDIRECTOS 7%          | \$148.08          | \$157.24          |
| COSTO FINANCIERO 0.00% | \$0.00            | \$0.00            |
| UTILIDAD 8%            | \$181.08          | \$192.28          |
| 0.20% CMIC             | \$4.89            | \$5.19            |
| <b>PRECIO UNITARIO</b> | <b>\$2,449.49</b> | <b>\$2,601.00</b> |



CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 3.1.4

Desplante de muro, 28 cm de espesor a una profundidad de 1.00m, concreto F'c=250kg/cm2, armado interior y exterior con 1 varilla # 4 @ 25 cm ambas caras ambos sentidos. Incluye: concreto, acero cimbra, material, mano de obra, herramienta y todo lo necesario para su correcta ejecucion. P.U.O.T.

UNIDAD M  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

| UNIDAD | CANTIDAD | COSTO | IMPORTE | FACTOR AJUSTE | COSTO ACT | IMPORTE |
|--------|----------|-------|---------|---------------|-----------|---------|
|--------|----------|-------|---------|---------------|-----------|---------|

#### MATERIALES

|                                                   |    |       |            |          |        |            |          |
|---------------------------------------------------|----|-------|------------|----------|--------|------------|----------|
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM | M3 | 0.308 | \$1,330.00 | \$409.64 | 1.0160 | \$1,351.28 | \$416.19 |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO            | M3 | 0.308 | \$260.00   | \$80.08  | 1.1522 | \$299.57   | \$92.27  |
| SUBTOTAL                                          |    |       |            |          |        |            | \$508.46 |

#### MANO DE OBRA

|          |  |  |  |        |        |        |        |
|----------|--|--|--|--------|--------|--------|--------|
|          |  |  |  | \$0.00 | 1.0600 | \$0.00 | \$0.00 |
| SUBTOTAL |  |  |  |        |        |        | \$0.00 |

#### EQUIPO

|          |  |  |  |        |        |        |        |
|----------|--|--|--|--------|--------|--------|--------|
|          |  |  |  | \$0.00 | 1.0000 | \$0.00 | \$0.00 |
| SUBTOTAL |  |  |  |        |        |        | \$0.00 |

#### AUXILIARES

|                                                        |    |       |          |          |        |          |          |
|--------------------------------------------------------|----|-------|----------|----------|--------|----------|----------|
| COLADO DE CONCRETO PREMEZCLADO EN ALBAÑILERIA          | M3 | 0.28  | \$307.04 | \$85.97  | 1.0631 | \$326.41 | \$91.39  |
| CIMBRA COMUN                                           | M2 | 2     | \$250.08 | \$500.16 | 1.0409 | \$260.31 | \$520.62 |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN | KG | 16    | \$18.15  | \$290.40 | 1.0930 | \$19.84  | \$317.44 |
| SUBTOTAL                                               |    |       |          |          |        |          | \$929.45 |
| HERRAMIENTA MENOR                                      | %  | 3.00% |          | \$0.00   | 1.0600 | \$0.00   | \$0.00   |

|                        |            |            |
|------------------------|------------|------------|
| COSTO DIRECTO          | \$1,366.25 | \$1,437.91 |
| INDIRECTOS 7%          | \$95.64    | \$100.65   |
| COSTO FINANCIERO 0.00% | \$0.00     | \$0.00     |
| UTILIDAD 8%            | \$116.95   | \$123.09   |
| 0.20% CMIC             | \$3.16     | \$3.32     |
| PRECIO UNITARIO        | \$1,582.00 | \$1,664.98 |

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 3.3.6

Relleno con material de banco que cumpla con las especificaciones indicadas en el Estudio de Mecanica de Suelos, colocado en capas de 0.20 mt cada una, compactacion al 95% de su PVSM determinado por la prueba ASTM D-1557. Incluye: material, mano de obra, humectacion, limpieza y todo lo necesario para su correcta ejecucion. P.U.O.T.

UNIDAD M3  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                                       | UNIDAD | CANTIDAD | COSTO    | IMPORTE         | FACTOR AJUSTE | COSTO ACT | IMPORTE         |
|-----------------------------------------------------------------------|--------|----------|----------|-----------------|---------------|-----------|-----------------|
| <b>MATERIALES</b>                                                     |        |          |          |                 |               |           |                 |
| AGUA                                                                  | M3     | 0.08     | \$80.00  | \$6.40          | 1.0308        | \$82.46   | \$6.60          |
| BASE TRITURADA 1 1/2" A FINOS (MATERIALES INDUSTRIALES GCC)(LAB OBRA) | M3     | 1.3      | \$147.00 | \$191.10        | 1.0319        | \$151.69  | \$197.20        |
| <b>SUBTOTAL</b>                                                       |        |          |          | <b>\$197.50</b> |               |           | <b>\$203.80</b> |

|                     |     |      |          |                |        |          |                |
|---------------------|-----|------|----------|----------------|--------|----------|----------------|
| <b>MANO DE OBRA</b> |     |      |          |                |        |          |                |
| PEON EN GENERAL     | jor | 0.22 | \$331.06 | \$72.83        | 1.0600 | \$350.92 | \$77.20        |
| <b>SUBTOTAL</b>     |     |      |          | <b>\$72.83</b> |        |          | <b>\$77.20</b> |

|                                                     |    |      |          |                |        |          |                |
|-----------------------------------------------------|----|------|----------|----------------|--------|----------|----------------|
| <b>EQUIPO</b>                                       |    |      |          |                |        |          |                |
| COMPACTADORA BAILARINA MARCA: MYKASA MODELO: MT-74F | HR | 0.11 | \$132.64 | \$14.59        | 1.0452 | \$138.64 | \$15.25        |
| RETROEXCAVADORA MARCA: CATERPILLAR MODELO: 416-E    | HR | 0.02 | \$476.76 | \$9.54         | 1.0566 | \$503.74 | \$10.07        |
| <b>SUBTOTAL</b>                                     |    |      |          | <b>\$24.13</b> |        |          | <b>\$25.32</b> |

|                        |   |       |         |               |        |         |               |
|------------------------|---|-------|---------|---------------|--------|---------|---------------|
| <b>AUXILIARES</b>      |   |       |         |               |        |         |               |
|                        |   |       |         | \$0.00        | 1      | \$0.00  | \$0.00        |
| <b>SUBTOTAL</b>        |   |       |         | <b>\$0.00</b> |        |         | <b>\$0.00</b> |
| HERRAMIENTA MENOR      | % | 3.00% | \$72.83 | \$2.18        | 1.0600 | \$77.20 | \$2.32        |
| LIMPIEZA GRUESA Y FINA | % | 3.00% | \$72.83 | \$2.18        | 1.0600 | \$77.20 | \$2.32        |
| <b>SUBTOTAL</b>        |   |       |         | <b>\$4.37</b> |        |         | <b>\$4.64</b> |

|                        |                 |                 |
|------------------------|-----------------|-----------------|
| COSTO DIRECTO          | \$298.83        | \$310.96        |
| INDIRECTOS 7%          | \$20.92         | \$21.77         |
| COSTO FINANCIERO       | \$0.00          | \$0.00          |
| UTILIDAD 8%            | \$25.58         | \$26.62         |
| 0.20% CMIC             | \$0.69          | \$0.72          |
| <b>PRECIO UNITARIO</b> | <b>\$346.01</b> | <b>\$360.07</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 4.3.6

Relleno con material de banco que cumpla con las especificaciones indicadas en el Estudio de Mecanica de Suelos, colocado en capas de 0.20 mt cada una, compactacion al 95% de su PVSM determinado por la prueba ASTM D-1557. Incluye: material, mano de obra, humectacion, limpieza y todo lo necesario para su correcta ejecucion. P.U.O.T.

UNIDAD

M3

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                                                       | UNIDAD | CANTIDAD | COSTO    | IMPORTE         | FACTOR AJUSTE | COSTO ACT | IMPORTE         |
|-----------------------------------------------------------------------|--------|----------|----------|-----------------|---------------|-----------|-----------------|
| <b>MATERIALES</b>                                                     |        |          |          |                 |               |           |                 |
| AGUA                                                                  | M3     | 0.08     | \$80.00  | \$6.40          | 1.0308        | \$82.46   | \$6.60          |
| BASE TRITURADA 1 1/2" A FINOS (MATERIALES INDUSTRIALES GCC)(LAB OBRA) | M3     | 1.3      | \$147.00 | \$191.10        | 1.0319        | \$151.69  | \$197.20        |
| <b>SUBTOTAL</b>                                                       |        |          |          | <b>\$197.50</b> |               |           | <b>\$203.80</b> |

|                     |     |      |          |                |        |          |                |
|---------------------|-----|------|----------|----------------|--------|----------|----------------|
| <b>MANO DE OBRA</b> |     |      |          |                |        |          |                |
| PEON EN GENERAL     | jor | 0.22 | \$331.06 | \$72.83        | 1.0600 | \$350.92 | \$77.20        |
| <b>SUBTOT AL</b>    |     |      |          | <b>\$72.83</b> |        |          | <b>\$77.20</b> |

|                                                     |    |      |          |                |        |          |                |
|-----------------------------------------------------|----|------|----------|----------------|--------|----------|----------------|
| <b>EQUIPO</b>                                       |    |      |          |                |        |          |                |
| COMPACTADORA BAILARINA MARCA: MYKASA MODELO: MT-74F | HR | 0.11 | \$132.64 | \$14.59        | 1.0452 | \$138.64 | \$15.25        |
| RETROEXCAVADORA MARCA: CATERPILLAR MODELO: 416-E    | HR | 0.02 | \$476.76 | \$9.54         | 1.0566 | \$503.74 | \$10.07        |
| <b>SUBTOT AL</b>                                    |    |      |          | <b>\$24.13</b> |        |          | <b>\$25.32</b> |

|                        |   |       |         |               |        |         |               |
|------------------------|---|-------|---------|---------------|--------|---------|---------------|
| <b>AUXILIARES</b>      |   |       |         |               |        |         |               |
|                        |   |       |         | \$0.00        | 1      | \$0.00  | \$0.00        |
| <b>SUBTOT AL</b>       |   |       |         | <b>\$0.00</b> |        |         | <b>\$0.00</b> |
| HERRAMIENTA MENOR      | % | 3.00% | \$72.83 | \$2.18        | 1.0600 | \$77.20 | \$2.32        |
| LIMPIEZA GRUESA Y FINA | % | 3.00% | \$72.83 | \$2.18        | 1.0600 | \$77.20 | \$2.32        |
| <b>SUBTOT AL</b>       |   |       |         | <b>\$4.37</b> |        |         | <b>\$4.64</b> |

|                        |                 |                 |
|------------------------|-----------------|-----------------|
| COSTO DIRECTO          | \$298.83        | \$310.96        |
| INDIRECTOS 7%          | \$20.92         | \$21.77         |
| COSTO FINANCIERO       | \$0.00          | \$0.00          |
| UTILIDAD 8%            | \$25.58         | \$26.62         |
| 0.20% CMIC             | \$0.69          | \$0.72          |
| <b>PRECIO UNITARIO</b> | <b>\$346.01</b> | <b>\$360.07</b> |



CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 10.1.1

Muro (Ejes 1,6,A y E, Altura 5.57m) de block de concreto 0.20x0.20x0.40m, celdas rellenas de concreto F'c=150kg/cm2, armado: 1 vs # 4 @ 60 cm + 1 vs # 3 @ 2 hileras. Incluye:concreto, acero, material, mano de obra, herramienta y todo lo necesario para su correcta ejecucion. (Ver plano S01). P.U.O.T.

UNIDAD

M2

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                                        | UNIDAD | CANTIDAD | COSTO      | IMPORTE         | FACTOR AJUSTE | COSTO ACT  | IMPORTE         |
|--------------------------------------------------------|--------|----------|------------|-----------------|---------------|------------|-----------------|
| <b>MATERIALES</b>                                      |        |          |            |                 |               |            |                 |
| BLOCK CONCRETO 20 X 20 X 40                            | PZA    | 12.75    | \$12.40    | \$158.10        | 1.0191        | \$12.64    | \$161.16        |
| <b>SUBTOTAL</b>                                        |        |          |            | <b>\$158.10</b> |               |            | <b>\$161.16</b> |
| <b>MANO DE OBRA</b>                                    |        |          |            |                 |               |            |                 |
|                                                        |        |          |            | \$0.00          | 1.0600        | \$0.00     | \$0.00          |
| <b>SUBTOTAL</b>                                        |        |          |            | <b>\$0.00</b>   |               |            | <b>\$0.00</b>   |
| <b>EQUIPO</b>                                          |        |          |            |                 |               |            |                 |
|                                                        |        |          |            | \$0.00          | 1.0000        | \$0.00     | \$0.00          |
| <b>SUBTOTAL</b>                                        |        |          |            | <b>\$0.00</b>   |               |            | <b>\$0.00</b>   |
| <b>AUXILIARES</b>                                      |        |          |            |                 |               |            |                 |
| CUADRILLA 8 (1 OFICIAL ALBAÑIL + 1 PEON EN GENERAL )   | JOR    | 0.125    | \$1,063.39 | \$132.92        | 1.0600        | \$1,127.15 | \$140.89        |
| MORTERO CEMENTO-ARENA 1:4                              | M3     | 0.026    | \$1,829.96 | \$47.58         | 1.0386        | \$1,900.60 | \$49.42         |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN | KG     | 3.1      | \$18.15    | \$56.27         | 1.0930        | \$19.84    | \$61.50         |
| CONCRETO Fc= 150 KG/CM2 HECHO EN OBRA                  | M3     | 0.126    | \$1,529.25 | \$192.69        | 1.0382        | \$1,587.67 | \$200.05        |
| <b>SUBTOTAL</b>                                        |        |          |            | <b>\$429.45</b> |               |            | <b>\$451.86</b> |
| HERRAMIENTA MENOR                                      | %      | 3.00%    | \$0.00     | \$0.00          | 1.0600        | \$0.00     | \$0.00          |
| LIMPIEZA GRUESA Y FINA                                 | %      | 3.00%    | \$0.00     | \$0.00          | 1.0600        | \$0.00     | \$0.00          |
| <b>SUBTOTAL</b>                                        |        |          |            | <b>\$0.00</b>   |               |            | <b>\$0.00</b>   |
| <b>COSTO DIRECTO</b>                                   |        |          |            | <b>\$587.55</b> |               |            | <b>\$613.02</b> |
| <b>INDIRECTOS 7%</b>                                   |        |          |            | <b>\$41.13</b>  |               |            | <b>\$42.91</b>  |
| <b>COSTO FINANCIERO</b>                                |        |          |            | <b>\$0.00</b>   |               |            | <b>\$0.00</b>   |
| <b>UTILIDAD 8%</b>                                     |        |          |            | <b>\$50.29</b>  |               |            | <b>\$52.47</b>  |
| <b>0.20% CMIC</b>                                      |        |          |            | <b>\$1.36</b>   |               |            | <b>\$1.42</b>   |
| <b>PRECIO UNITARIO</b>                                 |        |          |            | <b>\$680.35</b> |               |            | <b>\$709.82</b> |

X

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



### ANÁLISIS DE PRECIOS UNITARIOS

CONCEPTO No. 10.1.2

Muro (Ejes 1,6,A y E, Altura 5.57m) de block de concreto 0.20x0.20x0.40m, celdas rellenas de concreto F'c=150kg/cm2, armado: 1 vs # 4 @ 60 cm + 1 vs # 3 @ 2 hiladas. Incluye:concreto, acero, material, mano de obra, herramienta y todo lo necesario para su correcta ejecucccion. (Ver plano S01). P.U.O.T.

UNIDAD

M2

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                             | UNIDAD | CANTIDAD | COSTO   | IMPORTE         | FACTOR AJUSTE | COSTO ACT | IMPORTE         |
|-----------------------------|--------|----------|---------|-----------------|---------------|-----------|-----------------|
| <b>MATERIALES</b>           |        |          |         |                 |               |           |                 |
| BLOCK CONCRETO 20 X 20 X 40 | PZA    | 12.75    | \$12.40 | \$158.10        | 1.0191        | \$12.64   | \$161.16        |
| <b>SUBTOTAL</b>             |        |          |         | <b>\$158.10</b> |               |           | <b>\$161.16</b> |

|                     |  |  |  |               |        |        |               |
|---------------------|--|--|--|---------------|--------|--------|---------------|
| <b>MANO DE OBRA</b> |  |  |  |               |        |        |               |
|                     |  |  |  | \$0.00        | 1.0600 | \$0.00 | \$0.00        |
| <b>SUBTOT AL</b>    |  |  |  | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|                  |  |  |  |               |        |        |               |
|------------------|--|--|--|---------------|--------|--------|---------------|
| <b>EQUIPO</b>    |  |  |  |               |        |        |               |
|                  |  |  |  | \$0.00        | 1.0000 | \$0.00 | \$0.00        |
| <b>SUBTOT AL</b> |  |  |  | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|                                                        |     |       |            |                 |        |            |                 |
|--------------------------------------------------------|-----|-------|------------|-----------------|--------|------------|-----------------|
| <b>AUXILIARES</b>                                      |     |       |            |                 |        |            |                 |
| CUADRILLA 8 (1 OFICIAL ALBAÑIL + 1 PEON EN GENERAL )   | JOR | 0.125 | \$1,063.39 | \$132.92        | 1.0600 | \$1,127.15 | \$140.89        |
| MORTERO CEMENTO-ARENA 1:4                              | M3  | 0.026 | \$1,829.96 | \$47.58         | 1.0386 | \$1,900.60 | \$49.42         |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN | KG  | 2.7   | \$18.15    | \$49.01         | 1.0930 | \$19.84    | \$53.57         |
| CONCRETO Fc= 150 KG/CM2 HECHO EN OBRA                  | M3  | 0.126 | \$1,529.25 | \$192.69        | 1.0382 | \$1,587.67 | \$200.05        |
| <b>SUBTOT AL</b>                                       |     |       |            | <b>\$422.19</b> |        |            | <b>\$443.93</b> |
| HERRAMIENTA MENOR                                      | %   | 3.00% | \$0.00     | \$0.00          | 1.0600 | \$0.00     | \$0.00          |
| LIMPIEZA GRUESA Y FINA                                 | %   | 3.00% | \$0.00     | \$0.00          | 1.0600 | \$0.00     | \$0.00          |
| <b>SUBTOT AL</b>                                       |     |       |            | <b>\$0.00</b>   |        |            | <b>\$0.00</b>   |

|                        |                 |                 |
|------------------------|-----------------|-----------------|
| COSTO DIRECTO          | \$580.29        | \$605.09        |
| INDIRECTOS 7%          | \$40.62         | \$42.36         |
| COSTO FINANCIERO       | \$0.00          | \$0.00          |
| UTILIDAD 8%            | \$49.67         | \$51.80         |
| 0.20% CMIC             | \$1.34          | \$1.40          |
| <b>PRECIO UNITARIO</b> | <b>\$671.93</b> | <b>\$700.63</b> |



CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 10.1.3

Muro (Ejes F, G y 1', Nivel +14.42) de block de concreto 0.20x0.20x0.40m, celdas rellenas de concreto F'c=150kg/cm2, armado: 1 vs # 4 @ 40 cm + 1 vs # 3 @ 2 hiladas. Incluye:concreto, acero, material, mano de obra, herramienta y todo lo necesario para su correcta ejecucion. (Ver plano S01 y S05) P.U.O.T.

UNIDAD

M2

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                             | UNIDAD | CANTIDAD | COSTO   | IMPORTE         | FACTOR AJUSTE | COSTO ACT | IMPORTE         |
|-----------------------------|--------|----------|---------|-----------------|---------------|-----------|-----------------|
| <b>MATERIALES</b>           |        |          |         |                 |               |           |                 |
| BLOCK CONCRETO 20 X 20 X 40 | PZA    | 12.75    | \$12.40 | \$158.10        | 1.0191        | \$12.64   | \$161.16        |
| <b>SUBTOTAL</b>             |        |          |         | <b>\$158.10</b> |               |           | <b>\$161.16</b> |

|                     |  |  |  |               |        |        |               |
|---------------------|--|--|--|---------------|--------|--------|---------------|
| <b>MANO DE OBRA</b> |  |  |  |               |        |        |               |
|                     |  |  |  | \$0.00        | 1.0600 | \$0.00 | \$0.00        |
| <b>SUBTOTAL</b>     |  |  |  | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|                 |  |  |  |               |        |        |               |
|-----------------|--|--|--|---------------|--------|--------|---------------|
| <b>EQUIPO</b>   |  |  |  |               |        |        |               |
|                 |  |  |  | \$0.00        | 1.0000 | \$0.00 | \$0.00        |
| <b>SUBTOTAL</b> |  |  |  | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|                                                        |     |       |            |                 |        |            |                 |
|--------------------------------------------------------|-----|-------|------------|-----------------|--------|------------|-----------------|
| <b>AUXILIARES</b>                                      |     |       |            |                 |        |            |                 |
| CUADRILLA 8 (1 OFICIAL ALBAÑIL + 1 PEON EN GENERAL )   | JOR | 0.125 | \$1,063.39 | \$132.92        | 1.0600 | \$1,127.15 | \$140.89        |
| MORTERO CEMENTO-ARENA 1:4                              | M3  | 0.026 | \$1,829.96 | \$47.58         | 1.0386 | \$1,900.60 | \$49.42         |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN | KG  | 4     | \$18.15    | \$72.60         | 1.0930 | \$19.84    | \$79.36         |
| CONCRETO Fc= 150 KG/CM2 HECHO EN OBRA                  | M3  | 0.126 | \$1,529.25 | \$192.69        | 1.0382 | \$1,587.67 | \$200.05        |
| <b>SUBTOTAL</b>                                        |     |       |            | <b>\$445.79</b> |        |            | <b>\$469.72</b> |
| HERRAMIENTA MENOR                                      | %   | 3.00% | \$0.00     | \$0.00          | 1.0600 | \$0.00     | \$0.00          |
| LIMPIEZA GRUESA Y FINA                                 | %   | 3.00% | \$0.00     | \$0.00          | 1.0600 | \$0.00     | \$0.00          |
| <b>SUBTOTAL</b>                                        |     |       |            | <b>\$0.00</b>   |        |            | <b>\$0.00</b>   |

|                        |                 |                 |
|------------------------|-----------------|-----------------|
| COSTO DIRECTO          | \$603.89        | \$630.88        |
| INDIRECTOS 7%          | \$42.27         | \$44.16         |
| COSTO FINANCIERO       | \$0.00          | \$0.00          |
| UTILIDAD 8%            | \$51.69         | \$54.00         |
| 0.20% CMIC             | \$1.40          | \$1.46          |
| <b>PRECIO UNITARIO</b> | <b>\$699.25</b> | <b>\$730.50</b> |





CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

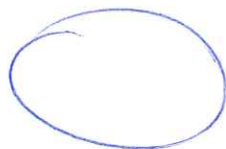
CONCEPTO No. 10.1.6

Columna de concreto CC-1 de 0.50x0.50m armado con 22varillas No. 8, estribos No. 3 @ 0.20m. Concreto F'c=250 Kg/cm2, acero F'y= 4200Kg/cm2, incluye concreto, acero de refuerzo, cimbra, material, equipo, herramientas, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. (Ver plano S01 y S03, S03, S04, S05)

UNIDAD M  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

| UNIDAD                                                   | CANTIDAD | COSTO | IMPORTE    | FACTOR AJUSTE | COSTO ACT | IMPORTE               |
|----------------------------------------------------------|----------|-------|------------|---------------|-----------|-----------------------|
| <b>MATERIALES</b>                                        |          |       |            |               |           |                       |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                   | M3       | 0.26  | \$260.00   | \$67.60       | 1.1522    | \$299.57 \$77.89      |
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM APASCO | M3       | 0.26  | \$1,330.00 | \$345.80      | 1.0160    | \$1,351.28 \$351.33   |
| SUBTOTAL                                                 |          |       |            |               |           | \$429.22              |
| <b>MANO DE OBRA</b>                                      |          |       |            |               |           |                       |
|                                                          |          |       | \$0.00     | 1.0600        | \$0.00    | \$0.00                |
| SUBTOTAL                                                 |          |       |            |               |           | \$0.00                |
| <b>EQUIPO</b>                                            |          |       |            |               |           |                       |
|                                                          |          |       | \$0.00     | 1.0000        | \$0.00    | \$0.00                |
| SUBTOTAL                                                 |          |       |            |               |           | \$0.00                |
| <b>AUXILIARES</b>                                        |          |       |            |               |           |                       |
| CIMBRA EN COLUMNAS Y TRABES                              | M2       | 2     | \$308.99   | \$617.98      | 1.0297    | \$318.17 \$636.34     |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN   | KG       | 95    | \$18.15    | \$1,724.25    | 1.0930    | \$19.84 \$1,884.80    |
| COLADO DE CONCRETO PREMEZCLADO EN ALBAÑILERIA            | M3       | 0.25  | \$307.04   | \$76.76       | 1.0631    | \$326.41 \$81.60      |
| SUBTOTAL                                                 |          |       |            |               |           | \$2,602.74            |
| HERRAMIENTA MENOR                                        | %        | 3.00% | \$0.00     | \$0.00        | 1.0600    | \$0.00 \$0.00         |
| LIMPIEZA GRUESA Y FINA                                   | %        | 3.00% | \$0.00     | \$0.00        | 1.0600    | \$0.00 \$0.00         |
| SUBTOTAL                                                 |          |       |            |               |           | \$0.00                |
| COSTO DIRECTO                                            |          |       |            |               |           | \$2,832.39 \$3,031.96 |
| INDIRECTOS 7%                                            |          |       |            |               |           | \$198.27 \$212.24     |
| COSTO FINANCIERO                                         |          |       |            |               |           | \$0.00 \$0.00         |
| UTILIDAD 8%                                              |          |       |            |               |           | \$242.45 \$259.54     |
| 0.20% CMIC                                               |          |       |            |               |           | \$6.55 \$7.01         |
| PRECIO UNITARIO                                          |          |       |            |               |           | \$3,279.66 \$3,510.74 |



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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 10.6.1

Columna C-1 W14x90 de 13.407 m longitud, acero A572 Gr 50, incluye acero de refuerzo, soldadura, material, equipo, herramientas, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. (Ver planos S01, S07, S08) P.U.O.T.

UNIDAD kg  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                                             | UNIDAD | CANTIDAD | COSTO   | IMPORTE        | FACTOR AJUSTE | COSTO ACT | IMPORTE        |
|-----------------------------------------------------------------------------|--------|----------|---------|----------------|---------------|-----------|----------------|
| <b>MATERIALES</b>                                                           |        |          |         |                |               |           |                |
|                                                                             |        |          |         | \$0.00         | 1.0000        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                                             |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>MANO DE OBRA</b>                                                         |        |          |         |                |               |           |                |
|                                                                             |        |          |         | \$0.00         | 1.0600        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                                             |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>EQUIPO</b>                                                               |        |          |         |                |               |           |                |
|                                                                             |        |          |         | \$0.00         | 1.0000        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                                             |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>AUXILIARES</b>                                                           |        |          |         |                |               |           |                |
| Suministro, fabricacion y montaje de columnas a base de IPR                 | kg     | 0.92     | \$36.75 | \$33.81        | 1.0575        | \$38.86   | \$35.75        |
| Suministro, fabricacion y montaje de conexiones a base de placa en columnas | kg     | 0.08     | \$35.92 | \$2.87         | 0.9302        | \$33.41   | \$2.67         |
| <b>SUBTOTAL</b>                                                             |        |          |         | <b>\$36.68</b> |               |           | <b>\$38.42</b> |
| <b>HERRAMIENTA MENOR</b>                                                    |        |          |         |                |               |           |                |
|                                                                             | %      | 3.00%    |         | \$0.00         | 1.0600        | \$0.00    | \$0.00         |
| <b>COSTO DIRECTO</b>                                                        |        |          |         | <b>\$36.68</b> |               |           | <b>\$38.42</b> |
| <b>INDIRECTOS 7%</b>                                                        |        |          |         | <b>\$2.57</b>  |               |           | <b>\$2.69</b>  |
| <b>COSTO FINANCIERO</b>                                                     |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>UTILIDAD 8%</b>                                                          |        |          |         | <b>\$3.14</b>  |               |           | <b>\$3.29</b>  |
| <b>0.20% CMIC</b>                                                           |        |          |         | <b>\$0.08</b>  |               |           | <b>\$0.09</b>  |
| <b>PRECIO UNITARIO</b>                                                      |        |          |         | <b>\$42.47</b> |               |           | <b>\$44.48</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 10.6.2

Columna C-2 W14x120 de 13.785 m de longitud, acero A572 Gr 50, incluye acero de refuerzo, soldadura, material, equipo, herramientas, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. (Ver planos S01, S07, S08) P.U.O.T.

UNIDAD kg  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                                             | UNIDAD | CANTIDAD | COSTO   | IMPORTE        | FACTOR AJUSTE | COSTO ACT | IMPORTE        |
|-----------------------------------------------------------------------------|--------|----------|---------|----------------|---------------|-----------|----------------|
| <b>MATERIALES</b>                                                           |        |          |         |                |               |           |                |
|                                                                             |        |          |         | \$0.00         | 1.0000        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                                             |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>MANO DE OBRA</b>                                                         |        |          |         |                |               |           |                |
|                                                                             |        |          |         | \$0.00         | 1.0600        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                                             |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>EQUIPO</b>                                                               |        |          |         |                |               |           |                |
|                                                                             |        |          |         | \$0.00         | 1.0000        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                                             |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>AUXILIARES</b>                                                           |        |          |         |                |               |           |                |
| Suministro, fabricacion y montaje de columnas a base de IPR                 | kg     | 0.92     | \$36.75 | \$33.81        | 1.0575        | \$38.86   | \$35.75        |
| Suministro, fabricacion y montaje de conexiones a base de placa en columnas | kg     | 0.08     | \$35.92 | \$2.87         | 0.9302        | \$33.43   | \$2.67         |
| <b>SUBTOTAL</b>                                                             |        |          |         | <b>\$36.68</b> |               |           | <b>\$38.42</b> |
| <b>HERRAMIENTA MENOR</b>                                                    |        |          |         |                |               |           |                |
|                                                                             | %      | 3.00%    |         | \$0.00         | 1.0600        | \$0.00    | \$0.00         |
| <b>COSTO DIRECTO</b>                                                        |        |          |         | <b>\$36.68</b> |               |           | <b>\$38.42</b> |
| <b>INDIRECTOS 7%</b>                                                        |        |          |         | <b>\$2.57</b>  |               |           | <b>\$2.69</b>  |
| <b>COSTO FINANCIERO</b>                                                     |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>UTILIDAD 8%</b>                                                          |        |          |         | <b>\$3.14</b>  |               |           | <b>\$3.29</b>  |
| <b>0.20% CMIC</b>                                                           |        |          |         | <b>\$0.08</b>  |               |           | <b>\$0.09</b>  |
| <b>PRECIO UNITARIO</b>                                                      |        |          |         | <b>\$42.47</b> |               |           | <b>\$44.48</b> |



CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**

CONSTRUCIONES

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 10.6.3

Columna C-3 PTR 6"x4" V de 5.40 m de longitud, acero A572 Gr 50, incluye acero de refuerzo, soldadura, material, equipo, herramientas, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. (Ver plano S01 y S08) P.U.O.T.

UNIDAD

kg

FECHA COTIZACION

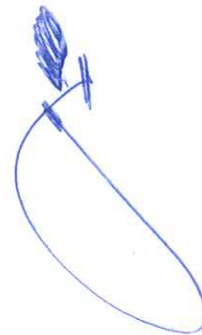
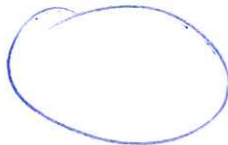
26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                                                             | UNIDAD | CANTIDAD | COSTO   | IMPORTE        | FACTOR AJUSTE | COSTO ACT | IMPORTE        |
|-----------------------------------------------------------------------------|--------|----------|---------|----------------|---------------|-----------|----------------|
| <b>MATERIALES</b>                                                           |        |          |         |                |               |           |                |
|                                                                             |        |          |         | \$0.00         | 1.0000        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                                             |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>MANO DE OBRA</b>                                                         |        |          |         |                |               |           |                |
|                                                                             |        |          |         | \$0.00         | 1.0600        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                                             |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>EQUIPO</b>                                                               |        |          |         |                |               |           |                |
|                                                                             |        |          |         | \$0.00         | 1.0000        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                                             |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>AUXILIARES</b>                                                           |        |          |         |                |               |           |                |
| Suministro, fabricacion y montaje de columnas a base de OR                  | KG     | 0.93     | \$41.52 | \$38.61        | 1.0556        | \$43.83   | \$40.76        |
| Suministro, fabricacion y montaje de conexiones a base de placa en columnas | KG     | 0.07     | \$35.92 | \$2.51         | 0.9302        | \$33.43   | \$2.34         |
| <b>SUBTOTAL</b>                                                             |        |          |         | <b>\$41.13</b> |               |           | <b>\$43.10</b> |
| <b>HERRAMIENTA MENOR</b>                                                    |        |          |         |                |               |           |                |
|                                                                             | %      | 3.00%    |         | \$0.00         | 1.0600        | \$0.00    | \$0.00         |
| <b>COSTO DIRECTO</b>                                                        |        |          |         | <b>\$41.13</b> |               |           | <b>\$43.10</b> |
| <b>INDIRECTOS 7%</b>                                                        |        |          |         | <b>\$2.88</b>  |               |           | <b>\$3.02</b>  |
| <b>COSTO FINANCIERO</b>                                                     |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>UTILIDAD 8%</b>                                                          |        |          |         | <b>\$3.52</b>  |               |           | <b>\$3.69</b>  |
| <b>0.20% CMIC</b>                                                           |        |          |         | <b>\$0.10</b>  |               |           | <b>\$0.10</b>  |
| <b>PRECIO UNITARIO</b>                                                      |        |          |         | <b>\$47.62</b> |               |           | <b>\$49.91</b> |



CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

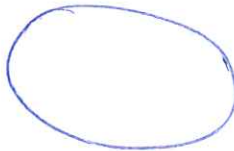
CONCEPTO No. 10.6.7

Placa PL-W, consta de 1 placa de 0.16x0.076x5/16" + 2 placas de 0.094x0.171x5/16" + 1 placa de 8"x10"x1/2" , acero A572-Gr50 para Joist, eje F(1y6), Nivel +23.43. Incluye 1L 3 1/2"x 3 1/2"x5/16"x7 1/2" longitud y atiesador 3 1/2"x3 1/2"x 1/4". Incluye placa de acero, anclas, soldadura, material, equipo, herramientas, mano de obra y todo lo necesario para su correcta ejecucion. (Ver plano S04) P.U.O.T.

UNIDAD kg  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                                 | UNIDAD | CANTIDAD | COSTO   | IMPORTE         | FACTOR AJUSTE | COSTO ACT | IMPORTE         |
|-----------------------------------------------------------------|--------|----------|---------|-----------------|---------------|-----------|-----------------|
| <b>MATERIALES</b>                                               |        |          |         |                 |               |           |                 |
|                                                                 |        |          |         | \$0.00          | 1.0000        | \$0.00    | \$0.00          |
| <b>SUBTOTAL</b>                                                 |        |          |         | <b>\$0.00</b>   |               |           | <b>\$0.00</b>   |
| <b>MANO DE OBRA</b>                                             |        |          |         |                 |               |           |                 |
|                                                                 |        |          |         | \$0.00          | 1.0600        | \$0.00    | \$0.00          |
| <b>SUBTOTAL</b>                                                 |        |          |         | <b>\$0.00</b>   |               |           | <b>\$0.00</b>   |
| <b>EQUIPO</b>                                                   |        |          |         |                 |               |           |                 |
|                                                                 |        |          |         | \$0.00          | 1.0000        | \$0.00    | \$0.00          |
| <b>SUBTOTAL</b>                                                 |        |          |         | <b>\$0.00</b>   |               |           | <b>\$0.00</b>   |
| <b>AUXILIARES</b>                                               |        |          |         |                 |               |           |                 |
| Suministro, fabricacion y montaje de conexiones a base de placa | KG     | 8.595    | \$36.05 | \$309.85        | 0.9299        | \$33.52   | \$288.10        |
| <b>SUBTOTAL</b>                                                 |        |          |         | <b>\$309.85</b> |               |           | <b>\$288.10</b> |
| <b>HERRAMIENTA MENOR</b>                                        |        |          |         |                 |               |           |                 |
|                                                                 | %      | 3.00%    |         | \$0.00          | 1.0600        | \$0.00    | \$0.00          |
|                                                                 |        |          |         |                 |               |           |                 |
| <b>COSTO DIRECTO</b>                                            |        |          |         | <b>\$309.85</b> |               |           | <b>\$288.10</b> |
| <b>INDIRECTOS 7%</b>                                            |        |          |         | <b>\$21.69</b>  |               |           | <b>\$20.17</b>  |
| <b>COSTO FINANCIERO</b>                                         |        |          |         | <b>\$0.00</b>   |               |           | <b>\$0.00</b>   |
| <b>UTILIDAD 8%</b>                                              |        |          |         | <b>\$26.52</b>  |               |           | <b>\$24.66</b>  |
| <b>0.20% CMIC</b>                                               |        |          |         | <b>\$0.72</b>   |               |           | <b>\$0.67</b>   |
| <b>PRECIO UNITARIO</b>                                          |        |          |         | <b>\$358.78</b> |               |           | <b>\$333.58</b> |



CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

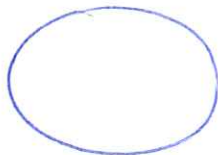
CONCEPTO No. 10.6.11

Viga W12x45de 11.00m longitud en ejes 1 y 6, Nivel +15.40, anclada a alma de C-1, incluye placa PL-1A 0.59x0.32x9/16", PL-1B 0.50x0.32x9/16" y PL-1C 0.27x0.31x3/16" con dos orificios de 7/8" + 1/16" para pernos A325 en ambos extremos. Incluye acero, material, soldadura, equipo, herramientas, mano de obra y todo lo necesario para su correcta ejecucion. (Ver plano S06, S08, S09, CNX-1)P.U.O.T.

UNIDAD KG  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                                 | UNIDAD | CANTIDAD | COSTO   | IMPORTE | FACTOR AJUSTE | COSTO ACT | IMPORTE |
|-----------------------------------------------------------------|--------|----------|---------|---------|---------------|-----------|---------|
| <b>MATERIALES</b>                                               |        |          |         |         |               |           |         |
|                                                                 |        |          |         | \$0.00  | 1.0000        | \$0.00    | \$0.00  |
| SUBTOTAL                                                        |        |          |         | \$0.00  |               |           | \$0.00  |
| <b>MANO DE OBRA</b>                                             |        |          |         |         |               |           |         |
|                                                                 |        |          |         | \$0.00  | 1.0600        | \$0.00    | \$0.00  |
| SUBTOTAL                                                        |        |          |         | \$0.00  |               |           | \$0.00  |
| <b>EQUIPO</b>                                                   |        |          |         |         |               |           |         |
|                                                                 |        |          |         | \$0.00  | 1.0000        | \$0.00    | \$0.00  |
| SUBTOTAL                                                        |        |          |         | \$0.00  |               |           | \$0.00  |
| <b>AUXILIARES</b>                                               |        |          |         |         |               |           |         |
| Suministro, fabricacion y montaje de vigas a base de IPR        | KG     | 0.93     | \$39.27 | \$36.52 | 1.0585        | \$41.57   | \$38.66 |
| Suministro, fabricacion y montaje de conexiones a base de placa | KG     | 0.07     | \$36.05 | \$2.52  | 0.9299        | \$33.52   | \$2.35  |
| SUBTOTAL                                                        |        |          |         | \$39.04 |               |           | \$41.01 |
| <b>HERRAMIENTA MENOR</b>                                        |        |          |         |         |               |           |         |
|                                                                 | %      | 3.00%    |         | \$0.00  | 1.0600        | \$0.00    | \$0.00  |
|                                                                 |        |          |         |         |               |           |         |
| COSTO DIRECTO                                                   |        |          |         | \$39.04 |               |           | \$41.01 |
| INDIRECTOS 7%                                                   |        |          |         | \$2.73  |               |           | \$2.87  |
| COSTO FINANCIERO                                                |        |          |         | \$0.00  |               |           | \$0.00  |
| UTILIDAD 8%                                                     |        |          |         | \$3.34  |               |           | \$3.51  |
| 0.20% CMIC                                                      |        |          |         | \$0.09  |               |           | \$0.09  |
| PRECIO UNITARIO                                                 |        |          |         | \$45.20 |               |           | \$47.48 |





CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

CONCEPTO No. 10.6.12

Viga W12x45de 11.00m longitud en ejes 1 y 6, Nivel +15.40, anclada a alma de C-1, incluye placa PL-1A 0.59x0.32x9/16", PL-1B 0.50x0.32x9/16" y PL-1C 0.27x0.31x3/16" con dos orificios de 7/8" + 1/16" para pernos A325 en ambos extremos. Incluye acero, material, soldadura, equipo, herramientas, mano de obra y todo lo necesario para su correcta ejecucion. (Ver plano S06, S08, S09, CNX-1)P.U.O.T.

UNIDAD KG  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

| UNIDAD                                                          | CANTIDAD | COSTO           | IMPORTE                 | FACTOR AJUSTE | COSTO ACT | IMPORTE        |
|-----------------------------------------------------------------|----------|-----------------|-------------------------|---------------|-----------|----------------|
| <b>MATERIALES</b>                                               |          |                 |                         |               |           |                |
|                                                                 |          |                 | \$0.00                  | 1.0000        | \$0.00    | \$0.00         |
|                                                                 |          | <b>SUBTOTAL</b> | <b>\$0.00</b>           |               |           | <b>\$0.00</b>  |
| <b>MANO DE OBRA</b>                                             |          |                 |                         |               |           |                |
|                                                                 |          |                 | \$0.00                  | 1.0600        | \$0.00    | \$0.00         |
|                                                                 |          | <b>SUBTOTAL</b> | <b>\$0.00</b>           |               |           | <b>\$0.00</b>  |
| <b>EQUIPO</b>                                                   |          |                 |                         |               |           |                |
|                                                                 |          |                 | \$0.00                  | 1.0000        | \$0.00    | \$0.00         |
|                                                                 |          | <b>SUBTOTAL</b> | <b>\$0.00</b>           |               |           | <b>\$0.00</b>  |
| <b>AUXILIARES</b>                                               |          |                 |                         |               |           |                |
| Suministro, fabricacion y montaje de vigas a base de IPR        | KG       | 0.93            | \$39.27                 | 1.0585        | \$41.57   | \$38.66        |
| Suministro, fabricacion y montaje de conexiones a base de placa | KG       | 0.07            | \$36.05                 | 0.9299        | \$33.52   | \$2.35         |
|                                                                 |          | <b>SUBTOTAL</b> | <b>\$39.04</b>          |               |           | <b>\$41.01</b> |
| <b>HERRAMIENTA MENOR</b>                                        |          |                 |                         |               |           |                |
|                                                                 | %        | 3.00%           | \$0.00                  | 1.0600        | \$0.00    | \$0.00         |
|                                                                 |          |                 |                         |               |           |                |
|                                                                 |          |                 | <b>COSTO DIRECTO</b>    |               |           | <b>\$39.04</b> |
|                                                                 |          |                 | <b>INDIRECTOS 7%</b>    |               |           | <b>\$2.87</b>  |
|                                                                 |          |                 | <b>COSTO FINANCIERO</b> |               |           | <b>\$0.00</b>  |
|                                                                 |          |                 | <b>UTILIDAD 8%</b>      |               |           | <b>\$3.51</b>  |
|                                                                 |          |                 | <b>0.20% CMIC</b>       |               |           | <b>\$0.09</b>  |
|                                                                 |          |                 | <b>PRECIO UNITARIO</b>  |               |           | <b>\$47.48</b> |

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

CONCEPTO No. 10.6.15

Viga W12x45de 11.00m longitud en ejes 1 y 6, Nivel +15.40, anclada a alma de C-1, incluye placa PL-1A 0.59x0.32x9/16", PL-1B 0.50x0.32x9/16" y PL-1C 0.27x0.31x3/16" con dos orificios de 7/8" + 1/16" para pernos A325 en ambos extremos. Incluye acero, material, soldadura, equipo, herramientas, mano de obra y todo lo necesario para su correcta ejecucion. (Ver plano S06, S08, S09, CNX-1)P.U.O.T.

UNIDAD

KG

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                                                 | UNIDAD | CANTIDAD | COSTO   | IMPORTE        | FACTOR AJUSTE | COSTO ACT | IMPORTE        |
|-----------------------------------------------------------------|--------|----------|---------|----------------|---------------|-----------|----------------|
| <b>MATERIALES</b>                                               |        |          |         |                |               |           |                |
|                                                                 |        |          |         | \$0.00         | 1.0000        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                                 |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>MANO DE OBRA</b>                                             |        |          |         |                |               |           |                |
|                                                                 |        |          |         | \$0.00         | 1.0600        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                                 |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>EQUIPO</b>                                                   |        |          |         |                |               |           |                |
|                                                                 |        |          |         | \$0.00         | 1.0000        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                                 |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>AUXILIARES</b>                                               |        |          |         |                |               |           |                |
| Suministro, fabricacion y montaje de vigas a base de IPR        | KG     | 0.93     | \$39.27 | \$36.52        | 1.0585        | \$41.57   | \$38.66        |
| Suministro, fabricacion y montaje de conexiones a base de placa | KG     | 0.07     | \$36.05 | \$2.52         | 0.9299        | \$33.52   | \$2.35         |
| <b>SUBTOTAL</b>                                                 |        |          |         | <b>\$39.04</b> |               |           | <b>\$41.01</b> |
| <b>HERRAMIENTA MENOR</b>                                        |        |          |         |                |               |           |                |
|                                                                 | %      | 3.00%    |         | \$0.00         | 1.0600        | \$0.00    | \$0.00         |
| <b>COSTO DIRECTO</b>                                            |        |          |         | <b>\$39.04</b> |               |           | <b>\$41.01</b> |
| <b>INDIRECTOS 7%</b>                                            |        |          |         | <b>\$2.73</b>  |               |           | <b>\$2.87</b>  |
| <b>COSTO FINANCIERO</b>                                         |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>UTILIDAD 8%</b>                                              |        |          |         | <b>\$3.34</b>  |               |           | <b>\$3.51</b>  |
| <b>0.20% CMIC</b>                                               |        |          |         | <b>\$0.09</b>  |               |           | <b>\$0.09</b>  |
| <b>PRECIO UNITARIO</b>                                          |        |          |         | <b>\$45.20</b> |               |           | <b>\$47.48</b> |

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 10.7.1

Viga W24x76 de 11.00m longitud, eje 1 y 6 en Nivel +18.72, anclada a C-1, incluye Cnx-1M (PL-1MA 0.32x0.86x1 1/16", PL-1MB 0.32x0.77x1 1/16" y PL-1MC 0.61x0.27x5/16" con 5 orificios de 7/8" +1/16" para pernos A325) en ambos extremos. Incluye acero, material, soldadura, equipo, herramientas, mano de obra y todo lo necesario para su correcta ejecucion. (Ver plano S07, S08, CNX-1M) P.U.O.T.

UNIDAD

kg

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

| UNIDAD                                                                  | CANTIDAD | COSTO | IMPORTE        | FACTOR AJUSTE | COSTO ACT | IMPORTE        |
|-------------------------------------------------------------------------|----------|-------|----------------|---------------|-----------|----------------|
| <b>MATERIALES</b>                                                       |          |       |                |               |           |                |
|                                                                         |          |       | \$0.00         | 1.0000        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                                         |          |       | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>MANO DE OBRA</b>                                                     |          |       |                |               |           |                |
|                                                                         |          |       | \$0.00         | 1.0600        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                                         |          |       | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>EQUIPO</b>                                                           |          |       |                |               |           |                |
|                                                                         |          |       | \$0.00         | 1.0000        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                                         |          |       | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>AUXILIARES</b>                                                       |          |       |                |               |           |                |
| Suministro, fabricacion y montaje de conexiones a base de placa         | KG       | 0.09  | \$36.05        | 0.9299        | \$33.52   | \$3.02         |
| Suministro, fabricacion y montaje de vigas a base de IPR de Importacion | KG       | 0.91  | \$42.48        | 1.0555        | \$44.84   | \$40.80        |
| <b>SUBTOTAL</b>                                                         |          |       | <b>\$41.90</b> |               |           | <b>\$43.82</b> |
| <b>HERRAMIENTA MENOR</b>                                                |          |       |                |               |           |                |
|                                                                         | %        | 3.00% | \$0.00         | 1.0600        | \$0.00    | \$0.00         |
|                                                                         |          |       |                |               |           |                |
| <b>COSTO DIRECTO</b>                                                    |          |       | <b>\$41.90</b> |               |           | <b>\$43.82</b> |
| <b>INDIRECTOS 7%</b>                                                    |          |       | <b>\$2.93</b>  |               |           | <b>\$3.07</b>  |
| <b>COSTO FINANCIERO</b>                                                 |          |       | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>UTILIDAD 8%</b>                                                      |          |       | <b>\$3.59</b>  |               |           | <b>\$3.75</b>  |
| <b>0.20% CMIC</b>                                                       |          |       | <b>\$0.10</b>  |               |           | <b>\$0.10</b>  |
| <b>PRECIO UNITARIO</b>                                                  |          |       | <b>\$48.52</b> |               |           | <b>\$50.73</b> |





CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**

CONSTRUCCION

### ANÁLISIS DE PRECIOS UNITARIOS

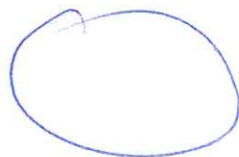
#### CONCEPTO No. 10.7.2

Viga W30x116 de 11.00m longitud, eje 3 en Nivel +18.72, anclada a C-2, incluye Cnx-2M (PL-2MA 0.32x1.18x 1 5/8", PL-2MB 0.32x1.07x1 5/8" y PL-2MC 0.76x0.35x5/8" con 10 orificios de 7/8" +1/16" para pernos A325) en ambos extremos. Incluye acero, material, soldadura, equipo, herramientas, mano de obra y todo lo necesario para su correcta ejecucion. (Ver plano S07, S08, CNX-2M) P.U.O.T.

UNIDAD kg  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                                         | UNIDAD | CANTIDAD | COSTO   | IMPORTE | FACTOR AJUSTE | COSTO ACT | IMPORTE |
|-------------------------------------------------------------------------|--------|----------|---------|---------|---------------|-----------|---------|
| <b>MATERIALES</b>                                                       |        |          |         |         |               |           |         |
|                                                                         |        |          |         | \$0.00  | 1.0000        | \$0.00    | \$0.00  |
| SUBTOTAL                                                                |        |          |         | \$0.00  |               |           | \$0.00  |
| <b>MANO DE OBRA</b>                                                     |        |          |         |         |               |           |         |
|                                                                         |        |          |         | \$0.00  | 1.0600        | \$0.00    | \$0.00  |
| SUBTOTAL                                                                |        |          |         | \$0.00  |               |           | \$0.00  |
| <b>EQUIPO</b>                                                           |        |          |         |         |               |           |         |
|                                                                         |        |          |         | \$0.00  | 1.0000        | \$0.00    | \$0.00  |
| SUBTOTAL                                                                |        |          |         | \$0.00  |               |           | \$0.00  |
| <b>AUXILIARES</b>                                                       |        |          |         |         |               |           |         |
| Suministro, fabricacion y montaje de conexiones a base de placa         | KG     | 0.09     | \$36.05 | \$3.24  | 0.9299        | \$33.52   | \$3.02  |
| Suministro, fabricacion y montaje de vigas a base de IPR de Importacion | KG     | 0.91     | \$42.48 | \$38.66 | 1.0555        | \$44.84   | \$40.80 |
| SUBTOTAL                                                                |        |          |         | \$41.90 |               |           | \$43.82 |
| <b>HERRAMIENTA MENOR</b>                                                |        |          |         |         |               |           |         |
|                                                                         | %      | 3.00%    |         | \$0.00  | 1.0600        | \$0.00    | \$0.00  |
|                                                                         |        |          |         |         |               |           |         |
| COSTO DIRECTO                                                           |        |          |         | \$41.90 |               |           | \$43.82 |
| INDIRECTOS 7%                                                           |        |          |         | \$2.93  |               |           | \$3.07  |
| COSTO FINANCIERO                                                        |        |          |         | \$0.00  |               |           | \$0.00  |
| UTILIDAD 8%                                                             |        |          |         | \$3.59  |               |           | \$3.75  |
| 0.20% CMIC                                                              |        |          |         | \$0.10  |               |           | \$0.10  |
| PRECIO UNITARIO                                                         |        |          |         | \$48.52 |               |           | \$50.73 |



CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 10.7.3

Viga W12x58 de 9.80m longitud, ejes D, E y F en Nivel +18.72, anclada a C-1 y C-2, incluye Cnx-3M (PL-3MA 0.78x0.29x1/2", PL-3MB 0.58x0.22x7/16" y 2L 3"x3"x3/8"x0.12) y Cnx-4M ( PL-4MA 0.83x0.29x9/16", PL-4MB 0.62x0.22x1/2", PL-4MC 0.34x0.32x3/8" y 2L 3"x3"x3/8"x0.12). Incluye acero, material, soldadura, equipo, herramientas, mano de obra y todo lo necesario para su correcta ejecucion. (Ver plano S06, S09, CNX-3M y CNX-4M) P.U.O.T.

UNIDAD kg  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                                 | UNIDAD | CANTIDAD | COSTO           | IMPORTE                 | FACTOR AJUSTE | COSTO ACT | IMPORTE        |
|-----------------------------------------------------------------|--------|----------|-----------------|-------------------------|---------------|-----------|----------------|
| <b>MATERIALES</b>                                               |        |          |                 |                         |               |           |                |
|                                                                 |        |          |                 | \$0.00                  | 1.0000        | \$0.00    | \$0.00         |
|                                                                 |        |          | <b>SUBTOTAL</b> | <b>\$0.00</b>           |               |           | <b>\$0.00</b>  |
| <b>MANO DE OBRA</b>                                             |        |          |                 |                         |               |           |                |
|                                                                 |        |          |                 | \$0.00                  | 1.0600        | \$0.00    | \$0.00         |
|                                                                 |        |          | <b>SUBTOTAL</b> | <b>\$0.00</b>           |               |           | <b>\$0.00</b>  |
| <b>EQUIPO</b>                                                   |        |          |                 |                         |               |           |                |
|                                                                 |        |          |                 | \$0.00                  | 1.0000        | \$0.00    | \$0.00         |
|                                                                 |        |          | <b>SUBTOTAL</b> | <b>\$0.00</b>           |               |           | <b>\$0.00</b>  |
| <b>AUXILIARES</b>                                               |        |          |                 |                         |               |           |                |
| Suministro, fabricacion y montaje de vigas a base de IPR        | KG     | 0.93     | \$39.27         | \$36.52                 | 1.0585        | \$41.55   | \$38.64        |
| Suministro, fabricacion y montaje de conexiones a base de placa | KG     | 0.07     | \$36.05         | \$2.52                  | 0.9299        | \$33.52   | \$2.35         |
|                                                                 |        |          | <b>SUBTOTAL</b> | <b>\$39.04</b>          |               |           | <b>\$40.99</b> |
| <b>HERRAMIENTA MENOR</b>                                        |        |          |                 |                         |               |           |                |
|                                                                 | %      | 3.00%    |                 | \$0.00                  | 1.0600        | \$0.00    | \$0.00         |
|                                                                 |        |          |                 | <b>COSTO DIRECTO</b>    |               |           | <b>\$40.99</b> |
|                                                                 |        |          |                 | <b>INDIRECTOS 7%</b>    |               |           | <b>\$2.87</b>  |
|                                                                 |        |          |                 | <b>COSTO FINANCIERO</b> |               |           | <b>\$0.00</b>  |
|                                                                 |        |          |                 | <b>UTILIDAD 8%</b>      |               |           | <b>\$3.51</b>  |
|                                                                 |        |          |                 | <b>0.20% CMIC</b>       |               |           | <b>\$0.09</b>  |
|                                                                 |        |          |                 | <b>PRECIO UNITARIO</b>  |               |           | <b>\$47.45</b> |

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 10.7.4

Viga W12x65 de 9.80m longitud, ejes D-a F en Nivel +18.72, anclada a W24x76 y W30x116, incluye Cnx-5M (2L 3"x3"x3/8"x0.12) y Cnx-6M (2L 3"x3"x3/8"x0.12). Incluye acero, material, soldadura, equipo, herramientas, mano de obra y todo lo necesario para su correcta ejecucion. (Ver plano S06, S09, CNX-5M y CNX-6M) P.U.O.T.

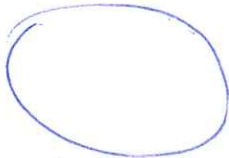
UNIDAD kg  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                                                 | UNIDAD | CANTIDAD | COSTO   | IMPORTE | FACTOR AJUSTE | COSTO ACT | IMPORTE |
|-----------------------------------------------------------------|--------|----------|---------|---------|---------------|-----------|---------|
| <b>MATERIALES</b>                                               |        |          |         |         |               |           |         |
|                                                                 |        |          |         | \$0.00  | 1.0000        | \$0.00    | \$0.00  |
| SUBTOTAL                                                        |        |          |         | \$0.00  |               |           | \$0.00  |
| <b>MANO DE OBRA</b>                                             |        |          |         |         |               |           |         |
|                                                                 |        |          |         | \$0.00  | 1.0600        | \$0.00    | \$0.00  |
| SUBTOTAL                                                        |        |          |         | \$0.00  |               |           | \$0.00  |
| <b>EQUIPO</b>                                                   |        |          |         |         |               |           |         |
|                                                                 |        |          |         | \$0.00  | 1.0000        | \$0.00    | \$0.00  |
| SUBTOTAL                                                        |        |          |         | \$0.00  |               |           | \$0.00  |
| <b>AUXILIARES</b>                                               |        |          |         |         |               |           |         |
| Suministro, fabricacion y montaje de vigas a base de IPR        | KG     | 0.93     | \$39.27 | \$36.52 | 1.0585        | \$41.55   | \$38.64 |
| Suministro, fabricacion y montaje de conexiones a base de placa | KG     | 0.07     | \$36.05 | \$2.52  | 0.9299        | \$33.52   | \$2.35  |
| SUBTOTAL                                                        |        |          |         | \$39.04 |               |           | \$40.99 |
| <b>HERRAMIENTA MENOR</b>                                        |        |          |         |         |               |           |         |
|                                                                 | %      | 3.00%    |         | \$0.00  | 1.0600        | \$0.00    | \$0.00  |
| COSTO DIRECTO                                                   |        |          |         | \$39.04 |               |           | \$40.99 |
| INDIRECTOS 7%                                                   |        |          |         | \$2.73  |               |           | \$2.87  |
| COSTO FINANCIERO                                                |        |          |         | \$0.00  |               |           | \$0.00  |
| UTILIDAD 8%                                                     |        |          |         | \$3.34  |               |           | \$3.51  |
| 0.20% CMIC                                                      |        |          |         | \$0.09  |               |           | \$0.09  |
| PRECIO UNITARIO                                                 |        |          |         | \$45.20 |               |           | \$47.45 |





CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

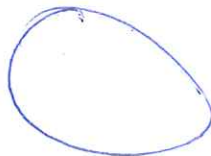
#### CONCEPTO No. 10.8.1

Armadura ARM-1 de 9.80m longitud, ejes A, B y C en Nivel +22.90, Cuerda Superior e inferior a base de 2L 3 1/2" x 3 1/2" X 5/16", montante de 2L 2" x 2" X 3/16" y diagonales de 2L 3 1/2" x 3 1/2" X 1/4" y 2L 2 1/2" x 2 1/2" X 3/16" ). Incluye acero, material, soldadura, equipo, herramientas, mano de obra y todo lo necesario para su correcta ejecucion. (Ver plano S09) P.U.O.T.

UNIDAD kg  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                                | UNIDAD | CANTIDAD | COSTO   | IMPORTE        | FACTOR AJUSTE | COSTO ACT | IMPORTE        |
|----------------------------------------------------------------|--------|----------|---------|----------------|---------------|-----------|----------------|
| <b>MATERIALES</b>                                              |        |          |         |                |               |           |                |
|                                                                |        |          |         | \$0.00         | 1.0000        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                                |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>MANO DE OBRA</b>                                            |        |          |         |                |               |           |                |
|                                                                |        |          |         | \$0.00         | 1.0600        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                                |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>EQUIPO</b>                                                  |        |          |         |                |               |           |                |
|                                                                |        |          |         | \$0.00         | 1.0000        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                                |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>AUXILIARES</b>                                              |        |          |         |                |               |           |                |
| Suministro, fabricación y montaje de armadura a base de ángulo | kg     | 1        | \$38.93 | \$38.93        | 1.0519        | \$40.95   | \$40.95        |
| <b>SUBTOTAL</b>                                                |        |          |         | <b>\$38.93</b> |               |           | <b>\$40.95</b> |
| <b>HERRAMIENTA MENOR</b>                                       |        |          |         |                |               |           |                |
|                                                                | %      | 3.00%    |         | \$0.00         | 1.0600        | \$0.00    | \$0.00         |
|                                                                |        |          |         |                |               |           |                |
| <b>COSTO DIRECTO</b>                                           |        |          |         | <b>\$38.93</b> |               |           | <b>\$40.95</b> |
| <b>INDIRECTOS 7%</b>                                           |        |          |         | <b>\$2.73</b>  |               |           | <b>\$2.87</b>  |
| <b>COSTO FINANCIERO</b>                                        |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>UTILIDAD 8%</b>                                             |        |          |         | <b>\$3.33</b>  |               |           | <b>\$3.51</b>  |
| <b>0.20% CMIC</b>                                              |        |          |         | <b>\$0.09</b>  |               |           | <b>\$0.09</b>  |
| <b>PRECIO UNITARIO</b>                                         |        |          |         | <b>\$45.08</b> |               |           | <b>\$47.42</b> |



CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 10.8.2

Armadura ARM-2 de 9.80m longitud, ejes D y E en Nivel +22.90, Cuerda Superior e inferior a base de 2L 3" x 3" X 5/16", montante de 2L 2" x 2" X 3/16" y diagonales de 2L 3 1/2" x 3 1/2" X 1/4" y 2L 2 1/2" x 2 1/2" X 3/16" ). Incluye acero, material, soldadura, equipo, herramientas, mano de obra y todo lo necesario para su correcta ejecucion. (Ver plano S09) P.U.O.T.

UNIDAD

kg

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                                                | UNIDAD | CANTIDAD | COSTO   | IMPORTE                 | FACTOR AJUSTE | COSTO ACT | IMPORTE        |
|----------------------------------------------------------------|--------|----------|---------|-------------------------|---------------|-----------|----------------|
| <b>MATERIALES</b>                                              |        |          |         |                         |               |           |                |
|                                                                |        |          |         | \$0.00                  | 1.0000        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                                |        |          |         | <b>\$0.00</b>           |               |           | <b>\$0.00</b>  |
| <b>MANO DE OBRA</b>                                            |        |          |         |                         |               |           |                |
|                                                                |        |          |         | \$0.00                  | 1.0600        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                                |        |          |         | <b>\$0.00</b>           |               |           | <b>\$0.00</b>  |
| <b>EQUIPO</b>                                                  |        |          |         |                         |               |           |                |
|                                                                |        |          |         | \$0.00                  | 1.0000        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                                |        |          |         | <b>\$0.00</b>           |               |           | <b>\$0.00</b>  |
| <b>AUXILIARES</b>                                              |        |          |         |                         |               |           |                |
| Suministro, fabricación y montaje de armadura a base de ángulo | kg     | 1        | \$38.93 | \$38.93                 | 1.0519        | \$40.95   | \$40.95        |
| <b>SUBTOTAL</b>                                                |        |          |         | <b>\$38.93</b>          |               |           | <b>\$40.95</b> |
| <b>HERRAMIENTA MENOR</b>                                       |        |          |         |                         |               |           |                |
|                                                                | %      | 3.00%    |         | \$0.00                  | 1.0600        | \$0.00    | \$0.00         |
|                                                                |        |          |         | <b>COSTO DIRECTO</b>    |               |           | <b>\$40.95</b> |
|                                                                |        |          |         | <b>INDIRECTOS 7%</b>    |               |           | <b>\$2.87</b>  |
|                                                                |        |          |         | <b>COSTO FINANCIERO</b> |               |           | <b>\$0.00</b>  |
|                                                                |        |          |         | <b>UTILIDAD 8%</b>      |               |           | <b>\$3.51</b>  |
|                                                                |        |          |         | <b>0.20% CMIC</b>       |               |           | <b>\$0.09</b>  |
|                                                                |        |          |         | <b>PRECIO UNITARIO</b>  |               |           | <b>\$47.42</b> |

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Signature

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

CONCEPTO No. 10.8.3

Conexion de Armadura ARM-1 y ARM-2 a C-1 y C-2 en Nivel +22.90, a base de (Atieizador PL 0.32x0.18x1/4" A36, Silleta PL 8"x6"x3/4", Asiento Silleta PL 6"x6"x3/4", Base PL 10"x6"x3/4", Ménsula PL 9.84"x6"x3/4", Placa inferior PL 6"x6"x3/4" A36. Incluye acero, material, soldadura, equipo, herramientas, mano de obra y todo lo necesario para su correcta ejecución. (Ver plano S09) P.U.O.T.

UNIDAD PZA  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                                | UNIDAD | CANTIDAD | COSTO   | IMPORTE                 | FACTOR AJUSTE | COSTO ACT | IMPORTE           |
|----------------------------------------------------------------|--------|----------|---------|-------------------------|---------------|-----------|-------------------|
| <b>MATERIALES</b>                                              |        |          |         |                         |               |           |                   |
|                                                                |        |          |         | \$0.00                  | 1.0000        | \$0.00    | \$0.00            |
|                                                                |        |          |         | <b>SUBTOTAL</b>         |               |           | <b>\$0.00</b>     |
| <b>MANO DE OBRA</b>                                            |        |          |         |                         |               |           |                   |
|                                                                |        |          |         | \$0.00                  | 1.0600        | \$0.00    | \$0.00            |
|                                                                |        |          |         | <b>SUBTOTAL</b>         |               |           | <b>\$0.00</b>     |
| <b>EQUIPO</b>                                                  |        |          |         |                         |               |           |                   |
|                                                                |        |          |         | \$0.00                  | 1.0000        | \$0.00    | \$0.00            |
|                                                                |        |          |         | <b>SUBTOTAL</b>         |               |           | <b>\$0.00</b>     |
| <b>AUXILIARES</b>                                              |        |          |         |                         |               |           |                   |
| Suministro, fabricación y montaje de armadura a base de ángulo | kg     | 115.868  | \$36.05 | \$4,177.04              | 0.9299        | \$33.52   | \$3,883.90        |
|                                                                |        |          |         | <b>SUBTOTAL</b>         |               |           | <b>\$3,883.90</b> |
| <b>HERRAMIENTA MENOR</b>                                       |        |          |         |                         |               |           |                   |
|                                                                | %      | 3.00%    |         | \$0.00                  | 1.0600        | \$0.00    | \$0.00            |
|                                                                |        |          |         | <b>COSTO DIRECTO</b>    |               |           | <b>\$3,883.90</b> |
|                                                                |        |          |         | <b>INDIRECTOS 7%</b>    |               |           | <b>\$271.87</b>   |
|                                                                |        |          |         | <b>COSTO FINANCIERO</b> |               |           | <b>\$0.00</b>     |
|                                                                |        |          |         | <b>UTILIDAD 8%</b>      |               |           | <b>\$332.46</b>   |
|                                                                |        |          |         | <b>0.20% CMIC</b>       |               |           | <b>\$8.98</b>     |
|                                                                |        |          |         | <b>PRECIO UNITARIO</b>  |               |           | <b>\$4,497.20</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 10.8.4

Joist -1a de 10.98m longitud, ejes A- E en Nivel +22.90, Cuerda Superior a base de 2L 1 1/2"X 1 1/2"X1/8" y cuerda inferior a base de 2L 1" X 1"X 1/8", diagonales de 1L 3/4"x 3/4"X1/8", 1L 7/8" x 7/8" X 1/8" y 1L 1" x 1" X 1/8". Incluye acero, conexión a armadura, material, soldadura, equipo, herramientas, mano de obra y todo lo necesario para su correcta ejecución. (Ver plano S10) P.U.O.T.

UNIDAD KG  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                                   | UNIDAD | CANTIDAD | COSTO   | IMPORTE        | FACTOR AJUSTE | COSTO ACT | IMPORTE        |
|---------------------------------------------------|--------|----------|---------|----------------|---------------|-----------|----------------|
| <b>MATERIALES</b>                                 |        |          |         |                |               |           |                |
|                                                   |        |          |         | \$0.00         | 1.0000        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                   |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>MANO DE OBRA</b>                               |        |          |         |                |               |           |                |
|                                                   |        |          |         | \$0.00         | 1.0600        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                   |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>EQUIPO</b>                                     |        |          |         |                |               |           |                |
|                                                   |        |          |         | \$0.00         | 1.0000        | \$0.00    | \$0.00         |
| <b>SUBTOTAL</b>                                   |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>AUXILIARES</b>                                 |        |          |         |                |               |           |                |
| Suministro, fabricacion y montaje de Joist tipo K | KG     | 1        | \$38.17 | \$38.17        | 1.0507        | \$40.11   | \$40.11        |
| <b>SUBTOTAL</b>                                   |        |          |         | <b>\$38.17</b> |               |           | <b>\$40.11</b> |
| <b>HERRAMIENTA MENOR</b>                          |        |          |         |                |               |           |                |
|                                                   | %      | 3.00%    |         | \$0.00         | 1.0600        | \$0.00    | \$0.00         |
| <b>COSTO DIRECTO</b>                              |        |          |         | <b>\$38.17</b> |               |           | <b>\$40.11</b> |
| <b>INDIRECTOS 7%</b>                              |        |          |         | <b>\$2.67</b>  |               |           | <b>\$2.81</b>  |
| <b>COSTO FINANCIERO</b>                           |        |          |         | <b>\$0.00</b>  |               |           | <b>\$0.00</b>  |
| <b>UTILIDAD 8%</b>                                |        |          |         | <b>\$3.27</b>  |               |           | <b>\$3.43</b>  |
| <b>0.20% CMIC</b>                                 |        |          |         | <b>\$0.09</b>  |               |           | <b>\$0.09</b>  |
| <b>PRECIO UNITARIO</b>                            |        |          |         | <b>\$44.20</b> |               |           | <b>\$46.44</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 13.1.1

Columna de concreto Co-1 de 0.66x0.66x1.00m armado con 16 varillas No. 8, estribos No. 4 @ 0.30m exterior + dos ganchos No. 4 @ 0.30 interior. Concreto F'c=250 Kg/cm2, acero F'y= 4200Kg/cm2, incluye concreto, acero de refuerzo, cimbra, material, equipo, herramientas, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. (Ver plano SE01) P.U.O.T.

UNIDAD M  
 FECHA COTIZACION 26 DE NOV DE 2019

#### ACTUALIZACION A:

2020

ABRIL

|                                                          | UNIDAD | CANTIDAD | COSTO           | IMPORTE                 | FACTOR AJUSTE | COSTO ACT  | IMPORTE           |
|----------------------------------------------------------|--------|----------|-----------------|-------------------------|---------------|------------|-------------------|
| <b>MATERIALES</b>                                        |        |          |                 |                         |               |            |                   |
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM APASCO | M3     | 0.46     | \$1,330.00      | \$611.80                | 1.0160        | \$1,351.28 | \$621.59          |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                   | M3     | 0.46     | \$260.00        | \$119.60                | 1.1522        | \$299.57   | \$137.80          |
|                                                          |        |          | <b>SUBTOTAL</b> | <b>\$731.40</b>         |               |            | <b>\$759.39</b>   |
| <b>MANO DE OBRA</b>                                      |        |          |                 |                         |               |            |                   |
|                                                          |        |          |                 | \$0.00                  | 1.0600        | \$0.00     | \$0.00            |
|                                                          |        |          | <b>SUBTOTAL</b> | <b>\$0.00</b>           |               |            | <b>\$0.00</b>     |
| <b>EQUIPO</b>                                            |        |          |                 |                         |               |            |                   |
|                                                          |        |          |                 | \$0.00                  | 1.0000        | \$0.00     | \$0.00            |
|                                                          |        |          | <b>SUBTOTAL</b> | <b>\$0.00</b>           |               |            | <b>\$0.00</b>     |
| <b>AUXILIARES</b>                                        |        |          |                 |                         |               |            |                   |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN   | KG     | 86       | \$18.15         | \$1,560.90              | 1.0930        | \$19.84    | \$1,706.24        |
| CIMBRA EN COLUMNAS Y TRABES                              | M2     | 2.64     | \$308.99        | \$815.73                | 1.0297        | \$318.17   | \$839.97          |
| COLADO DE CONCRETO PREMEZCLADO EN ALBAÑILERIA            | M3     | 0.44     | \$307.04        | \$135.10                | 1.0631        | \$326.41   | \$143.62          |
|                                                          |        |          | <b>SUBTOTAL</b> | <b>\$2,511.73</b>       |               |            | <b>\$2,689.83</b> |
| HERRAMIENTA MENOR                                        | %      | 3.00%    |                 | \$0.00                  | 1.0600        | \$0.00     | \$0.00            |
|                                                          |        |          |                 | <b>COSTO DIRECTO</b>    |               |            | <b>\$3,449.22</b> |
|                                                          |        |          |                 | <b>INDIRECTOS 7%</b>    |               |            | <b>\$241.45</b>   |
|                                                          |        |          |                 | <b>COSTO FINANCIERO</b> |               |            | <b>\$0.00</b>     |
|                                                          |        |          |                 | <b>UTILIDAD 8%</b>      |               |            | <b>\$295.25</b>   |
|                                                          |        |          |                 | <b>0.20% CMIC</b>       |               |            | <b>\$7.97</b>     |
|                                                          |        |          |                 | <b>PRECIO UNITARIO</b>  |               |            | <b>\$3,993.89</b> |

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Signature

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 13.1.3

Trabe TP-1 de 0.30x0.50 m con concreto F'c=250kg/cm2, armada con 3 varillas # 5 LI + 4 varillas # 8 LS, y estribos #3 @ 15 cms, incluye material, concreto, acero, cimbra, mano de obra, herramienta y todo lo necesario para su correcta ejecucion. (Ver plano SE05 para armado al detalle) P.U.O.T.

UNIDAD

M

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                                          | UNIDAD | CANTIDAD | COSTO      | IMPORTE         | FACTOR AJUSTE | COSTO ACT  | IMPORTE         |
|----------------------------------------------------------|--------|----------|------------|-----------------|---------------|------------|-----------------|
| <b>MATERIALES</b>                                        |        |          |            |                 |               |            |                 |
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM APASCO | M3     | 0.158    | \$1,330.00 | \$210.14        | 1.0160        | \$1,351.28 | \$213.50        |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                   | M3     | 0.158    | \$260.00   | \$41.08         | 1.1522        | \$299.57   | \$47.33         |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$251.22</b> |               |            | <b>\$260.83</b> |

|                     |  |  |  |               |        |        |               |
|---------------------|--|--|--|---------------|--------|--------|---------------|
| <b>MANO DE OBRA</b> |  |  |  |               |        |        |               |
|                     |  |  |  | \$0.00        | 1.0600 | \$0.00 | \$0.00        |
| <b>SUBTOTAL</b>     |  |  |  | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|                 |  |  |  |               |        |        |               |
|-----------------|--|--|--|---------------|--------|--------|---------------|
| <b>EQUIPO</b>   |  |  |  |               |        |        |               |
|                 |  |  |  | \$0.00        | 1.0000 | \$0.00 | \$0.00        |
| <b>SUBTOTAL</b> |  |  |  | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|                                                        |    |      |          |                 |        |          |                 |
|--------------------------------------------------------|----|------|----------|-----------------|--------|----------|-----------------|
| <b>AUXILIARES</b>                                      |    |      |          |                 |        |          |                 |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN | KG | 24.5 | \$18.15  | \$444.68        | 1.0930 | \$19.84  | \$486.08        |
| CIMBRA EN COLUMNAS Y TRABES                            | M2 | 1.3  | \$308.99 | \$401.69        | 1.0297 | \$318.17 | \$413.62        |
| COLADO DE CONCRETO PREMEZCLADO EN ALBAÑILERIA          | M3 | 0.15 | \$307.04 | \$46.06         | 1.0631 | \$326.41 | \$48.96         |
| <b>SUBTOTAL</b>                                        |    |      |          | <b>\$892.42</b> |        |          | <b>\$948.66</b> |

|                   |   |       |  |        |        |        |        |
|-------------------|---|-------|--|--------|--------|--------|--------|
| HERRAMIENTA MENOR | % | 3.00% |  | \$0.00 | 1.0600 | \$0.00 | \$0.00 |
|-------------------|---|-------|--|--------|--------|--------|--------|

|                        |                   |                   |
|------------------------|-------------------|-------------------|
| COSTO DIRECTO          | \$1,143.64        | \$1,209.49        |
| INDIRECTOS 7%          | \$80.05           | \$84.66           |
| COSTO FINANCIERO       | \$0.00            | \$0.00            |
| UTILIDAD 8%            | \$97.90           | \$103.53          |
| 0.20% CMIC             | \$2.64            | \$2.80            |
| <b>PRECIO UNITARIO</b> | <b>\$1,324.25</b> | <b>\$1,400.48</b> |



CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 13.1.4

Trabe TE-2 de 0.30x0.45 m con concreto F'c=250kg/cm2, armada con 4 varillas # 4 LI + 4 varillas # 5 LS estribos #3 @ 30 cms, incluye material, concreto, acero, cimbra, mano de obra, herramienta y todo lo necesario para su correcta ejecucion. (Ver plano SE05 para armado al detalle) P.U.O.T.

UNIDAD  
 FECHA COTIZACION

ML  
 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                          | UNIDAD | CANTIDAD | COSTO      | IMPORTE         | FACTOR AJUSTE | COSTO ACT  | IMPORTE         |
|----------------------------------------------------------|--------|----------|------------|-----------------|---------------|------------|-----------------|
| <b>MATERIALES</b>                                        |        |          |            |                 |               |            |                 |
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM APASCO | M3     | 0.142    | \$1,330.00 | \$188.86        | 1.0160        | \$1,351.28 | \$191.88        |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                   | M3     | 0.142    | \$260.00   | \$36.92         | 1.1522        | \$299.57   | \$42.54         |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$225.78</b> |               |            | <b>\$234.42</b> |

|                     |  |  |  |               |        |        |               |
|---------------------|--|--|--|---------------|--------|--------|---------------|
| <b>MANO DE OBRA</b> |  |  |  |               |        |        |               |
|                     |  |  |  | \$0.00        | 1.0600 | \$0.00 | \$0.00        |
| <b>SUBTOTAL</b>     |  |  |  | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|                 |  |  |  |               |        |        |               |
|-----------------|--|--|--|---------------|--------|--------|---------------|
| <b>EQUIPO</b>   |  |  |  |               |        |        |               |
|                 |  |  |  | \$0.00        | 1.0000 | \$0.00 | \$0.00        |
| <b>SUBTOTAL</b> |  |  |  | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|                                                        |    |       |          |                 |        |          |                 |
|--------------------------------------------------------|----|-------|----------|-----------------|--------|----------|-----------------|
| <b>AUXILIARES</b>                                      |    |       |          |                 |        |          |                 |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN | KG | 13.6  | \$18.15  | \$246.84        | 1.0930 | \$19.84  | \$269.82        |
| CIMBRA EN COLUMNAS Y TRABES                            | M2 | 1.2   | \$308.99 | \$370.79        | 1.0297 | \$318.17 | \$381.80        |
| COLADO DE CONCRETO PREMEZCLADO EN ALBAÑILERIA          | M3 | 0.135 | \$307.04 | \$41.45         | 1.0631 | \$326.41 | \$44.07         |
| <b>SUBTOTAL</b>                                        |    |       |          | <b>\$659.08</b> |        |          | <b>\$695.69</b> |
| HERRAMIENTA MENOR                                      | %  | 3.00% |          | \$0.00          | 1.0600 | \$0.00   | \$0.00          |

|                        |                   |                   |
|------------------------|-------------------|-------------------|
| COSTO DIRECTO          | \$884.86          | \$930.11          |
| INDIRECTOS 7%          | \$61.94           | \$65.11           |
| COSTO FINANCIERO       | \$0.00            | \$0.00            |
| UTILIDAD 8%            | \$75.74           | \$79.62           |
| 0.20% CMIC             | \$2.05            | \$2.15            |
| <b>PRECIO UNITARIO</b> | <b>\$1,024.59</b> | <b>\$1,076.98</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 13.1.5

Trabe TE-H de 0.30x0.45 m con concreto F'c=250kg/cm2, armada con 4 varillas # 4 LI, + 4 varillas # 4 LS ( 4 varillas # 7 en LS ejes 1 y 6) , estribos # 3 @ 30 cms, incluye material, concreto, acero, cimbra, mano de obra, herramienta y todo lo necesario para su correcta ejecucion.(Ver plano SE05 para armado al detalle) P.U.O.T.

UNIDAD ML  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                          | UNIDAD | CANTIDAD | COSTO           | IMPORTE                 | FACTOR AJUSTE | COSTO ACT  | IMPORTE           |
|----------------------------------------------------------|--------|----------|-----------------|-------------------------|---------------|------------|-------------------|
| <b>MATERIALES</b>                                        |        |          |                 |                         |               |            |                   |
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM APASCO | M3     | 0.142    | \$1,330.00      | \$188.86                | 1.0160        | \$1,351.28 | \$191.88          |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                   | M3     | 0.142    | \$260.00        | \$36.92                 | 1.1522        | \$299.57   | \$42.54           |
|                                                          |        |          | <b>SUBTOTAL</b> | <b>\$225.78</b>         |               |            | <b>\$234.42</b>   |
| <b>MANO DE OBRA</b>                                      |        |          |                 |                         |               |            |                   |
|                                                          |        |          |                 | \$0.00                  | 1.0600        | \$0.00     | \$0.00            |
|                                                          |        |          | <b>SUBTOTAL</b> | <b>\$0.00</b>           |               |            | <b>\$0.00</b>     |
| <b>EQUIPO</b>                                            |        |          |                 |                         |               |            |                   |
|                                                          |        |          |                 | \$0.00                  | 1.0000        | \$0.00     | \$0.00            |
|                                                          |        |          | <b>SUBTOTAL</b> | <b>\$0.00</b>           |               |            | <b>\$0.00</b>     |
| <b>AUXILIARES</b>                                        |        |          |                 |                         |               |            |                   |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN   | KG     | 14.5     | \$18.15         | \$263.18                | 1.0930        | \$19.84    | \$287.68          |
| CIMBRA EN COLUMNAS Y TRABES                              | M2     | 1.2      | \$308.99        | \$370.79                | 1.0297        | \$318.17   | \$381.80          |
| COLADO DE CONCRETO PREMEZCLADO EN ALBAÑILERIA            | M3     | 0.135    | \$307.04        | \$41.45                 | 1.0631        | \$326.41   | \$44.07           |
|                                                          |        |          | <b>SUBTOTAL</b> | <b>\$675.41</b>         |               |            | <b>\$713.55</b>   |
| HERRAMIENTA MENOR                                        | %      | 3.00%    |                 | \$0.00                  | 1.0600        | \$0.00     | \$0.00            |
|                                                          |        |          |                 | <b>COSTO DIRECTO</b>    |               |            | <b>\$947.97</b>   |
|                                                          |        |          |                 | <b>INDIRECTOS 7%</b>    |               |            | <b>\$66.36</b>    |
|                                                          |        |          |                 | <b>COSTO FINANCIERO</b> |               |            | <b>\$0.00</b>     |
|                                                          |        |          |                 | <b>UTILIDAD 8%</b>      |               |            | <b>\$81.15</b>    |
|                                                          |        |          |                 | <b>0.20% CMIC</b>       |               |            | <b>\$2.19</b>     |
|                                                          |        |          |                 | <b>PRECIO UNITARIO</b>  |               |            | <b>\$1,097.67</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK



**PROURVIKA**  
CONSTRUYENDO EL FUTURO

CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
CONTRATO No. C.O.P.-080-2019-P

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 13.1.6

Losa de entrepiso N+ 14.42, de concreto de 0.265 m espesor armado según planos estructurales. Concreto premezclado F'c= 250kg/cm2, acero F'y=4200 kg/cm2. Incluye acero para banda rígida en huecos para instalaciones. Incluye: concreto, acero, material, cimbra, mano de obra, herramienta y todo lo necesario para su correcta ejecución. (Ver planos SE05, SE06, SE07, SE08), P.U.O.T.

UNIDAD  
FECHA COTIZACION

M2  
26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                                          | UNIDAD | CANTIDAD | COSTO      | IMPORTE         | FACTOR AJUSTE | COSTO ACT  | IMPORTE         |
|----------------------------------------------------------|--------|----------|------------|-----------------|---------------|------------|-----------------|
| <b>MATERIALES</b>                                        |        |          |            |                 |               |            |                 |
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM APASCO | M3     | 0.273    | \$1,330.00 | \$363.09        | 1.0160        | \$1,351.28 | \$368.90        |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                   | M3     | 0.273    | \$260.00   | \$70.98         | 1.1522        | \$299.57   | \$81.78         |
| CELOTEX 1/2"                                             | M2     | 0.1      | \$46.50    | \$4.65          | 1.0447        | \$48.58    | \$4.86          |
| SELLADO ELASTOMERICO                                     | ML     | 0.1      | \$24.00    | \$2.40          | 1.0470        | \$25.13    | \$2.51          |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$441.12</b> |               |            | <b>\$458.05</b> |

|                     |  |  |  |               |        |        |               |
|---------------------|--|--|--|---------------|--------|--------|---------------|
| <b>MANO DE OBRA</b> |  |  |  |               |        |        |               |
|                     |  |  |  | \$0.00        | 1.0600 | \$0.00 | \$0.00        |
| <b>SUBTOTAL</b>     |  |  |  | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|                 |  |  |  |               |        |        |               |
|-----------------|--|--|--|---------------|--------|--------|---------------|
| <b>EQUIPO</b>   |  |  |  |               |        |        |               |
|                 |  |  |  | \$0.00        | 1.0000 | \$0.00 | \$0.00        |
| <b>SUBTOTAL</b> |  |  |  | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|                                                        |    |       |          |                 |        |          |                 |
|--------------------------------------------------------|----|-------|----------|-----------------|--------|----------|-----------------|
| <b>AUXILIARES</b>                                      |    |       |          |                 |        |          |                 |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN | KG | 20    | \$18.15  | \$363.00        | 1.0930 | \$19.84  | \$396.80        |
| CIMBRA EN LOSA                                         | M2 | 1     | \$242.75 | \$242.75        | 1.0244 | \$248.67 | \$248.67        |
| COLADO EN LOSA                                         | M2 | 1     | \$93.18  | \$93.18         | 1.0608 | \$98.85  | \$98.85         |
| CURADO DE CONCRETO                                     | M2 | 1     | \$3.32   | \$3.32          | 1.0652 | \$3.54   | \$3.54          |
| <b>SUBTOTAL</b>                                        |    |       |          | <b>\$702.25</b> |        |          | <b>\$747.86</b> |
|                                                        |    |       |          |                 |        |          |                 |
| HERRAMIENTA MENOR                                      | %  | 3.00% |          | \$0.00          | 1.0600 | \$0.00   | \$0.00          |

|                        |                   |                   |
|------------------------|-------------------|-------------------|
| COSTO DIRECTO          | \$1,143.37        | \$1,205.91        |
| INDIRECTOS 7%          | \$80.04           | \$84.41           |
| COSTO FINANCIERO       | \$0.00            | \$0.00            |
| UTILIDAD 8%            | \$97.87           | \$103.23          |
| 0.20% CMIC             | \$2.64            | \$2.79            |
| <b>PRECIO UNITARIO</b> | <b>\$1,323.92</b> | <b>\$1,396.34</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 13.2.1

Columna de concreto Co-1 de 0.66x0.66x1.00m armado con 16 varillas No. 8, estribos No. 4 @ 0.30m exterior + dos ganchos No. 4 @ 0.30 interior. Concreto F'c=250 Kg/cm2, acero F'y= 4200Kg/cm2, incluye concreto, acero de refuerzo, cimbra, material, equipo, herramientas, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. (Ver plano SE01) P.U.O.T.

UNIDAD M  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                          | UNIDAD | CANTIDAD | COSTO           | IMPORTE                 | FACTOR AJUSTE | COSTO ACT  | IMPORTE           |
|----------------------------------------------------------|--------|----------|-----------------|-------------------------|---------------|------------|-------------------|
| <b>MATERIALES</b>                                        |        |          |                 |                         |               |            |                   |
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM APASCO | M3     | 0.46     | \$1,330.00      | \$611.80                | 1.0160        | \$1,351.28 | \$621.59          |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                   | M3     | 0.46     | \$260.00        | \$119.60                | 1.1522        | \$299.57   | \$137.80          |
|                                                          |        |          | <b>SUBTOTAL</b> | <b>\$731.40</b>         |               |            | <b>\$759.39</b>   |
| <b>MANO DE OBRA</b>                                      |        |          |                 |                         |               |            |                   |
|                                                          |        |          |                 | \$0.00                  | 1.0600        | \$0.00     | \$0.00            |
|                                                          |        |          | <b>SUBTOTAL</b> | <b>\$0.00</b>           |               |            | <b>\$0.00</b>     |
| <b>EQUIPO</b>                                            |        |          |                 |                         |               |            |                   |
|                                                          |        |          |                 | \$0.00                  | 1.0000        | \$0.00     | \$0.00            |
|                                                          |        |          | <b>SUBTOTAL</b> | <b>\$0.00</b>           |               |            | <b>\$0.00</b>     |
| <b>AUXILIARES</b>                                        |        |          |                 |                         |               |            |                   |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN   | KG     | 86       | \$18.15         | \$1,560.90              | 1.0930        | \$19.84    | \$1,706.24        |
| CIMBRA EN COLUMNAS Y TRABES                              | M2     | 2.64     | \$308.99        | \$815.73                | 1.0297        | \$318.17   | \$839.97          |
| COLADO DE CONCRETO PREMEZCLADO EN ALBAÑILERIA            | M3     | 0.44     | \$307.04        | \$135.10                | 1.0631        | \$326.41   | \$143.62          |
|                                                          |        |          | <b>SUBTOTAL</b> | <b>\$2,511.73</b>       |               |            | <b>\$2,689.83</b> |
| HERRAMIENTA MENOR                                        | %      | 3.00%    |                 | \$0.00                  | 1.0600        | \$0.00     | \$0.00            |
|                                                          |        |          |                 | <b>COSTO DIRECTO</b>    |               |            | <b>\$3,449.22</b> |
|                                                          |        |          |                 | <b>INDIRECTOS 7%</b>    |               |            | <b>\$241.45</b>   |
|                                                          |        |          |                 | <b>COSTO FINANCIERO</b> |               |            | <b>\$0.00</b>     |
|                                                          |        |          |                 | <b>UTILIDAD 8%</b>      |               |            | <b>\$295.25</b>   |
|                                                          |        |          |                 | <b>0.20% CMIC</b>       |               |            | <b>\$7.97</b>     |
|                                                          |        |          |                 | <b>PRECIO UNITARIO</b>  |               |            | <b>\$3,993.89</b> |

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 16.1.1

Columna Co-3 de Nivel +10.00 a Nivel +14.42 de 0.72x0.80x4.42m armado con 16 varillas No. 8, estribos No. 3 @ 0.40m + dos ganchos No. 3 @ 0.40m. Concreto F'c=250 Kg/cm2, acero F'y= 4200Kg/cm2, incluye concreto, acero de refuerzo, cimbra, material, equipo, herramientas, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. (Ver plano SE01 y SE02) P.U.O.T.

UNIDAD M  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                          | UNIDAD | CANTIDAD | COSTO      | IMPORTE         | FACTOR AJUSTE | COSTO ACT  | IMPORTE         |
|----------------------------------------------------------|--------|----------|------------|-----------------|---------------|------------|-----------------|
| <b>MATERIALES</b>                                        |        |          |            |                 |               |            |                 |
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM APASCO | M3     | 0.595    | \$1,330.00 | \$791.35        | 1.0160        | \$1,351.28 | \$804.01        |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                   | M3     | 0.595    | \$260.00   | \$154.70        | 1.1522        | \$299.57   | \$178.24        |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$946.05</b> |               |            | <b>\$982.25</b> |

|                     |  |  |  |               |        |        |               |
|---------------------|--|--|--|---------------|--------|--------|---------------|
| <b>MANO DE OBRA</b> |  |  |  |               |        |        |               |
|                     |  |  |  | \$0.00        | 1.0600 | \$0.00 | \$0.00        |
| <b>SUBTOTAL</b>     |  |  |  | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|                 |  |  |  |               |        |        |               |
|-----------------|--|--|--|---------------|--------|--------|---------------|
| <b>EQUIPO</b>   |  |  |  |               |        |        |               |
|                 |  |  |  | \$0.00        | 1.0000 | \$0.00 | \$0.00        |
| <b>SUBTOTAL</b> |  |  |  | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|                                                        |    |       |          |                   |        |          |                   |
|--------------------------------------------------------|----|-------|----------|-------------------|--------|----------|-------------------|
| <b>AUXILIARES</b>                                      |    |       |          |                   |        |          |                   |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN | KG | 73    | \$18.15  | \$1,324.95        | 1.0930 | \$19.84  | \$1,448.32        |
| CIMBRA EN COLUMNAS Y                                   | M2 | 3.04  | \$308.99 | \$939.33          | 1.0297 | \$318.17 | \$967.24          |
| COLADO DE CONCRETO PREMEZCLADO EN ALBAÑILERIA          | M3 | 0.576 | \$307.04 | \$176.86          | 1.0631 | \$326.41 | \$188.01          |
| <b>SUBTOTAL</b>                                        |    |       |          | <b>\$2,441.13</b> |        |          | <b>\$2,603.57</b> |
| HERRAMIENTA MENOR                                      | %  | 3.00% |          | \$0.00            | 1.0600 | \$0.00   | \$0.00            |

|                        |                   |                   |
|------------------------|-------------------|-------------------|
| COSTO DIRECTO          | \$3,387.18        | \$3,585.82        |
| INDIRECTOS 7%          | \$237.10          | \$251.01          |
| COSTO FINANCIERO       | \$0.00            | \$0.00            |
| UTILIDAD 8%            | \$289.94          | \$306.95          |
| 0.20% CMIC             | \$7.83            | \$8.29            |
| <b>PRECIO UNITARIO</b> | <b>\$3,922.06</b> | <b>\$4,152.06</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 16.1.2

Columna Co-5 de Nivel +10.00 a Nivel +14.42 de 0.70x0.50x4.42m armado con 16 varillas No. 6, estribos No. 3 @ 0.30m + dos ganchos No. 3 @ 0.30m. Concreto F'c=250 Kg/cm2, acero F'y= 4200Kg/cm2, incluye concreto, acero de refuerzo, cimbra, material, equipo, herramientas, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. (Ver plano SE01 y SE02) P.U.O.T.

UNIDAD M  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                          | UNIDAD | CANTIDAD | COSTO      | IMPORTE           | FACTOR AJUSTE | COSTO ACT  | IMPORTE           |
|----------------------------------------------------------|--------|----------|------------|-------------------|---------------|------------|-------------------|
| <b>MATERIALES</b>                                        |        |          |            |                   |               |            |                   |
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM APASCO | M3     | 0.361    | \$1,330.00 | \$480.13          | 1.0160        | \$1,351.28 | \$487.81          |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                   | M3     | 0.361    | \$260.00   | \$93.86           | 1.1522        | \$299.57   | \$108.14          |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$573.99</b>   |               |            | <b>\$595.95</b>   |
| <b>MANO DE OBRA</b>                                      |        |          |            |                   |               |            |                   |
|                                                          |        |          |            | \$0.00            | 1.0600        | \$0.00     | \$0.00            |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$0.00</b>     |               |            | <b>\$0.00</b>     |
| <b>EQUIPO</b>                                            |        |          |            |                   |               |            |                   |
|                                                          |        |          |            | \$0.00            | 1.0000        | \$0.00     | \$0.00            |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$0.00</b>     |               |            | <b>\$0.00</b>     |
| <b>AUXILIARES</b>                                        |        |          |            |                   |               |            |                   |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN   | KG     | 47       | \$18.15    | \$853.05          | 1.0930        | \$19.84    | \$932.48          |
| CIMBRA EN COLUMNAS Y                                     | M2     | 2.4      | \$308.99   | \$741.58          | 1.0297        | \$318.17   | \$763.61          |
| COLADO DE CONCRETO PREMEZCLADO EN ALBAÑILERIA            | M3     | 0.35     | \$307.04   | \$107.46          | 1.0631        | \$326.41   | \$114.24          |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$1,702.09</b> |               |            | <b>\$1,810.33</b> |
| HERRAMIENTA MENOR                                        | %      | 3.00%    |            | \$0.00            | 1.0600        | \$0.00     | \$0.00            |
| <b>COSTO DIRECTO</b>                                     |        |          |            | <b>\$2,276.08</b> |               |            | <b>\$2,406.28</b> |
| <b>INDIRECTOS 7%</b>                                     |        |          |            | <b>\$159.33</b>   |               |            | <b>\$168.44</b>   |
| <b>COSTO FINANCIERO</b>                                  |        |          |            | <b>\$0.00</b>     |               |            | <b>\$0.00</b>     |
| <b>UTILIDAD 8%</b>                                       |        |          |            | <b>\$194.83</b>   |               |            | <b>\$205.98</b>   |
| <b>0.20% CMIC</b>                                        |        |          |            | <b>\$5.26</b>     |               |            | <b>\$5.56</b>     |
| <b>PRECIO UNITARIO</b>                                   |        |          |            | <b>\$2,635.50</b> |               |            | <b>\$2,786.26</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 C.O.P. 080-2019-P

### ANÁLISIS DE PRECIOS UNITARIOS

CONCEPTO No. 16.1.3

Muro baños, 28 cm de espesor de Nivel +10.00 a Nivel +14.42, concreto F'c=250kg/cm2, armado interior y exterior con 1 varilla # 4 @ 25 cm ambas caras ambos sentidos . Incluye: concreto, acero cimbra, material, mano de obra, herramienta y todo lo necesario para su correcta ejecucion. (Ver plano SE02) P.U.O.T.

UNIDAD M2  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                                          | UNIDAD | CANTIDAD | COSTO      | IMPORTE                 | FACTOR AJUSTE | COSTO ACT  | IMPORTE           |
|----------------------------------------------------------|--------|----------|------------|-------------------------|---------------|------------|-------------------|
| <b>MATERIALES</b>                                        |        |          |            |                         |               |            |                   |
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM APASCO | M3     | 0.2884   | \$1,330.00 | \$383.57                | 1.0160        | \$1,351.28 | \$389.71          |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                   | M3     | 0.2884   | \$260.00   | \$74.98                 | 1.1522        | \$299.57   | \$86.40           |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$458.56</b>         |               |            | <b>\$476.11</b>   |
| <b>MANO DE OBRA</b>                                      |        |          |            |                         |               |            |                   |
|                                                          |        |          |            | \$0.00                  | 1.0600        | \$0.00     | \$0.00            |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$0.00</b>           |               |            | <b>\$0.00</b>     |
| <b>EQUIPO</b>                                            |        |          |            |                         |               |            |                   |
|                                                          |        |          |            | \$0.00                  | 1.0000        | \$0.00     | \$0.00            |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$0.00</b>           |               |            | <b>\$0.00</b>     |
| <b>AUXILIARES</b>                                        |        |          |            |                         |               |            |                   |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN   | KG     | 16       | \$18.15    | \$290.40                | 1.0930        | \$19.84    | \$317.44          |
| CIMBRA COMUN                                             | M2     | 2        | \$250.08   | \$500.16                | 1.0409        | \$260.31   | \$520.62          |
| COLADO DE CONCRETO PREMEZCLADO EN ALBAÑILERIA            | M3     | 0.28     | \$307.04   | \$85.97                 | 1.0631        | \$326.41   | \$91.39           |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$876.53</b>         |               |            | <b>\$929.45</b>   |
| HERRAMIENTA MENOR                                        | %      | 3.00%    |            | \$0.00                  | 1.0600        | \$0.00     | \$0.00            |
|                                                          |        |          |            | <b>COSTO DIRECTO</b>    |               |            | <b>\$1,405.56</b> |
|                                                          |        |          |            | <b>INDIRECTOS 7%</b>    |               |            | <b>\$98.39</b>    |
|                                                          |        |          |            | <b>COSTO FINANCIERO</b> |               |            | <b>\$0.00</b>     |
|                                                          |        |          |            | <b>UTILIDAD 8%</b>      |               |            | <b>\$120.32</b>   |
|                                                          |        |          |            | <b>0.20% CMIC</b>       |               |            | <b>\$3.25</b>     |
|                                                          |        |          |            | <b>PRECIO UNITARIO</b>  |               |            | <b>\$1,627.51</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**

CONSTRUIDORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 16.1.4

Losa de entrepiso a Nivel +14.42 incluida en losa de edificio. (Ver planos de losas) Incluye: concreto, acero cimbra, material, mano de obra, herramienta y todo lo necesario para su correcta ejecucion. (Ver plano SE02) P.U.O.T.

UNIDAD

M2

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                                          | UNIDAD | CANTIDAD | COSTO      | IMPORTE         | FACTOR AJUSTE | COSTO ACT  | IMPORTE         |
|----------------------------------------------------------|--------|----------|------------|-----------------|---------------|------------|-----------------|
| <b>MATERIALES</b>                                        |        |          |            |                 |               |            |                 |
| CELOTEX 1/2"                                             | M2     | 0.1      | \$46.50    | \$4.65          | 1.0447        | \$48.58    | \$4.86          |
| SELLADO ELASTOMERICO                                     | ML     | 0.1      | \$24.00    | \$2.40          | 1.0470        | \$25.13    | \$2.51          |
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM APASCO | M3     | 0.273    | \$1,330.00 | \$363.09        | 1.0160        | \$1,351.28 | \$368.90        |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                   | M3     | 0.273    | \$260.00   | \$70.98         | 1.1522        | \$299.57   | \$81.78         |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$441.12</b> |               |            | <b>\$458.05</b> |

|                     |  |  |  |               |        |        |               |
|---------------------|--|--|--|---------------|--------|--------|---------------|
| <b>MANO DE OBRA</b> |  |  |  |               |        |        |               |
|                     |  |  |  | \$0.00        | 1.0600 | \$0.00 | \$0.00        |
| <b>SUBTOTAL</b>     |  |  |  | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|                 |  |  |  |               |        |        |               |
|-----------------|--|--|--|---------------|--------|--------|---------------|
| <b>EQUIPO</b>   |  |  |  |               |        |        |               |
|                 |  |  |  | \$0.00        | 1.0000 | \$0.00 | \$0.00        |
| <b>SUBTOTAL</b> |  |  |  | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|                                                        |    |       |          |                 |        |          |                 |
|--------------------------------------------------------|----|-------|----------|-----------------|--------|----------|-----------------|
| <b>AUXILIARES</b>                                      |    |       |          |                 |        |          |                 |
| CIMBRA EN LOSA                                         | M2 | 1     | \$242.75 | \$242.75        | 1.0244 | \$248.67 | \$248.67        |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN | KG | 20    | \$18.15  | \$363.00        | 1.0930 | \$19.84  | \$396.80        |
| COLADO DE LOSA DE CONCRETO                             | M2 | 1     | \$93.18  | \$93.18         | 1.0608 | \$98.85  | \$98.85         |
| CURADO DE CONCRETO                                     | M2 | 1     | \$3.32   | \$3.32          | 1.0652 | \$3.54   | \$3.54          |
| <b>SUBTOTAL</b>                                        |    |       |          | <b>\$702.25</b> |        |          | <b>\$744.32</b> |
| HERRAMIENTA MENOR                                      | %  | 3.00% |          | \$0.00          | 1.0600 | \$0.00   | \$0.00          |

|                        |                   |                   |
|------------------------|-------------------|-------------------|
| COSTO DIRECTO          | \$1,143.37        | \$1,202.37        |
| INDIRECTOS 7%          | \$80.04           | \$84.17           |
| COSTO FINANCIERO       | \$0.00            | \$0.00            |
| UTILIDAD 8%            | \$97.87           | \$102.92          |
| 0.20% CMIC             | \$2.64            | \$2.78            |
| <b>PRECIO UNITARIO</b> | <b>\$1,323.92</b> | <b>\$1,392.24</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK



**PROURVIKA**  
CONSTRUCTORA

CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
CONTRATO No. C.O.P.-080-2019-P

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 19.1.1

Columna Co-3 de Nivel +10.00 a Nivel +14.42 de 0.72x0.80x4.42m armado con 16 varillas No. 8, estribos No. 3 @ 0.40m + dos ganchos No. 3 @ 0.40m. Concreto F'c=250 Kg/cm2, acero F'y= 4200Kg/cm2, incluye concreto, acero de refuerzo, cimbra, material, equipo, herramientas, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. (Ver plano SE01 y SE03) P.U.O.T.

UNIDAD

ML

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                                          | UNIDAD | CANTIDAD | COSTO      | IMPORTE           | FACTOR AJUSTE | COSTO ACT  | IMPORTE           |
|----------------------------------------------------------|--------|----------|------------|-------------------|---------------|------------|-------------------|
| <b>MATERIALES</b>                                        |        |          |            |                   |               |            |                   |
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM APASCO | M3     | 0.595    | \$1,330.00 | \$791.35          | 1.0160        | \$1,351.28 | \$804.01          |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                   | M3     | 0.595    | \$260.00   | \$154.70          | 1.1522        | \$299.57   | \$178.24          |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$946.05</b>   |               |            | <b>\$982.25</b>   |
| <b>MANO DE OBRA</b>                                      |        |          |            |                   |               |            |                   |
|                                                          |        |          |            | \$0.00            | 1.0600        | \$0.00     | \$0.00            |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$0.00</b>     |               |            | <b>\$0.00</b>     |
| <b>EQUIPO</b>                                            |        |          |            |                   |               |            |                   |
|                                                          |        |          |            | \$0.00            | 1.0000        | \$0.00     | \$0.00            |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$0.00</b>     |               |            | <b>\$0.00</b>     |
| <b>AUXILIARES</b>                                        |        |          |            |                   |               |            |                   |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN   | KG     | 73       | \$18.15    | \$1,324.95        | 1.0930        | \$19.84    | \$1,448.32        |
| CIMBRA EN COLUMNAS Y TRABES                              | M2     | 3.04     | \$308.99   | \$939.33          | 1.0297        | \$318.17   | \$967.24          |
| COLADO DE CONCRETO PREMEZCLADO EN ALBAÑILERIA            | M3     | 0.576    | \$307.04   | \$176.86          | 1.0631        | \$326.41   | \$188.01          |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$2,441.13</b> |               |            | <b>\$2,603.57</b> |
| HERRAMIENTA MENOR                                        | %      | 3.00%    |            | \$0.00            | 1.0600        | \$0.00     | \$0.00            |

|                        |                   |                   |
|------------------------|-------------------|-------------------|
| COSTO DIRECTO          | \$3,387.18        | \$3,585.82        |
| INDIRECTOS 7%          | \$237.10          | \$251.01          |
| COSTO FINANCIERO       | \$0.00            | \$0.00            |
| UTILIDAD 8%            | \$289.94          | \$306.95          |
| 0.20% CMIC             | \$7.83            | \$8.29            |
| <b>PRECIO UNITARIO</b> | <b>\$3,922.06</b> | <b>\$4,152.06</b> |



CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
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 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 19.1.2

Columna Co-4 de Nivel +10.00 a Nivel +14.42 de 1.20x1.00x4.42m armado con 24 varillas No. 8, estribos No. 4 @ 0.40m exterior y doble # 3 @ 40 interior. Concreto F'c=250 Kg/cm2, acero F'y= 4200Kg/cm2, incluye concreto, acero de refuerzo, cimbra, material, equipo, herramientas, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. (Ver plano SE01 y SE03) P.U.O.T.

UNIDAD

ML

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                                          | UNIDAD | CANTIDAD | COSTO      | IMPORTE           | FACTOR AJUSTE | COSTO ACT  | IMPORTE           |
|----------------------------------------------------------|--------|----------|------------|-------------------|---------------|------------|-------------------|
| <b>MATERIALES</b>                                        |        |          |            |                   |               |            |                   |
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM APASCO | M3     | 1.24     | \$1,330.00 | \$1,649.20        | 1.0160        | \$1,351.28 | \$1,675.59        |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                   | M3     | 1.24     | \$260.00   | \$322.40          | 1.1522        | \$299.57   | \$371.47          |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$1,971.60</b> |               |            | <b>\$2,047.06</b> |

|                     |  |  |  |               |        |        |               |
|---------------------|--|--|--|---------------|--------|--------|---------------|
| <b>MANO DE OBRA</b> |  |  |  |               |        |        |               |
|                     |  |  |  | \$0.00        | 1.0600 | \$0.00 | \$0.00        |
| <b>SUBTOTAL</b>     |  |  |  | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|               |  |  |                 |               |        |        |               |
|---------------|--|--|-----------------|---------------|--------|--------|---------------|
| <b>EQUIPO</b> |  |  |                 |               |        |        |               |
|               |  |  |                 | \$0.00        | 1.0000 | \$0.00 | \$0.00        |
|               |  |  | <b>SUBTOTAL</b> | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|                                                        |    |       |          |                   |        |          |                   |
|--------------------------------------------------------|----|-------|----------|-------------------|--------|----------|-------------------|
| <b>AUXILIARES</b>                                      |    |       |          |                   |        |          |                   |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN | KG | 122   | \$18.15  | \$2,214.30        | 1.0930 | \$19.84  | \$2,420.48        |
| CIMBRA EN COLUMNAS Y TRABES                            | M2 | 4.4   | \$308.99 | \$1,359.56        | 1.0297 | \$318.17 | \$1,399.95        |
| COLADO DE CONCRETO PREMEZCLADO EN ALBAÑILERIA          | M3 | 1.2   | \$307.04 | \$368.45          | 1.0631 | \$326.41 | \$391.69          |
| <b>SUBTOTAL</b>                                        |    |       |          | <b>\$3,942.30</b> |        |          | <b>\$4,212.12</b> |
| HERRAMIENTA MENOR                                      | %  | 3.00% |          | \$0.00            | 1.0600 | \$0.00   | \$0.00            |

|                        |                   |                   |
|------------------------|-------------------|-------------------|
| COSTO DIRECTO          | \$5,913.90        | \$6,259.18        |
| INDIRECTOS 7%          | \$413.97          | \$438.14          |
| COSTO FINANCIERO       | \$0.00            | \$0.00            |
| UTILIDAD 8%            | \$506.23          | \$535.79          |
| 0.20% CMIC             | \$13.67           | \$14.47           |
| <b>PRECIO UNITARIO</b> | <b>\$6,847.78</b> | <b>\$7,247.57</b> |

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
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 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 19.1.3

Columna Co-5 de Nivel +10.00 a Nivel +14.42 de 0.70x0.50x4.42m armado con 16 varillas No. 6, estribos No. 3 @ 0.30m + dos ganchos No. 3 @ 0.30m. Concreto F'c=250 Kg/cm2, acero F'y= 4200Kg/cm2, incluye concreto, acero de refuerzo, cimbra, material, equipo, herramientas, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. (Ver plano SE01 y SE03) P.U.O.T.

UNIDAD ML  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                          | UNIDAD | CANTIDAD | COSTO      | IMPORTE         | FACTOR AJUSTE | COSTO ACT  | IMPORTE         |
|----------------------------------------------------------|--------|----------|------------|-----------------|---------------|------------|-----------------|
| <b>MATERIALES</b>                                        |        |          |            |                 |               |            |                 |
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM APASCO | M3     | 0.361    | \$1,330.00 | \$480.13        | 1.0160        | \$1,351.28 | \$487.81        |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                   | M3     | 0.361    | \$260.00   | \$93.86         | 1.1522        | \$299.57   | \$108.14        |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$573.99</b> |               |            | <b>\$595.95</b> |

|                     |  |  |  |               |        |        |               |
|---------------------|--|--|--|---------------|--------|--------|---------------|
| <b>MANO DE OBRA</b> |  |  |  |               |        |        |               |
|                     |  |  |  | \$0.00        | 1.0600 | \$0.00 | \$0.00        |
| <b>SUBTOTAL</b>     |  |  |  | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|                 |  |  |  |               |        |        |               |
|-----------------|--|--|--|---------------|--------|--------|---------------|
| <b>EQUIPO</b>   |  |  |  |               |        |        |               |
|                 |  |  |  | \$0.00        | 1.0000 | \$0.00 | \$0.00        |
| <b>SUBTOTAL</b> |  |  |  | <b>\$0.00</b> |        |        | <b>\$0.00</b> |

|                                                        |    |       |          |                   |        |          |                   |
|--------------------------------------------------------|----|-------|----------|-------------------|--------|----------|-------------------|
| <b>AUXILIARES</b>                                      |    |       |          |                   |        |          |                   |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN | KG | 47    | \$18.15  | \$853.05          | 1.0930 | \$19.84  | \$932.48          |
| CIMBRA EN COLUMNAS Y TRABES                            | M2 | 2.4   | \$308.99 | \$741.58          | 1.0297 | \$318.17 | \$763.61          |
| COLADO DE CONCRETO PREMEZCLADO EN ALBAÑILERIA          | M3 | 0.35  | \$307.04 | \$107.46          | 1.0631 | \$326.41 | \$114.24          |
| <b>SUBTOTAL</b>                                        |    |       |          | <b>\$1,702.09</b> |        |          | <b>\$1,810.33</b> |
| HERRAMIENTA MENOR                                      | %  | 3.00% |          | \$0.00            | 1.0600 | \$0.00   | \$0.00            |

|                        |                   |                   |
|------------------------|-------------------|-------------------|
| COSTO DIRECTO          | \$2,276.08        | \$2,406.28        |
| INDIRECTOS 7%          | \$159.33          | \$168.44          |
| COSTO FINANCIERO       | \$0.00            | \$0.00            |
| UTILIDAD 8%            | \$194.83          | \$205.98          |
| 0.20% CMIC             | \$5.26            | \$5.56            |
| <b>PRECIO UNITARIO</b> | <b>\$2,635.50</b> | <b>\$2,786.26</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 19.1.4

Muro escaleras, 28 cm de espesor de Nivel +10.00 a Nivel +14.42 , concreto F'c=250kg/cm2, armado interior y exterior con 1 varilla # 4 @ 25 cm ambas caras ambos sentidos . Incluye: concreto, acero cimbra, material, mano de obra, herramienta y todo lo necesario para su correcta ejecucion. (Ver plano SE03) P.U.O.T.

UNIDAD  
 FECHA COTIZACION

M2  
 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                          | UNIDAD | CANTIDAD | COSTO      | IMPORTE                 | FACTOR AJUSTE | COSTO ACT  | IMPORTE           |
|----------------------------------------------------------|--------|----------|------------|-------------------------|---------------|------------|-------------------|
| <b>MATERIALES</b>                                        |        |          |            |                         |               |            |                   |
| CONCRETO PREMEZCLADO F'c= 250 KG/CM2 GCC U HOLCIM APASCO | M3     | 0.2884   | \$1,330.00 | \$383.57                | 1.0160        | \$1,351.28 | \$389.71          |
| BOMBEO CONCRETO DE GCC U HOLCIM APASCO                   | M3     | 0.2884   | \$260.00   | \$74.98                 | 1.1522        | \$299.57   | \$86.40           |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$458.56</b>         |               |            | <b>\$476.11</b>   |
| <b>MANO DE OBRA</b>                                      |        |          |            |                         |               |            |                   |
|                                                          |        |          |            | \$0.00                  | 1.0600        | \$0.00     | \$0.00            |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$0.00</b>           |               |            | <b>\$0.00</b>     |
| <b>EQUIPO</b>                                            |        |          |            |                         |               |            |                   |
|                                                          |        |          |            | \$0.00                  | 1.0000        | \$0.00     | \$0.00            |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$0.00</b>           |               |            | <b>\$0.00</b>     |
| <b>AUXILIARES</b>                                        |        |          |            |                         |               |            |                   |
| ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN   | KG     | 16       | \$18.15    | \$290.40                | 1.0930        | \$19.84    | \$317.44          |
| CIMBRA COMUN                                             | M2     | 2        | \$250.08   | \$500.16                | 1.0409        | \$260.31   | \$520.62          |
| COLADO DE CONCRETO PREMEZCLADO EN ALBAÑILERIA            | M3     | 0.28     | \$307.04   | \$85.97                 | 1.0631        | \$326.41   | \$91.39           |
| <b>SUBTOTAL</b>                                          |        |          |            | <b>\$876.53</b>         |               |            | <b>\$929.45</b>   |
| HERRAMIENTA MENOR                                        | %      | 3.00%    |            | \$0.00                  | 1.0600        | \$0.00     | \$0.00            |
|                                                          |        |          |            | <b>COSTO DIRECTO</b>    |               |            | <b>\$1,405.56</b> |
|                                                          |        |          |            | <b>INDIRECTOS 7%</b>    |               |            | <b>\$98.39</b>    |
|                                                          |        |          |            | <b>COSTO FINANCIERO</b> |               |            | <b>\$0.00</b>     |
|                                                          |        |          |            | <b>UTILIDAD 8%</b>      |               |            | <b>\$120.32</b>   |
|                                                          |        |          |            | <b>0.20% CMIC</b>       |               |            | <b>\$3.25</b>     |
|                                                          |        |          |            | <b>PRECIO UNITARIO</b>  |               |            | <b>\$1,627.51</b> |



CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

CONCEPTO No. 41.1.5

Tubo-plus de 50mm (1-1/2") incluye: soporteia, etiquetado, suministro del material, mano de obra, herramienta de corte y todo lo necesario para la correcta ejecución. P.U.O.T.

UNIDAD

ML

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                             | UNIDAD | CANTIDAD | COSTO    | IMPORTE         | FACTOR AJUSTE | COSTO ACT | IMPORTE         |
|-----------------------------|--------|----------|----------|-----------------|---------------|-----------|-----------------|
| <b>MATERIALES</b>           |        |          |          |                 |               |           |                 |
| CONEXIONES Y SOPORTERIA     | pza    | 0.05     | \$100.00 | \$5.00          | 1.0250        | \$102.50  | \$5.13          |
| TUBOPLUS                    |        |          |          |                 |               |           |                 |
| TUBOPLUS DE 1 1/2" DIAMETRO | ML     | 1.05     | \$98.00  | \$102.90        | 1.0250        | \$100.45  | \$105.47        |
| <b>SUBTOTAL</b>             |        |          |          | <b>\$107.90</b> |               |           | <b>\$110.60</b> |
| <b>MANO DE OBRA</b>         |        |          |          |                 |               |           |                 |
| OFICIAL PLOMERO             | JOR    | 0.01     | \$723.07 | \$7.23          | 1.0600        | \$766.42  | \$7.66          |
| AYUDANTE PLOMERO            | jor    | 0.01     | \$575.83 | \$5.76          | 1.0600        | \$610.36  | \$6.10          |
| <b>SUBTOTA</b>              |        |          |          | <b>\$12.99</b>  |               |           | <b>\$13.76</b>  |
| <b>L</b>                    |        |          |          |                 |               |           |                 |
| <b>EQUIPO</b>               |        |          |          |                 |               |           |                 |
|                             |        |          |          | \$0.00          | 1.0000        | \$0.00    | \$0.00          |
| <b>SUBTOTA</b>              |        |          |          | <b>\$0.00</b>   |               |           | <b>\$0.00</b>   |
| <b>L</b>                    |        |          |          |                 |               |           |                 |
| <b>AUXILIARES</b>           |        |          |          |                 |               |           |                 |
|                             |        |          |          | \$0.00          | 1.0000        | \$0.00    | \$0.00          |
| <b>SUBTOTA</b>              |        |          |          | <b>\$0.00</b>   |               |           | <b>\$0.00</b>   |
| <b>L</b>                    |        |          |          |                 |               |           |                 |
| HERRAMIENTA MENOR           | %      | 3.00%    | \$12.99  | \$0.39          | 1.0600        | \$13.77   | \$0.41          |
| LIMPIEZA GRUESA Y FINA      | %      | 3.00%    | \$12.99  | \$0.39          | 1.0600        | \$13.77   | \$0.41          |
| <b>SUBTOTA</b>              |        |          |          | <b>\$0.78</b>   |               |           | <b>\$0.82</b>   |
| <b>L</b>                    |        |          |          |                 |               |           |                 |
| <b>COSTO DIRECTO</b>        |        |          |          | <b>\$121.67</b> |               |           | <b>\$125.18</b> |
| <b>INDIRECTOS 7%</b>        |        |          |          | <b>\$8.52</b>   |               |           | <b>\$8.76</b>   |
| <b>COSTO FINANCIERO</b>     |        |          |          | <b>\$0.00</b>   |               |           | <b>\$0.00</b>   |
| <b>UTILIDAD 8%</b>          |        |          |          | <b>\$10.41</b>  |               |           | <b>\$10.72</b>  |
| <b>0.20% CMIC</b>           |        |          |          | <b>\$0.28</b>   |               |           | <b>\$0.29</b>   |
| <b>PRECIO UNITARIO</b>      |        |          |          | <b>\$140.89</b> |               |           | <b>\$144.94</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 42.1.2

Suministro y colocacion de Tubo PVC DWV sanitario de 6" de diametro, Incluye: conexiones necesarias, pegamento de PVC, codos, tees, coples, yes, fijación, materiales, mano de obra, herramienta, equipo, acarreo, elevaciones, limpieza, plomeo, alineación y todo lo necesario para su correcta ejecución. P.U.O.T.

UNIDAD ML  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                  | UNIDAD | CANTIDAD | COSTO    | IMPORTE  | FACTOR AJUSTE | COSTO ACT | IMPORTE  |
|----------------------------------|--------|----------|----------|----------|---------------|-----------|----------|
| MATERIALES                       |        |          |          |          |               |           |          |
| PEGAMENTO PVC ULTRAFUERTE 500 ML | BOTE   | 0.05     | \$108.00 | \$5.40   | 1.0333        | \$111.60  | \$5.58   |
| CONEXIONES PVC SANITARIA         | pza    | 0.15     | \$100.00 | \$15.00  | 1.0250        | \$102.50  | \$15.38  |
| TUBERIA PVC SANITARIA 6"         | mL     | 1.05     | \$82.00  | \$86.10  | 1.0250        | \$84.05   | \$88.25  |
| SUBTOTAL                         |        |          |          | \$106.50 |               |           | \$109.21 |

|                 |     |      |          |         |        |          |         |
|-----------------|-----|------|----------|---------|--------|----------|---------|
| MANO DE OBRA    |     |      |          |         |        |          |         |
| PEON EN GENERAL | jor | 0.04 | \$331.06 | \$13.24 | 1.0600 | \$350.92 | \$14.04 |
| OFICIAL PLOMERO | JOR | 0.04 | \$723.07 | \$28.92 | 1.0600 | \$766.45 | \$30.66 |
| SUBTOTAL        |     |      |          | \$42.17 |        |          | \$44.70 |
| L               |     |      |          |         |        |          |         |

|          |  |  |  |        |        |        |        |  |
|----------|--|--|--|--------|--------|--------|--------|--|
| EQUIPO   |  |  |  |        |        |        |        |  |
|          |  |  |  | \$0.00 | 1.0000 | \$0.00 | \$0.00 |  |
| SUBTOTAL |  |  |  | \$0.00 |        |        | \$0.00 |  |

|            |  |  |          |        |        |        |        |
|------------|--|--|----------|--------|--------|--------|--------|
| AUXILIARES |  |  |          |        |        |        |        |
|            |  |  |          | \$0.00 | 1.0250 | \$0.00 | \$0.00 |
|            |  |  | SUBTOTAL | \$0.00 |        |        | \$0.00 |

|                        |   |       |                 |        |        |         |               |
|------------------------|---|-------|-----------------|--------|--------|---------|---------------|
| HERRAMIENTA MENOR      | % | 3.00% | \$42.16         | \$1.26 | 1.0600 | \$44.69 | \$1.34        |
| LIMPIEZA GRUESA Y FINA | % | 3.00% | \$42.16         | \$1.26 | 1.0600 | \$44.69 | \$1.34        |
|                        |   |       | <b>SUBTOTAL</b> |        |        |         | <b>\$2.68</b> |

|                        |                 |                 |
|------------------------|-----------------|-----------------|
| COSTO DIRECTO          | \$151.19        | \$156.59        |
| INDIRECTOS 7%          | \$10.58         | \$10.96         |
| COSTO FINANCIERO       | \$0.00          | \$0.00          |
| UTILIDAD 8%            | \$12.94         | \$13.40         |
| 0.20% CMIC             | \$0.35          | \$0.36          |
| <b>PRECIO UNITARIO</b> | <b>\$175.05</b> | <b>\$181.32</b> |

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

CONCEPTO No. 42.3.1

Excavacion con maquinaria en cepas en material tipo "B". Incluye: equipo, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. P.U.O.T.

UNIDAD M3  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                                                        | UNIDAD | CANTIDAD | COSTO           | IMPORTE                 | FACTOR AJUSTE | COSTO ACT | IMPORTE        |
|--------------------------------------------------------|--------|----------|-----------------|-------------------------|---------------|-----------|----------------|
| <b>MATERIALES</b>                                      |        |          |                 |                         |               |           |                |
|                                                        |        |          |                 | \$0.00                  | 1.0000        | \$0.00    | \$0.00         |
|                                                        |        |          |                 | \$0.00                  | 1.0000        | \$0.00    | \$0.00         |
|                                                        |        |          | <b>SUBTOTAL</b> | <b>\$0.00</b>           |               |           | <b>\$0.00</b>  |
| <b>MANO DE OBRA</b>                                    |        |          |                 |                         |               |           |                |
|                                                        |        |          |                 | \$0.00                  | 1.0600        | \$0.00    | \$0.00         |
|                                                        |        |          | <b>SUBTOTAL</b> | <b>\$0.00</b>           |               |           | <b>\$0.00</b>  |
| <b>EQUIPO</b>                                          |        |          |                 |                         |               |           |                |
| RETROEXCAVADORA<br>MARCA: CATERPILLAR<br>MODELO: 416-E | HR     | 0.15     | \$476.76        | \$71.51                 | 1.0566        | \$503.74  | \$75.56        |
|                                                        |        |          | <b>SUBTOTAL</b> | <b>\$71.51</b>          |               |           | <b>\$75.56</b> |
| <b>AUXILIARES</b>                                      |        |          |                 |                         |               |           |                |
|                                                        |        |          |                 | \$0.00                  | 1.0000        | \$0.00    | \$0.00         |
|                                                        |        |          | <b>SUBTOTAL</b> | <b>\$0.00</b>           |               |           | <b>\$0.00</b>  |
| HERRAMIENTA MENOR                                      | %      | 3.00%    |                 | \$0.00                  | 1.0600        | \$0.00    | \$0.00         |
|                                                        |        |          |                 | <b>COSTO DIRECTO</b>    |               |           | <b>\$75.56</b> |
|                                                        |        |          |                 | <b>INDIRECTOS 7%</b>    |               |           | <b>\$5.29</b>  |
|                                                        |        |          |                 | <b>COSTO FINANCIERO</b> |               |           | <b>\$0.00</b>  |
|                                                        |        |          |                 | <b>UTILIDAD 8%</b>      |               |           | <b>\$6.47</b>  |
|                                                        |        |          |                 | <b>0.20% CMIC</b>       |               |           | <b>\$0.17</b>  |
|                                                        |        |          |                 | <b>PRECIO UNITARIO</b>  |               |           | <b>\$87.49</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

CONCEPTO No. 42.3.2

Cama de arena y proteccion de tuberias. Incluye: equipo, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. P.U.O.T.

UNIDAD M3  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                        | UNIDAD | CANTIDAD | COSTO    | IMPORTE  | FACTOR AJUSTE | COSTO ACT | IMPORTE  |
|------------------------|--------|----------|----------|----------|---------------|-----------|----------|
| <b>MATERIALES</b>      |        |          |          |          |               |           |          |
| ARENA                  | M3     | 1.3      | \$230.00 | \$299.00 | 1.0124        | \$232.85  | \$302.71 |
| AGUA                   | M3     | 0.05     | \$80.00  | \$4.00   | 1.0308        | \$82.46   | \$4.12   |
| SUBTOTAL               |        |          |          | \$303.00 |               |           | \$306.83 |
| <b>MANO DE OBRA</b>    |        |          |          |          |               |           |          |
| PEON EN GENERAL        | jor    | 0.2      | \$331.06 | \$66.21  | 1.0600        | \$350.92  | \$70.18  |
| SUBTOTAL               |        |          |          | \$66.21  |               |           | \$70.18  |
| <b>EQUIPO</b>          |        |          |          |          |               |           |          |
|                        |        |          |          | \$0.00   | 1.0000        | \$0.00    | \$0.00   |
| SUBTOTAL               |        |          |          | \$0.00   |               |           | \$0.00   |
| <b>AUXILIARES</b>      |        |          |          |          |               |           |          |
|                        |        |          |          | \$0.00   | 1.0996        | \$0.00    | \$0.00   |
| SUBTOTAL               |        |          |          | \$0.00   |               |           | \$0.00   |
| HERRAMIENTA MENOR      | %      | 3.00%    | \$66.21  | \$1.99   | 1.0600        | \$70.18   | \$2.11   |
| LIMPIEZA GRUESA Y FINA | %      | 3.00%    | \$66.21  | \$1.99   | 1.0600        | \$70.18   | \$2.11   |
| SUBTOTAL               |        |          |          | \$3.97   |               |           | \$4.22   |
| COSTO DIRECTO          |        |          |          | \$373.18 |               |           | \$381.23 |
| INDIRECTOS 7%          |        |          |          | \$26.12  |               |           | \$26.69  |
| COSTO FINANCIERO       |        |          |          | \$0.00   |               |           | \$0.00   |
| UTILIDAD 8%            |        |          |          | \$31.94  |               |           | \$32.63  |
| 0.20% CMIC             |        |          |          | \$0.86   |               |           | \$0.88   |
| PRECIO UNITARIO        |        |          |          | \$432.11 |               |           | \$441.43 |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

CONCEPTO No. 42.3.3

Relleno compactado al 90 % Proctor con material producto de la excavacion. Incluye: equipo, mano de obra, limpieza y todo lo necesario para su

UNIDAD M3  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
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|                                                     | UNIDAD | CANTIDAD | COSTO    | IMPORTE  | FACTOR AJUSTE | COSTO ACT | IMPORTE  |
|-----------------------------------------------------|--------|----------|----------|----------|---------------|-----------|----------|
| <b>MATERIALES</b>                                   |        |          |          |          |               |           |          |
| AGUA                                                | M3     | 0.05     | \$80.00  | \$4.00   | 1.0308        | \$82.46   | \$4.12   |
| SUBTOTAL                                            |        |          |          | \$4.00   |               |           | \$4.12   |
| <b>MANO DE OBRA</b>                                 |        |          |          |          |               |           |          |
| PEON EN GENERAL                                     | jor    | 0.12     | \$331.06 | \$39.73  | 1.0600        | \$350.91  | \$42.11  |
| PEON EN GENERAL                                     | jor    | 0.12     | \$331.06 | \$39.73  | 1.0600        | \$350.91  | \$42.11  |
| SUBTOTAL                                            |        |          |          | \$79.45  |               |           | \$84.22  |
| L                                                   |        |          |          |          |               |           |          |
| <b>EQUIPO</b>                                       |        |          |          |          |               |           |          |
| COMPACTADORA BAILARINA MARCA: MYKASA MODELO: MT-74F | HR     | 0.1      | \$132.64 | \$13.26  | 1.0452        | \$138.64  | \$13.86  |
| SUBTOTAL                                            |        |          |          | \$13.26  |               |           | \$13.86  |
| L                                                   |        |          |          |          |               |           |          |
| <b>AUXILIARES</b>                                   |        |          |          |          |               |           |          |
|                                                     |        |          |          | \$0.00   | 1.0000        | \$0.00    | \$0.00   |
| SUBTOTAL                                            |        |          |          | \$0.00   |               |           | \$0.00   |
| L                                                   |        |          |          |          |               |           |          |
| HERRAMIENTA MENOR                                   | %      | 3.00%    | \$79.46  | \$2.38   | 1.0600        | \$84.23   | \$2.53   |
| LIMPIEZA GRUESA Y FINA                              | %      | 3.00%    | \$79.46  | \$2.38   | 1.0600        | \$84.23   | \$2.53   |
| SUBTOTAL                                            |        |          |          | \$4.77   |               |           | \$5.06   |
| L                                                   |        |          |          |          |               |           |          |
| COSTO DIRECTO                                       |        |          |          | \$101.49 |               |           | \$107.26 |
| INDIRECTOS 7%                                       |        |          |          | \$7.10   |               |           | \$7.51   |
| COSTO FINANCIERO                                    |        |          |          | \$0.00   |               |           | \$0.00   |
| UTILIDAD 8%                                         |        |          |          | \$8.69   |               |           | \$9.18   |
| 0.20% CMIC                                          |        |          |          | \$0.23   |               |           | \$0.25   |
| PRECIO UNITARIO                                     |        |          |          | \$117.50 |               |           | \$124.20 |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
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**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

CONCEPTO No. 42.3.4

Retiro de material sobrante fuera de la obra. Incluye: equipo, mano de obra, limpieza y todo lo necesario para su correcta ejecucion. P.U.O.T.

UNIDAD M3  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

|                        | UNIDAD | CANTIDAD | COSTO    | IMPORTE  | FACTOR AJUSTE | COSTO ACT | IMPORTE  |
|------------------------|--------|----------|----------|----------|---------------|-----------|----------|
| <b>MATERIALES</b>      |        |          |          |          |               |           |          |
| ACARREO 1ER KM         | M3     | 1.3      | \$12.45  | \$16.19  | 1.0793        | \$13.44   | \$17.47  |
| TERRACERIAS            |        |          |          |          |               |           |          |
| ACARREO KM SUBSECUENTE | M3-KM  | 13       | \$5.36   | \$69.68  | 1.0802        | \$5.79    | \$75.27  |
| PAVIMENTO KM 2-20      |        |          |          |          |               |           |          |
| SUBTOTAL               |        |          |          | \$85.87  |               |           | \$92.74  |
| <b>MANO DE OBRA</b>    |        |          |          |          |               |           |          |
|                        |        |          |          | \$0.00   | 1.0600        | \$0.00    | \$0.00   |
| SUBTOTAL               |        |          |          | \$0.00   |               |           | \$0.00   |
| L                      |        |          |          |          |               |           |          |
| <b>EQUIPO</b>          |        |          |          |          |               |           |          |
| RETROEXCAVADORA        | HR     | 0.06     | \$476.76 | \$28.61  | 1.0566        | \$503.74  | \$30.22  |
| MARCA: CATERPILLAR     |        |          |          |          |               |           |          |
| MODELO: 416-E          |        |          |          |          |               |           |          |
| SUBTOTAL               |        |          |          | \$28.61  |               |           | \$30.22  |
| L                      |        |          |          |          |               |           |          |
| <b>AUXILIARES</b>      |        |          |          |          |               |           |          |
|                        |        |          |          | \$0.00   | 1.0000        | \$0.00    | \$0.00   |
| SUBTOTAL               |        |          |          | \$0.00   |               |           | \$0.00   |
| L                      |        |          |          |          |               |           |          |
| HERRAMIENTA MENOR      | %      | 3.00%    |          | \$0.00   | 1.0600        | \$0.00    | \$0.00   |
|                        |        |          |          |          |               |           | \$122.96 |
| COSTO DIRECTO          |        |          |          | \$114.47 |               |           | \$8.61   |
| INDIRECTOS 7%          |        |          |          | \$8.01   |               |           | \$0.00   |
| COSTO FINANCIERO       |        |          |          | \$0.00   |               |           | \$10.53  |
| UTILIDAD 8%            |        |          |          | \$9.80   |               |           | \$0.28   |
| 0.20% CMIC             |        |          |          | \$0.26   |               |           | \$142.39 |
| PRECIO UNITARIO        |        |          |          | \$132.55 |               |           |          |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. 51.1.1

Base de 25 cm espesor compacto usando material de banco que elija el contratista (ver especificación del estudio de mecánica de suelos), compactado en capas de 15 cm al 100% PVSM. Triturado al 100%, Incluye suministro, acarreo y formación de material. Medida en estado compacto. Incluye: material, mano de obra, herramienta, limpieza y todo lo necesario para su correcta ejecución. Por unidad de obra terminada, P.U.O.T.

UNIDAD

M3

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

| UNIDAD | CANTIDAD | COSTO | IMPORTE | FACTOR AJUSTE | COSTO ACT | IMPORTE |
|--------|----------|-------|---------|---------------|-----------|---------|
|--------|----------|-------|---------|---------------|-----------|---------|

#### MATERIALES

|                                                                             |    |         |          |          |        |          |          |
|-----------------------------------------------------------------------------|----|---------|----------|----------|--------|----------|----------|
| BASE TRITURADA 1 1/2" A FINOS<br>(MATERIALES INDUSTRIALES<br>GCC)(LAB OBRA) | M3 | 1.32    | \$147.00 | \$194.04 | 1.0319 | \$151.69 | \$200.23 |
| REGALIAS AGUA                                                               | M3 | 0.33333 | \$12.00  | \$4.00   | 1.0308 | \$12.37  | \$4.12   |
| SUBTOTAL                                                                    |    |         |          |          |        |          | \$204.35 |

#### MANO DE OBRA

|          |  |  |  |        |        |        |        |
|----------|--|--|--|--------|--------|--------|--------|
|          |  |  |  | \$0.00 | 1.0600 | \$0.00 | \$0.00 |
| SUBTOTAL |  |  |  |        |        |        | \$0.00 |

#### EQUIPO

|                                                                                          |    |         |            |         |        |            |         |
|------------------------------------------------------------------------------------------|----|---------|------------|---------|--------|------------|---------|
| MOTOCONFORMADORA<br>MARCA: CATERPILLAR<br>MODELO: 140-H CAPACIDAD:<br>14'                | HR | 0.01525 | \$1,622.56 | \$24.74 | 1.1051 | \$1,793.09 | \$27.34 |
| COMPACTADOR VIBRATORIO<br>MARCA: INGERSOLL RAND<br>MODELO: SD-100 D<br>CAPACIDAD: 12 TON | HR | 0.01282 | \$812.16   | \$10.41 | 1.0932 | \$887.85   | \$11.38 |
| CAMION PIPA MARCA:<br>KENWORTH MODELO T-300<br>CAPACIDAD: 16,000 LTS                     | HR | 0.01675 | \$611.68   | \$10.25 | 1.0606 | \$648.75   | \$10.87 |
| SUBTOTAL                                                                                 |    |         |            |         |        |            | \$49.59 |

#### AUXILIARES

|          |  |  |  |        |        |        |        |
|----------|--|--|--|--------|--------|--------|--------|
|          |  |  |  | \$0.00 | 1.0000 | \$0.00 | \$0.00 |
| SUBTOTAL |  |  |  |        |        |        | \$0.00 |

#### HERRAMIENTA MENOR

|  |   |       |  |        |        |        |        |
|--|---|-------|--|--------|--------|--------|--------|
|  | % | 3.00% |  | \$0.00 | 1.0600 | \$0.00 | \$0.00 |
|--|---|-------|--|--------|--------|--------|--------|

|                        |          |
|------------------------|----------|
| COSTO DIRECTO          | \$243.44 |
| INDIRECTOS 7%          | \$17.04  |
| COSTO FINANCIERO 0.00% | \$0.00   |
| UTILIDAD 8%            | \$20.84  |
| 0.20% CMIC             | \$0.56   |
| PRECIO UNITARIO        | \$281.88 |

|          |
|----------|
| \$253.94 |
| \$17.78  |
| \$0.00   |
| \$21.74  |
| \$0.59   |
| \$294.04 |

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
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 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. EXT-04

EXT.04.- Levantamiento topográfico de 4 puntos auxiliares para trazo del edificio por medio de GPS. Incluye mojoneras de 0.50 x 0.50 x 1.00 m con concreto f'c= 150 kg/cm2 y una varilla #4 de 1.00 m de longitud al centro

UNIDAD

PZA

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

| UNIDAD | CANTIDAD | COSTO | IMPORTE | FACTOR AJUSTE | COSTO ACT | IMPORTE |
|--------|----------|-------|---------|---------------|-----------|---------|
|--------|----------|-------|---------|---------------|-----------|---------|

#### MATERIALES

|                           |     |       |          |          |        |          |          |
|---------------------------|-----|-------|----------|----------|--------|----------|----------|
| ACERO DE REFUERZO KALISCH | KG  | 1.315 | \$11.05  | \$14.53  | 1.1163 | \$12.34  | \$16.22  |
| CURACRETO                 | LTO | 0.15  | \$22.00  | \$3.30   | 1.1609 | \$25.54  | \$3.83   |
| TRIPLAY 5/8" P/CIMBRA     | M2  | 0.44  | \$205.00 | \$90.20  | 0.9998 | \$204.96 | \$90.18  |
| RENTA ESTACION TOTAL      | DIA | 1.25  | \$300.00 | \$375.00 | 1.2105 | \$363.15 | \$453.94 |
| SUBTOTAL                  |     |       |          |          |        |          | \$564.17 |

#### MANO DE OBRA

|                 |     |      |            |            |        |            |            |
|-----------------|-----|------|------------|------------|--------|------------|------------|
| TOPOGRAFO       | JOR | 0.75 | \$1,068.95 | \$801.71   | 1.0600 | \$1,133.05 | \$849.79   |
| PEON EN GENERAL | JOR | 0.75 | \$331.06   | \$248.30   | 1.0600 | \$350.91   | \$263.18   |
| PEON EN GENERAL | JOR | 0.75 | \$331.06   | \$248.30   | 1.0600 | \$350.91   | \$263.18   |
| SUBTOTAL        |     |      |            | \$1,298.30 |        |            | \$1,376.15 |

#### EQUIPO

|                  |    |         |          |            |        |          |            |
|------------------|----|---------|----------|------------|--------|----------|------------|
| GPS DE PRECISION | hr | 9.37824 | \$186.60 | \$1,749.98 | 1.2105 | \$225.88 | \$2,118.36 |
| SUBTOTAL         |    |         |          | \$1,749.98 |        |          | \$2,118.36 |

#### AUXILIARES

|                                       |    |       |            |          |        |            |          |
|---------------------------------------|----|-------|------------|----------|--------|------------|----------|
| CONCRETO Fc= 150 KG/CM2 HECHO EN OBRA | M3 | 0.33  | \$1,529.25 | 504.65   | 1.0382 | \$1,587.67 | \$523.93 |
| SUBTOTAL                              |    |       |            | \$504.65 |        |            | \$523.93 |
| HERRAMIENTA MENOR                     | %  | 3.00% | \$1,298.31 | \$38.95  | 1.0600 | \$1,376.21 | \$41.29  |
|                                       |    |       |            | \$38.95  |        |            |          |

|                        |            |            |
|------------------------|------------|------------|
| COSTO DIRECTO          | \$4,074.91 | \$4,582.61 |
| INDIRECTOS 7%          | \$285.24   | \$320.78   |
| COSTO FINANCIERO 0.00% | \$0.00     | \$0.00     |
| UTILIDAD 8%            | \$348.81   | \$392.27   |
| 0.20% CMIC             | \$9.42     | \$10.59    |
| PRECIO UNITARIO        | \$4,718.39 | \$5,306.27 |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
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 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. EXT-05

EXT.05.- Sobrecosto por cambio de cimbra común a cimbra aparente en columnas Co-1, Co-02 de sección 0.66 x 0.66 metros, triplay de un espesor de 5/8" en una de las caras a base de papel fenólico, y todo lo necesario para su correcta ejecución, por unidad de obra terminada P.U.O.T.

UNIDAD

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FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

| UNIDAD                                                                 | CANTIDAD | COSTO | IMPORTE  | FACTOR AJUSTE | COSTO ACT | IMPORTE  |           |
|------------------------------------------------------------------------|----------|-------|----------|---------------|-----------|----------|-----------|
| MATERIALES                                                             |          |       |          |               |           |          |           |
|                                                                        |          |       |          | 1.0000        | \$0.00    | \$0.00   |           |
| SUBTOTAL                                                               |          |       | \$0.00   |               |           | \$0.00   |           |
| MANO DE OBRA                                                           |          |       |          |               |           |          |           |
|                                                                        |          |       |          | 1.0600        | \$0.00    | \$0.00   |           |
| SUBTOTAL                                                               |          |       | \$0.00   |               |           | \$0.00   |           |
| EQUIPO                                                                 |          |       |          |               |           |          |           |
|                                                                        |          |       |          | 1.0000        | \$0.00    | \$0.00   |           |
| SUBTOTAL                                                               |          |       | \$0.00   |               |           | \$0.00   |           |
| AUXILIARES                                                             |          |       |          |               |           |          |           |
| CIMBRA APARENTE EN COLUMNAS Y TRABES CON TRIPLAY CARA DE PAPEL DE 5/8" | M2       | 2.64  | \$369.46 | 975.37        | 1.0248    | \$378.62 | \$999.56  |
| CIMBRA EN COLUMNAS Y TRABES                                            | M2       | -2.64 | \$308.99 | -815.73       | 1.0297    | \$318.17 | -\$839.97 |
| SUBTOTAL                                                               |          |       | \$159.64 |               |           | \$159.59 |           |
| HERRAMIENTA MENOR                                                      |          |       |          |               |           |          |           |
|                                                                        | %        | 3.00% | \$0.00   | \$0.00        | 1.0600    | \$0.00   | \$0.00    |

|                        |                 |                 |
|------------------------|-----------------|-----------------|
| COSTO DIRECTO          | \$159.64        | \$159.59        |
| INDIRECTOS 7%          | \$11.17         | \$11.17         |
| COSTO FINANCIERO 0.00% | \$0.00          | \$0.00          |
| UTILIDAD 8%            | \$13.67         | \$13.66         |
| 0.20% CMIC             | \$0.37          | \$0.37          |
| <b>PRECIO UNITARIO</b> | <b>\$184.84</b> | <b>\$184.77</b> |

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| \$183.76        |
| \$12.86         |
| \$0.00          |
| \$15.73         |
| \$0.42          |
| <b>\$212.78</b> |

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

CONCEPTO No. EXT-07

EXT.07.- Sobrecosto por cambio de cimbra común a cimbra aparente en columnas Co-4 de sección 1.20 x 1.00 metros, triplay de un espesor de 5/8" en una de las caras a base de papel fenólico, y todo lo necesario para su correcta ejecución, por unidad de obra terminada P.U.O.T.

UNIDAD M  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

| UNIDAD                                                         | CANTIDAD | COSTO | IMPORTE  | FACTOR AJUSTE | COSTO ACT | IMPORTE  |             |
|----------------------------------------------------------------|----------|-------|----------|---------------|-----------|----------|-------------|
| MATERIALES                                                     |          |       |          |               |           |          |             |
|                                                                |          |       |          | 1.0000        | \$0.00    | \$0.00   |             |
| SUBTOTAL                                                       |          |       | \$0.00   |               |           | \$0.00   |             |
| MANO DE OBRA                                                   |          |       |          |               |           |          |             |
|                                                                |          |       |          | 1.0600        | \$0.00    | \$0.00   |             |
| SUBTOTAL                                                       |          |       | \$0.00   |               |           | \$0.00   |             |
| EQUIPO                                                         |          |       |          |               |           |          |             |
|                                                                |          |       |          | 1.0000        | \$0.00    | \$0.00   |             |
| SUBTOTAL                                                       |          |       | \$0.00   |               |           | \$0.00   |             |
| AUXILIARES                                                     |          |       |          |               |           |          |             |
| CIMBRA APARENTE EN COLUMNAS Y TRABES CON TRIPLAY CARA DE PAPEL | M2       | 4.4   | \$369.46 | 1625.62       | 1.0248    | \$378.62 | \$1,665.93  |
| CIMBRA EN COLUMNAS Y TRABES                                    | M2       | -4.4  | \$308.99 | -1359.56      | 1.0297    | \$318.17 | -\$1,399.95 |
| SUBTOTAL                                                       |          |       | \$266.07 |               |           | \$265.98 |             |
| HERRAMIENTA MENOR                                              |          |       |          |               |           |          |             |
|                                                                | %        | 3.00% | \$0.00   | \$0.00        | 1.0600    | \$0.00   | \$0.00      |

|                        |          |
|------------------------|----------|
| COSTO DIRECTO          | \$266.07 |
| INDIRECTOS 7%          | \$18.62  |
| COSTO FINANCIERO 0.00% | \$0.00   |
| UTILIDAD 8%            | \$22.78  |
| 0.20% CMIC             | \$0.61   |
| PRECIO UNITARIO        | \$308.06 |

|          |
|----------|
| \$265.98 |
| \$18.62  |
| \$0.00   |
| \$22.77  |
| \$0.61   |
| \$307.98 |

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| \$145.08        |
| \$10.16         |
| \$0.00          |
| \$12.42         |
| \$0.34          |
| <b>\$167.99</b> |



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| \$120.90        |
| \$8.46          |
| \$0.00          |
| \$10.35         |
| \$0.28          |
| <b>\$139.99</b> |

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

#### CONCEPTO No. EXT-11

EXT.11.- Demolición de guarnición existente con sección 0.17 x 0.25 x 0.50 metros, incluye: demolición, carga, equipo, acarreo hasta tiradero autorizado por el Municipio, y todo lo necesario para su correcta ejecución, por unidad de obra terminada P.U.O.T.

UNIDAD

M

FECHA COTIZACION

26 DE NOV DE 2019

ACTUALIZACION A:

2020

ABRIL

|                                                               |  | UNIDAD | CANTIDAD | COSTO      | IMPORTE | FACTOR AJUSTE | COSTO ACT  | IMPORTE |
|---------------------------------------------------------------|--|--------|----------|------------|---------|---------------|------------|---------|
| MATERIALES                                                    |  |        |          |            |         |               |            |         |
|                                                               |  |        |          |            | \$0.00  | 1.0000        | \$0.00     | \$0.00  |
| SUBTOTAL                                                      |  |        |          |            | \$0.00  |               |            | \$0.00  |
| MANO DE OBRA                                                  |  |        |          |            |         |               |            |         |
| PEON EN GENERAL                                               |  | JOR    | 0.007    | \$331.06   | \$2.32  | 1.0600        | \$350.92   | \$2.46  |
| SUBTOTAL                                                      |  |        |          |            | \$2.32  |               |            | \$2.46  |
| EQUIPO                                                        |  |        |          |            |         |               |            |         |
| EXCAVADORA MARCA: CATERPILLAR MODELO: 320-D CAPACIDAD:1.5 YD3 |  | hr     | 0.025    | \$1,553.14 | \$38.83 | 1.0978        | \$1,705.04 | \$42.63 |
|                                                               |  |        |          | SUBTOTAL   | \$38.83 |               |            | \$42.63 |
| AUXILIARES                                                    |  |        |          |            |         |               |            |         |
| ACARREO 1ER KM TERRACERIAS                                    |  | M3     | 0.168    | \$12.45    | \$2.09  | 1.0568        | \$13.16    | \$2.21  |
| ACARREO MATERIALES EN PAVIMENTO (KM SUBSECUENTES) KM 2 AL 20  |  | M3     | 2.69     | \$5.36     | 14.42   | 1.0578        | \$5.67     | \$15.25 |
|                                                               |  |        |          | SUBTOTAL   | \$16.51 |               |            | \$17.46 |
| HERRAMIENTA MENOR                                             |  | %      | 3.00%    | \$2.32     | \$0.07  | 1.0600        | \$2.46     | \$0.07  |
| LIMPIEZA GRUESA Y FINA                                        |  | %      | 3.00%    | \$2.32     | \$0.07  | 1.0600        | \$2.46     | \$0.07  |
|                                                               |  |        |          |            | \$0.14  |               |            | \$0.14  |

|                        |                |                |
|------------------------|----------------|----------------|
| COSTO DIRECTO          | \$57.80        | \$62.69        |
| INDIRECTOS 7%          | \$4.05         | \$4.39         |
| COSTO FINANCIERO 0.00% | \$0.00         | \$0.00         |
| UTILIDAD 8%            | \$4.95         | \$5.37         |
| 0.20% CMIC             | \$0.13         | \$0.14         |
| <b>PRECIO UNITARIO</b> | <b>\$66.93</b> | <b>\$72.59</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK/03/2019  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE PRECIOS UNITARIOS

CONCEPTO No. EXT-14

EXT.14.- Guarnición a base de concreto hidráulico de 210 kg/cm2 de 12 x 20 x 52 centímetros con fibra de polipropileno 1kg/m3, acabado fino, incluye: herramienta, material, mano de obra y todo lo necesario para su correcta ejecución, por unidad de obra terminada P.U.O.T.

UNIDAD M  
 FECHA COTIZACION 26 DE NOV DE 2019

ACTUALIZACION A:  
 2020  
 ABRIL

| UNIDAD                                                            | CANTIDAD | COSTO  | IMPORTE    | FACTOR AJUSTE | COSTO ACT | IMPORTE    |          |
|-------------------------------------------------------------------|----------|--------|------------|---------------|-----------|------------|----------|
| MATERIALES                                                        |          |        |            |               |           |            |          |
| CONCRETO PREMEZCLADO F'c= 210 KG/CM2 GCC U HOLCIM APASCO          | M3       | 0.0923 | \$1,380.00 | \$127.37      | 1.0160    | \$1,402.08 | \$129.41 |
| FIBRA POLIPROPILENO                                               | KG       | 0.0923 | \$88.00    | \$8.12        | 1.0853    | \$95.51    | \$8.82   |
| CIMBRA METALICA P/GUARNICION                                      | JGO      | 0.0152 | \$2,500.00 | \$38.00       | 1.2124    | \$3,031.00 | \$46.07  |
| DESMOLDANTE                                                       | LTO      | 0.445  | \$24.00    | \$10.68       | 1.0918    | \$26.20    | \$11.66  |
| ACERO DE REFUERZO KALISCH                                         | KG       | 0.178  | \$11.05    | \$1.97        | 1.1163    | \$12.34    | \$2.20   |
| CELOTEX 1/2"                                                      | M2       | 0.008  | \$46.50    | \$0.37        | 1.0447    | \$48.58    | \$0.39   |
| ALAMBRE RECOCIDO KALISCH                                          | KG       | 0.089  | \$15.64    | \$1.39        | 0.9933    | \$15.54    | \$1.38   |
| CURACRETO                                                         | LTO      | 0.553  | \$22.00    | \$12.17       | 1.1609    | \$25.54    | \$14.12  |
| SELLADO ELASTOMERICO                                              | ML       | 0.43   | \$24.00    | \$10.32       | 1.0470    | \$25.13    | \$10.81  |
| SUBTOTAL                                                          |          |        |            | \$210.39      |           |            | \$224.86 |
| MANO DE OBRA                                                      |          |        |            |               |           |            |          |
| OFICIAL ALBAÑIL                                                   | JOR      | 0.064  | \$672.13   | \$43.03       | 1.0600    | \$712.46   | \$45.61  |
| PEON EN GENERAL                                                   | JOR      | 0.064  | \$331.06   | \$21.19       | 1.0600    | \$350.92   | \$22.46  |
| SUBTOTAL                                                          |          |        |            | \$64.21       |           |            | \$68.07  |
| EQUIPO                                                            |          |        |            |               |           |            |          |
| PLANTA LUZ MARCA: HONDA MODELO: EG-5000 CX CAPACIDAD: 5 KW        | HR       | 0.060  | \$149.31   | \$8.96        | 0.9616    | \$143.58   | \$8.62   |
| VIBRADOR ELECTRICO MARCA: WACKER MODELO: M-2000 CAPACIDAD: 2000 W | HR       | 0.060  | \$87.43    | \$5.25        | 1.0694    | \$93.50    | \$5.61   |
| SUBTOTAL                                                          |          |        |            | \$14.21       |           |            | \$14.23  |
| AUXILIARES                                                        |          |        |            |               |           |            |          |
|                                                                   |          |        |            |               | 1.0000    | \$0.00     | \$0.00   |
| SUBTOTAL                                                          |          |        |            | \$0.00        |           |            | \$0.00   |
| HERRAMIENTA MENOR                                                 | %        | 3.00%  | \$64.21    | \$1.93        | 1.0600    | \$68.06    | \$2.04   |
| LIMPIEZA GRUESA Y FINA                                            | %        | 3.00%  | \$64.21    | \$1.93        | 1.0600    | \$68.06    | \$2.04   |
|                                                                   |          |        |            | \$3.85        |           |            | \$4.08   |

|                        |                 |
|------------------------|-----------------|
| COSTO DIRECTO          | \$292.67        |
| INDIRECTOS 7%          | \$20.49         |
| COSTO FINANCIERO 0.00% | \$0.00          |
| UTILIDAD 8%            | \$25.05         |
| 0.20% CMIC             | \$0.68          |
| <b>PRECIO UNITARIO</b> | <b>\$338.89</b> |

|                 |
|-----------------|
| \$311.24        |
| \$21.79         |
| \$0.00          |
| \$26.64         |
| \$0.72          |
| <b>\$360.38</b> |

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
CONSTRUCTORA

### ANÁLISIS DE COSTOS HORARIOS

#### CONCEPTO No. 1

| REVOLVEDORA DE UN SACO     |             |                         |      |
|----------------------------|-------------|-------------------------|------|
| DATOS GENERALES            |             |                         |      |
| VALOR DE ADQUISICION(VA)   | \$18,000.00 | VIDA ECONOMICA          | 1500 |
| VALOR DE LLANTAS           | \$2,800.00  | VIDA LLANTAS            | 4000 |
| VALOR DE PIEZAS ESPECIALES | \$0.00      | VIDA DE PIEZAS ESPEC    | 0    |
| VALOR NOMINAL              | \$15,200.00 |                         |      |
| VALOR DE RESCATE 0%        | \$0.00      | HORAS ANUALES           | 300  |
| VALOR DE DEPRECIACION(VD)  | \$10.13     | FACTOR DE OPERACIÓN     | 1    |
| TASA INTERES ANUAL (I)     | 30.00%      | FACTOR DE MANTENIMIENTO | 0.3  |
| PRIMA ANUAL DE SEGUROS (S) | 2.00%       | COSTO ANUAL DE ALMAC    | 0    |

UNIDAD HORA  
FECHA COTIZACION 26 DE NOV DE 2019

#### ACTUALIZACION DE COSTOS HORARIOS

|                     |          |         |                | 2020          |               |               |           |                |
|---------------------|----------|---------|----------------|---------------|---------------|---------------|-----------|----------------|
|                     |          |         |                | ABRIL         |               |               |           |                |
| UNIDAD              | CANTIDAD | COSTO   | IMPORTE        | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT | IMPORTE        |
| <b>CARGOS FIJOS</b> |          |         |                |               |               |               |           |                |
| DEPRECIACION        | 1        | \$10.13 | \$10.13        | 1             | 1             | 0.00%         | \$10.13   | \$10.13        |
| INVERSION           | 1        | \$7.60  | \$7.60         | 1             | 1             | 0.00%         | \$7.60    | \$7.60         |
| SEGUROS             | 1        | \$0.51  | \$0.51         | 1             | 1             | 0.00%         | \$0.51    | \$0.51         |
| MANTENIMIENTO       | 1        | \$3.04  | \$3.04         | 1             | 1             | 0.00%         | \$3.04    | \$3.04         |
| <b>SUBTOTAL</b>     |          |         | <b>\$21.28</b> |               |               |               |           | <b>\$21.28</b> |
|                     |          |         |                | 100.3692      | 109.7503      | 1.0935        | \$23.27   | \$23.27        |

| CARGOS POR CONSUMO |      |         |         |         |          |          |        |         |         |
|--------------------|------|---------|---------|---------|----------|----------|--------|---------|---------|
| COMBUSTIBLE        |      |         |         |         |          |          |        |         |         |
| GASOLINA           | LTO  | 1.03400 | \$15.15 | \$15.67 | 99.1988  | 72.3488  | 0.7293 | \$11.05 | \$11.43 |
| LUBRICANTES        |      |         |         |         |          |          |        |         |         |
| ACEITES            | LTO  | 0.03300 | \$39.50 | \$1.30  | 99.9794  | 105.4845 | 1.0551 | \$41.68 | \$1.38  |
| OTROS CONSUMOS     |      |         |         |         |          |          |        |         |         |
| GRASA              | LTO  | 0.06250 | \$61.50 | \$3.84  | 89.2863  | 98.4851  | 1.1030 | \$67.83 | \$4.24  |
| FILTRO             | PZA  | 1       | \$17.00 | \$17.00 | 100.9496 | 102.4044 | 1.0144 | \$17.24 | \$17.24 |
| LLANTAS            | HORA | 1       | \$0.70  | \$0.70  | 100.1439 | 102.7205 | 1.0257 | \$0.72  | \$0.72  |
| SUBTOTAL           |      |         |         | \$38.51 |          |          |        |         | \$35.01 |

| CARGOS POR OPERACIÓN |     |         |          |         |        |        |        |          |         |
|----------------------|-----|---------|----------|---------|--------|--------|--------|----------|---------|
| AYUDANTE             | JOR | 0.14286 | \$331.06 | \$47.31 | 378.39 | 401.09 | 1.0600 | \$350.92 | \$50.13 |
|                      |     |         | SUBTOTAL | \$47.31 |        |        |        |          | \$50.13 |

**COSTO HORARIO ACTIVO \$107.09**

**\$108.42**

FACTOR DE ACTUALIZACION 1.0124

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE COSTOS HORARIOS

CONCEPTO No. 2

COMPACTADORA BAILARINA

#### DATOS GENERALES

|                            |             |                         |      |
|----------------------------|-------------|-------------------------|------|
| VALOR DE ADQUISICION(VA)   | \$55,000.00 | VIDA ECONOMICA          | 1500 |
| VALOR DE LLANTAS           | \$0.00      | VIDA LLANTAS            | 0    |
| VALOR NOMINAL              | \$55,000.00 |                         |      |
| VALOR DE RESCATE 0%        | \$0.00      | HORAS ANUALES           | 500  |
| VALOR DE DEPRECIACION(VD)  | \$36.67     | FACTOR DE OPERACIÓN     | 1    |
| TASA INTERES ANUAL (I)     | 30.00%      | FACTOR DE MANTENIMIENTO | 0.3  |
| PRIMA ANUAL DE SEGUROS (S) | 2.00%       | COSTO ANUAL DE ALMAC    | 0    |

UNIDAD

HORA

FECHA COTIZACION

26 DE NOV DE 2019

#### ACTUALIZACION DE COSTOS HORARIOS

|               |          |       |         | 2020          |               |               |           |         |
|---------------|----------|-------|---------|---------------|---------------|---------------|-----------|---------|
|               |          |       |         | ABRIL         |               |               |           |         |
| UNIDAD        | CANTIDAD | COSTO | IMPORTE | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT | IMPORTE |
| CARGOS FIJOS  |          |       |         |               |               |               |           |         |
| DEPRECIACION  | 1        |       | \$36.67 | 1             | 1             | 0.00%         | \$36.67   | \$36.67 |
| INVERSION     | 1        |       | \$16.50 | 1             | 1             | 0.00%         | \$16.50   | \$16.50 |
| SEGUROS       | 1        |       | \$1.10  | 1             | 1             | 0.00%         | \$1.10    | \$1.10  |
| MANTENIMIENTO | 1        |       | \$11.00 | 1             | 1             | 0.00%         | \$11.00   | \$11.00 |
| SUBTOTAL      |          |       | \$65.27 |               |               |               |           | \$65.27 |
|               |          |       | \$65.27 | 100.3692      | 109.7503      | 1.0935        | \$71.37   | \$71.37 |

#### CARGOS POR CONSUMO

##### COMBUSTIBLE

|          |     |         |         |         |         |         |        |         |        |
|----------|-----|---------|---------|---------|---------|---------|--------|---------|--------|
| GASOLINA | LTO | 0.79485 | \$15.15 | \$12.04 | 99.1988 | 72.3488 | 0.7293 | \$11.05 | \$8.78 |
|----------|-----|---------|---------|---------|---------|---------|--------|---------|--------|

##### LUBRICANTES

|         |     |         |         |        |         |          |        |         |        |
|---------|-----|---------|---------|--------|---------|----------|--------|---------|--------|
| ACEITES | LTO | 0.01050 | \$39.50 | \$0.41 | 99.9794 | 105.4845 | 1.0551 | \$41.68 | \$0.44 |
|---------|-----|---------|---------|--------|---------|----------|--------|---------|--------|

##### OTROS CONSUMOS

|       |     |   |         |        |         |         |        |         |        |
|-------|-----|---|---------|--------|---------|---------|--------|---------|--------|
| GRASA | LTO | 0 | \$36.42 | \$0.00 | 89.2863 | 98.4851 | 1.1030 | \$40.17 | \$0.00 |
|-------|-----|---|---------|--------|---------|---------|--------|---------|--------|

|        |     |   |        |        |          |          |        |        |        |
|--------|-----|---|--------|--------|----------|----------|--------|--------|--------|
| FILTRO | PZA | 1 | \$3.99 | \$3.99 | 100.9496 | 102.4044 | 1.0144 | \$4.05 | \$4.05 |
|--------|-----|---|--------|--------|----------|----------|--------|--------|--------|

|          |  |  |         |  |  |  |  |  |         |
|----------|--|--|---------|--|--|--|--|--|---------|
| SUBTOTAL |  |  | \$16.44 |  |  |  |  |  | \$13.27 |
|----------|--|--|---------|--|--|--|--|--|---------|

#### CARGOS POR OPERACIÓN

|          |     |            |          |         |        |        |        |          |         |
|----------|-----|------------|----------|---------|--------|--------|--------|----------|---------|
| AYUDANTE | JOR | 0.15384615 | \$331.06 | \$50.93 | 378.39 | 401.09 | 1.0600 | \$350.92 | \$53.99 |
|----------|-----|------------|----------|---------|--------|--------|--------|----------|---------|

|          |  |  |         |  |  |  |  |  |         |
|----------|--|--|---------|--|--|--|--|--|---------|
| SUBTOTAL |  |  | \$50.93 |  |  |  |  |  | \$53.99 |
|----------|--|--|---------|--|--|--|--|--|---------|

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FACTOR DE ACTUALIZACION

1.0452

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.



**PROURVIKA**  
CONSTRUCTORA

OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
CONTRATO No. C.O.P.-080-2019-P

### ANÁLISIS DE COSTOS HORARIOS

#### CONCEPTO No. 3

|                            |                      |                             |
|----------------------------|----------------------|-----------------------------|
| VIBRADOR GASOLINA          | MARCA: CIPSA-DYNAPAC | MODELO: MV-                 |
| DATOS GENERALES            |                      |                             |
| VALOR DE ADQUISICION(VA)   | \$17,500.00          | VIDA ECONOMICA 1000         |
| VALOR DE LLANTAS           | \$0.00               | VIDA LLANTAS 0              |
| VALOR NOMINAL              | \$17,500.00          |                             |
| VALOR DE RESCATE 0%        | \$0.00               | HORAS ANUALES 400           |
| VALOR DE DEPRECIACION(VD)  | \$17.50              | FACTOR DE OPERACIÓN 1       |
| TASA INTERES ANUAL (I)     | 30.00%               | FACTOR DE MANTENIMIENTO 0.3 |
| PRIMA ANUAL DE SEGUROS (S) | 2.00%                | COSTO ANUAL DE ALMAC 0      |

ACTUALIZACION DE COSTOS HORARIOS

UNIDAD

HORA

FECHA COTIZACION

26 DE NOV DE 2019

|               |          |       |         |                  | 2020             |                  |           |         |         |
|---------------|----------|-------|---------|------------------|------------------|------------------|-----------|---------|---------|
|               |          |       |         |                  | INDICE<br>NOV 19 | ABRIL            |           |         |         |
| UNIDAD        | CANTIDAD | COSTO | IMPORTE | INDICE ABR<br>20 |                  | FACTOR<br>AJUSTE | COSTO ACT | IMPORTE |         |
| CARGOS FIJOS  |          |       |         |                  |                  |                  |           |         |         |
| DEPRECIACION  | 1        |       | \$17.50 | 1                | 1                | 0.00%            | \$17.50   | \$17.50 |         |
| INVERSION     | 1        |       | \$6.56  | 1                | 1                | 0.00%            | \$6.56    | \$6.56  |         |
| SEGUROS       | 1        |       | \$0.44  | 1                | 1                | 0.00%            | \$0.44    | \$0.44  |         |
| MANTENIMIENTO | 1        |       | \$5.25  | 1                | 1                | 0.00%            | \$5.25    | \$5.25  |         |
| SUBTOTAL      |          |       | \$29.75 |                  |                  |                  |           | \$29.75 |         |
|               |          |       |         | \$29.75          | 100.3692         | 109.7503         | 1.0935    | \$32.53 | \$32.53 |

|                    |     |          |          |         |          |          |        |          |         |
|--------------------|-----|----------|----------|---------|----------|----------|--------|----------|---------|
| CARGOS POR CONSUMO |     |          |          |         |          |          |        |          |         |
| COMBUSTIBLE        |     |          |          |         |          |          |        |          |         |
| GASOLINA           | LTO | 1.25     | \$15.15  | \$18.92 | 99.1988  | 72.3488  | 0.7293 | \$11.05  | \$13.80 |
| LUBRICANTES        |     |          |          |         |          |          |        |          |         |
| ACEITE             | LTO | 0.016456 | \$39.50  | \$0.65  | 99.9794  | 105.4845 | 1.0551 | \$41.68  | \$0.69  |
| OTROS CONSUMOS     |     |          |          |         |          |          |        |          |         |
| FILTROS            |     | 0.02     | \$850.00 | \$17.00 | 100.9496 | 102.4044 | 1.0144 | \$862.24 | \$17.24 |
| SUBTOTAL           |     |          |          |         | \$36.57  |          |        |          |         |
|                    |     |          |          |         |          |          |        | \$31.73  |         |

| CARGOS POR OPERACIÓN |     |         |          |         |        |        |        |          |         |
|----------------------|-----|---------|----------|---------|--------|--------|--------|----------|---------|
| PEON EN GENERAL      | JOR | 0.15385 | \$331.06 | \$50.94 | 378.39 | 401.09 | 1.0600 | \$350.92 | \$53.99 |
| AYUDANTE             | JOR |         |          | \$0.00  |        |        |        |          |         |
|                      |     |         | SUBTOTAL | \$50.94 |        |        |        |          | \$53.99 |
|                      |     |         |          |         |        |        |        |          |         |

COSTO HORARIO ACTIVO **\$117.25**

**\$118.25**

FACTOR DE ACTUALIZACION 1.0085



CONSTRUCTORA PROURVIKA, S.A. DE C.V.



**PROURVIKA**  
CONSTRUCTORA

OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
CONTRATO No. C.O.P.-080-2019-P

### ANÁLISIS DE COSTOS HORARIOS

#### CONCEPTO No. 4

|                    |               |                |
|--------------------|---------------|----------------|
| VIBRADOR ELECTRICO | MARCA: WACKER | MODELO: M-2000 |
| CAPACIDAD: 2000 W  |               |                |

#### DATOS GENERALES

|                        |             |            |      |
|------------------------|-------------|------------|------|
| VALOR DE               |             | VIDA       |      |
| ADQUISICION(VA)        | \$18,900.00 | ECONOMICA  | 1000 |
| VALOR DE LLANTAS       |             | VIDA       |      |
|                        | \$0.00      | LLANTAS    | 0    |
| VALOR NOMINAL          | \$18,900.00 |            |      |
| VALOR DE RESCATE 0%    |             | HORAS      |      |
|                        | \$0.00      | ANUALES    | 400  |
| VALOR DE               |             | FACTOR DE  |      |
| DEPRECIACION(VD)       | \$18.90     | OPERACIÓN  | 1    |
| TASA INTERES ANUAL (I) |             |            |      |
|                        | 30.00%      | FACTOR DE  |      |
|                        |             | MANTENIMIE |      |
|                        |             | NTD        | 0.3  |
| PPRIMA ANUAL DE        |             | COSTO      |      |
| SEGUROS (S)            |             | ANUAL DE   |      |
|                        | 2.00%       | ALMAC      | 0    |

UNIDAD

HORA

FECHA COTIZACION

26 DE NOV DE 2019

#### ACTUALIZACION DE COSTOS HORARIOS

|                      |        |                      |          | 2020    |               |               |               |           |         |
|----------------------|--------|----------------------|----------|---------|---------------|---------------|---------------|-----------|---------|
|                      |        |                      |          | ABRIL   |               |               |               |           |         |
|                      | UNIDAD | CANTIDAD             | COSTO    | IMPORTE | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT | IMPORTE |
| CARGOS FIJOS         |        |                      |          |         |               |               |               |           |         |
| DEPRECIACION         |        | 1                    |          | \$18.90 | 1             | 1             | 0.00%         | \$18.90   | \$18.90 |
| INVERSION            |        | 1                    |          | \$7.09  | 1             | 1             | 0.00%         | \$7.09    | \$7.09  |
| SEGUROS              |        | 1                    |          | \$0.47  | 1             | 1             | 0.00%         | \$0.47    | \$0.47  |
| MANTENIMIENTO        |        | 1                    |          | \$5.67  | 1             | 1             | 0.00%         | \$5.67    | \$5.67  |
| SUBTOTAL             |        |                      |          | \$32.13 |               |               |               |           | \$32.13 |
|                      |        |                      |          | \$32.13 | 100.3692      | 109.7503      | 1.0935        | \$35.13   | \$35.13 |
|                      |        |                      |          |         |               |               |               |           |         |
| CARGOS POR CONSUMO   |        |                      |          |         |               |               |               |           |         |
| COMBUSTIBLE          |        |                      |          |         |               |               |               |           |         |
| ENERGIA ELECTRICA    | KW     | 2.00                 | \$4.00   | \$8.00  | 99.9116       | 102.6951      | 1.0279        | \$4.11    | \$8.22  |
| LUBRICANTES          |        |                      |          |         |               |               |               |           |         |
|                      |        |                      |          | \$0.00  | 99.9794       | 103.6199      | 1.0364        | \$0.00    | \$0.00  |
| OTROS CONSUMOS       |        |                      |          |         |               |               |               |           |         |
|                      |        |                      |          | \$0.00  | 101.083       | 101.1415      | 1.0006        | \$0.00    | \$0.00  |
| SUBTOTAL             |        |                      |          | \$8.00  |               |               |               |           | \$8.22  |
|                      |        |                      |          |         |               |               |               |           |         |
| CARGOS POR OPERACIÓN |        |                      |          |         |               |               |               |           |         |
| PEON EN GENERAL      | JOR    | 0.14286              | \$331.06 | \$47.31 | 378.39        | 401.09        | 1.0600        | \$350.92  | \$50.13 |
|                      |        |                      | SUBTOTAL | \$47.31 |               |               |               |           | \$50.13 |
|                      |        |                      |          |         |               |               |               |           |         |
|                      |        | COSTO HORARIO ACTIVO |          | \$87.43 |               |               |               |           | \$93.49 |

FACTOR DE ACTUALIZACION 1.0694



CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
CONSTRUYENDO EL FUTURO

### ANÁLISIS DE COSTOS HORARIOS

CONCEPTO No. 6

#### RETROEXCAVADORA

##### DATOS GENERALES

|                            |                |                         |       |
|----------------------------|----------------|-------------------------|-------|
| VALOR DE ADQUISICION(VA)   | \$1,008,000.00 | VIDA ECONOMICA          | 20000 |
| VALOR DE LLANTAS           | \$24,000.00    | VIDA LLANTAS            | 4000  |
| VALOR DE PZAS ESPECIALES   | \$3,000.00     | VIDA PZAS ESPEC         | 600   |
| VALOR NOMINAL              | \$981,000.00   |                         |       |
| VALOR DE RESCATE 20%       | \$196,200.00   | HORAS ANUALES           | 1200  |
| VALOR DE DEPRECIACION(VD)  | \$39.24        | FACTOR DE OPERACIÓN     | 1     |
| TASA INTERES ANUAL (I)     | 30.00%         | FACTOR DE MANTENIMIENTO | 0.3   |
| PRIMA ANUAL DE SEGUROS (S) | 2.00%          | COSTO ANUAL DE ALMAC    | 0     |

UNIDAD

HORA

FECHA COTIZACION

26 DE NOV DE 2019

#### ACTUALIZACION DE COSTOS HORARIOS

|               |          |       |          |               | 2020             |                  |           |          |  |
|---------------|----------|-------|----------|---------------|------------------|------------------|-----------|----------|--|
|               |          |       |          |               | INDICE NOV<br>19 | INDICE<br>ABR 20 | ABRIL     |          |  |
| UNIDAD        | CANTIDAD | COSTO | IMPORTE  | FACTOR AJUSTE |                  |                  | COSTO ACT | IMPORTE  |  |
| CARGOS FIJOS  |          |       |          |               |                  |                  |           |          |  |
| DEPRECIACION  | 1        |       | \$39.24  | 1             | 1                | 0.00%            | \$39.24   | \$39.24  |  |
| INVERSION     | 1        |       | \$147.15 | 1             | 1                | 0.00%            | \$147.15  | \$147.15 |  |
| SEGUROS       | 1        |       | \$9.81   | 1             | 1                | 0.00%            | \$9.81    | \$9.81   |  |
| MANTENIMIENTO | 1        |       | \$11.77  | 1             | 1                | 0.00%            | \$11.77   | \$11.77  |  |
|               |          |       | SUBTOTAL | \$207.97      |                  |                  |           | \$207.97 |  |
|               |          |       | \$207.97 | 100.4709      | 122.1358         | 1.2156           | \$252.81  | \$252.81 |  |

#### CARGOS POR CONSUMO

##### COMBUSTIBLE

|                     |     |          |         |          |          |          |        |         |          |
|---------------------|-----|----------|---------|----------|----------|----------|--------|---------|----------|
| DIESEL              | LTO | 8.64800  | \$17.62 | \$152.38 | 100.5013 | 84.2104  | 0.8379 | \$14.76 | \$127.64 |
| <b>LUBRICANTES</b>  |     |          |         |          |          |          |        |         |          |
| ACEITES MOTOR       | LTO | 0.27600  | \$35.80 | \$9.88   | 99.9794  | 105.4845 | 1.0551 | \$37.77 | \$10.42  |
| ACEITES TRANSMISION | LTO | 0.01500  | \$45.98 | \$0.69   | 99.9794  | 105.4845 | 1.0551 | \$48.51 | \$0.73   |
| ACEITES DIFERENCIAL | LTO | 0.016647 | \$43.34 | \$0.86   | 99.9794  | 105.4845 | 1.0551 | \$45.73 | \$0.76   |
| ACEITE HIDRAULICO   | LTO | 0.04000  | \$29.80 | \$1.19   | 99.9794  | 105.4845 | 1.0551 | \$31.44 | \$1.26   |
| GRASA               | KG  | 0.12500  | \$61.50 | \$7.69   | 89.2863  | 98.4851  | 1.1030 | \$67.83 | \$8.48   |

##### OTROS CONSUMOS

|                 |      |                 |                 |         |          |          |        |         |                 |
|-----------------|------|-----------------|-----------------|---------|----------|----------|--------|---------|-----------------|
| FILTROS         | PZA  | 1               | \$17.00         | \$17.00 | 100.9496 | 102.4044 | 1.0144 | \$17.24 | \$17.24         |
| LLANTAS         | HORA | 1               | \$6.00          | \$6.00  | 100.1439 | 102.7205 | 1.0257 | \$6.15  | \$6.15          |
| PZAS ESPECIALES | HORA | 1               | \$5.00          | \$5.00  | 101.0777 | 122.5499 | 1.2124 | \$6.06  | \$6.06          |
|                 |      | <b>SUBTOTAL</b> | <b>\$200.70</b> |         |          |          |        |         | <b>\$178.74</b> |

#### CARGOS POR OPERACIÓN

|          |     |                 |                |         |        |        |        |          |                |
|----------|-----|-----------------|----------------|---------|--------|--------|--------|----------|----------------|
| OPERADOR | JOR | 0.15384615      | \$442.57       | \$68.09 | 378.39 | 401.09 | 1.0600 | \$469.12 | \$72.17        |
|          |     | <b>SUBTOTAL</b> | <b>\$68.09</b> |         |        |        |        |          | <b>\$72.17</b> |

COSTO HORARIO ACTIVO **\$476.76**

**\$503.75**

FACTOR DE ACTUALIZACION 1.0566

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



PROURVIKA  
 CONSTRUYENDO

### ANÁLISIS DE COSTOS HORARIOS

#### CONCEPTO No. 7

| MOTOCONFORMADORA           |                |                          |       |
|----------------------------|----------------|--------------------------|-------|
| DATOS GENERALES            |                |                          |       |
| VALOR DE ADQUISICION(VA)   | \$6,460,000.00 | VIDA ECONOMICA           | 24000 |
| VALOR DE LLANTAS           | \$113,400.00   | VIDA LLANTAS             | 2000  |
| VALOR PZAS ESPECIALES      | \$24,000.00    | VIDA PZAS ESPEC          | 1400  |
| VALOR NOMINAL              | \$6,322,600.00 |                          |       |
| VALOR DE RESCATE 30%       | \$1,896,780.00 | HORAS ANUALES            | 1800  |
| VALOR DE DEPRECIACION(VD)  | \$184.41       | FACTOR DE OPERACIÓN      | 1     |
| TASA INTERES ANUAL (I)     | 30.00%         | FACTOR DE MANTENIMIE NTO | 0.3   |
| PRIMA ANUAL DE SEGUROS (S) | 2.00%          | COEF. ALMAC              | 0.05  |

#### ACTUALIZACION DE COSTOS HORARIOS

|                     |          |       |                 | 2020            |               |               |           |                 |
|---------------------|----------|-------|-----------------|-----------------|---------------|---------------|-----------|-----------------|
|                     |          |       |                 | ABRIL           |               |               |           |                 |
| UNIDAD              | CANTIDAD | COSTO | IMPORTE         | INDICE NOV 19   | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT | IMPORTE         |
| <b>CARGOS FIJOS</b> |          |       |                 |                 |               |               |           |                 |
| DEPRECIACION        | 1        |       | \$184.41        | 1               | 1             | 0.00%         | \$184.41  | \$184.41        |
| INVERSION           | 1        |       | \$684.95        | 1               | 1             | 0.00%         | \$684.95  | \$684.95        |
| SEGUROS             | 1        |       | \$45.66         | 1               | 1             | 0.00%         | \$45.66   | \$45.66         |
| MANTENIMIENTO       | 1        |       | \$55.32         | 1               | 1             | 0.00%         | \$55.32   | \$55.32         |
| <b>SUBTOTAL</b>     |          |       | <b>\$970.34</b> |                 |               |               |           | <b>\$970.34</b> |
|                     |          |       |                 | <b>\$970.34</b> | 100.4709      | 122.1358      | 1.2156    | \$1,179.55      |

| CARGOS POR CONSUMO     |      |       |          |          |          |          |        |         |          |
|------------------------|------|-------|----------|----------|----------|----------|--------|---------|----------|
| COMBUSTIBLE            |      |       |          |          |          |          |        |         |          |
| DIESEL                 | LTO  | 20.00 | \$17.62  | \$352.40 | 100.5013 | 84.2103  | 0.8379 | \$14.76 | \$295.20 |
| LUBRICANTES            |      |       |          |          |          |          |        |         |          |
| ACEITES MOTOR          | LTO  | 0.15  | \$35.80  | \$5.37   | 99.9794  | 105.4845 | 1.0551 | \$37.77 | \$5.67   |
| ACEITES TRANSMISION    | LTO  | 0.05  | \$45.98  | \$2.30   | 99.9794  | 105.4845 | 1.0551 | \$48.51 | \$2.43   |
| ACEITES DIFERENCIAL    | LTO  | 0.03  | \$43.34  | \$1.30   | 99.9794  | 105.4845 | 1.0551 | \$45.73 | \$1.37   |
| ACEITES MANDOS FINALES | LTO  | 0.02  | \$39.50  | \$0.79   | 99.9794  | 105.4845 | 1.0551 | \$41.68 | \$0.83   |
| ACEITES P/TANDEM       | LTO  | 0.15  | \$54.50  | \$8.18   | 99.9794  | 105.4845 | 1.0551 | \$57.50 | \$8.63   |
| ACEITE HIDRAULICO      | LTO  | 0.08  | \$29.80  | \$2.38   | 99.9794  | 105.4845 | 1.0551 | \$31.44 | \$2.52   |
| GRASA                  | KG   | 0.12  | \$61.50  | \$7.38   | 89.2863  | 98.4851  | 1.1030 | \$67.83 | \$8.14   |
| OTROS CONSUMOS         |      |       |          |          |          |          |        |         |          |
| FILTROS                | PZA  | 1     | \$9.60   | \$9.60   | 100.9496 | 102.4044 | 1.0144 | \$9.74  | \$9.74   |
| LLANTAS                | HORA | 1     | \$56.70  | \$56.70  | 100.1439 | 102.7205 | 1.0257 | \$58.16 | \$58.16  |
| HERRAMIENTAS CORTE     | HORA | 1     | \$17.14  | \$17.14  | 101.0777 | 122.5499 | 1.2124 | \$20.78 | \$20.78  |
| SUBTOTAL               |      |       | \$463.54 |          |          |          |        |         | \$413.47 |

| CARGOS POR OPERACIÓN |     |             |            |          |        |        |        |            |          |
|----------------------|-----|-------------|------------|----------|--------|--------|--------|------------|----------|
| OPERADOR             | JOR | 0.153846154 | \$1,226.37 | \$188.67 | 378.39 | 401.09 | 1.0600 | \$1,299.95 | \$199.99 |
|                      |     |             | SUBTOTAL   | \$188.67 |        |        |        |            | \$199.99 |
|                      |     |             |            |          |        |        |        |            |          |

|                             |                   |                   |
|-----------------------------|-------------------|-------------------|
| <b>COSTO HORARIO ACTIVO</b> | <b>\$1,622.56</b> | <b>\$1,793.01</b> |
|-----------------------------|-------------------|-------------------|

FACTOR DE ACTUALIZACION 1.1051

K O

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE COSTOS HORARIOS

#### CONCEPTO No. 9

|                            |                |                         |       |
|----------------------------|----------------|-------------------------|-------|
| <b>CAMION PIPA</b>         |                |                         |       |
| <b>DATOS GENERALES</b>     |                |                         |       |
| VALOR DE ADQUISICION(VA)   | \$1,610,000.00 | VIDA ECONOMICA          | 20000 |
| VALOR DE LLANTAS           | \$75,000.00    | VIDA LLANTAS            | 3000  |
| VALOR PZAS ESPECIALES      | \$8,500.00     | VIDA PZAS ESP           | 4000  |
| VALOR NOMINAL              | \$1,526,500.00 |                         |       |
| VALOR DE RESCATE 30%       | \$457,950.00   | HORAS ANUALES           | 1200  |
| VALOR DE DEPRECIACION(VD)  | \$53.43        | FACTOR DE OPERACIÓN     | 1     |
| TASA INTERES ANUAL (I)     | 30.00%         | FACTOR DE MANTENIMIENTO | 0.3   |
| PRIMA ANUAL DE SEGUROS (S) | 2.00%          | COSTO ANUAL DE ALMAC    | 0     |

#### ACTUALIZACION DE COSTOS HORARIOS

UNIDAD HORA  
 FECHA COTIZACION 26 DE NOV DE 2019

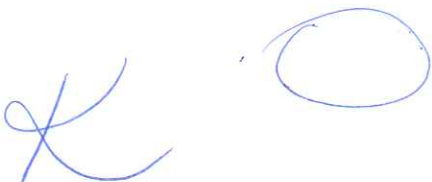
|               |          |       |          |               | 2020             |                  |           |          |          |
|---------------|----------|-------|----------|---------------|------------------|------------------|-----------|----------|----------|
|               |          |       |          |               | INDICE NOV<br>19 | INDICE ABR<br>20 | ABRIL     |          |          |
| UNIDAD        | CANTIDAD | COSTO | IMPORTE  | FACTOR AJUSTE |                  |                  | COSTO ACT | IMPORTE  |          |
| CARGOS FIJOS  |          |       |          |               |                  |                  |           |          |          |
| DEPRECIACION  | 1        |       | \$53.43  | 1             | 1                | 0.00%            | \$53.43   | \$53.43  |          |
| INVERSION     | 1        |       | \$248.06 | 1             | 1                | 0.00%            | \$248.06  | \$248.06 |          |
| SEGUROS       | 1        |       | \$16.54  | 1             | 1                | 0.00%            | \$16.54   | \$16.54  |          |
| MANTENIMIENTO | 1        |       | \$16.03  | 1             | 1                | 0.00%            | \$16.03   | \$16.03  |          |
| SUBTOTAL      |          |       |          | \$334.05      |                  |                  |           | \$334.05 |          |
|               |          |       |          | \$334.05      | 100.9115         | 116.6990         | 1.1564    | \$386.31 | \$386.31 |

|                           |      |        |                 |          |          |          |        |                 |
|---------------------------|------|--------|-----------------|----------|----------|----------|--------|-----------------|
| <b>CARGOS POR CONSUMO</b> |      |        |                 |          |          |          |        |                 |
| <b>COMBUSTIBLE</b>        |      |        |                 |          |          |          |        |                 |
| DIESEL                    | LTO  | 8.0000 | \$17.62         | \$140.96 | 100.5013 | 84.2103  | 0.8379 | \$14.76         |
| <b>LUBRICANTES</b>        |      |        |                 |          |          |          |        |                 |
| ACEITES MOTOR             | LTO  | 0.1250 | \$35.80         | \$4.48   | 99.9794  | 105.4845 | 1.0551 | \$37.77         |
| ACEITES TRANSMISION       | LTO  | 0.0300 | \$45.98         | \$1.38   | 99.9794  | 105.4845 | 1.0551 | \$48.51         |
| ACEITES DIFERENCIAL       | LTO  | 0.0300 | \$43.34         | \$1.30   | 99.9794  | 105.4845 | 1.0551 | \$45.73         |
| ACEITE HIDRAULICO         | LTO  | 0.00   | \$42.05         | \$0.00   | 99.9794  | 105.4845 | 1.0551 | \$44.37         |
| GRASA                     | KG   | 0.0625 | \$61.50         | \$3.84   | 89.2863  | 98.4851  | 1.1030 | \$67.83         |
| <b>OTROS CONSUMOS</b>     |      |        |                 |          |          |          |        |                 |
| FILTROS                   | PZA  | 1      | \$3.20          | \$3.20   | 100.9496 | 102.4044 | 1.0144 | \$3.25          |
| LLANTAS                   | HORA | 1      | \$25.00         | \$25.00  | 100.1439 | 102.7205 | 1.0257 | \$25.64         |
| PZAS ESPECIALES           | HORA | 1      | \$2.13          | \$2.13   | 101.0777 | 122.5499 | 1.2124 | \$2.58          |
| <b>SUBTOTAL</b>           |      |        | <b>\$182.29</b> |          |          |          |        | <b>\$161.37</b> |

|                             |     |         |                |         |        |        |        |                 |
|-----------------------------|-----|---------|----------------|---------|--------|--------|--------|-----------------|
| <b>CARGOS POR OPERACIÓN</b> |     |         |                |         |        |        |        |                 |
| OPERADOR                    | JOR | 0.15385 | \$619.66       | \$95.33 | 378.39 | 401.09 | 1.0600 | \$656.84        |
| <b>SUBTOTAL</b>             |     |         | <b>\$95.33</b> |         |        |        |        | <b>\$101.05</b> |

|                             |                 |                 |
|-----------------------------|-----------------|-----------------|
| <b>COSTO HORARIO ACTIVO</b> | <b>\$611.67</b> | <b>\$648.73</b> |
|-----------------------------|-----------------|-----------------|

FACTOR DE ACTUALIZACION 1.0606



CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE COSTOS HORARIOS

#### CONCEPTO No. 11

| TRACTOR D8N                 |                 |                         |       |
|-----------------------------|-----------------|-------------------------|-------|
| DATOS GENERALES             |                 |                         |       |
| VALOR DE ADQUISICION(VA)    | \$14,540,000.00 | VIDA ECONOMICA          | 24000 |
| VALOR DE LLANTAS            | \$0.00          | VIDA LLANTAS            | 0     |
| ADQUISICION PZAS ESPECIALES | \$46,000.00     | VIDA PZAS ESP           | 1200  |
| VALOR NOMINAL               | \$14,494,000.00 |                         |       |
| VALOR DE RESCATE 30%        | \$4,348,200.00  | HORAS ANUALES           | 2000  |
| VALOR DE DEPRECIACION(VD)   | \$422.74        | FACTOR DE OPERACIÓN     | 1     |
| TASA INTERES ANUAL (I)      | 30.00%          | FACTOR DE MANTENIMIENTO | 0.3   |
| PRIMA ANUAL DE SEGUROS (S)  | 2.00%           | COSTO ANUAL DE ALMAC    | 0     |

UNIDAD HORA  
 FECHA COTIZACION 26 DE NOV DE 2019

#### ACTUALIZACION DE COSTOS HORARIOS

|                             |          |            |                   |                   | 2020          |               |            |                   |                   |
|-----------------------------|----------|------------|-------------------|-------------------|---------------|---------------|------------|-------------------|-------------------|
|                             |          |            |                   |                   | ABRIL         |               |            |                   |                   |
| UNIDAD                      | CANTIDAD | COSTO      | IMPORTE           | INDICE NOV 19     | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT  | IMPORTE           |                   |
| <b>CARGOS FIJOS</b>         |          |            |                   |                   |               |               |            |                   |                   |
| DEPRECIACION                | 1        |            | \$422.74          | 1                 | 1             | 0.00%         | \$422.74   | \$422.74          |                   |
| INVERSION                   | 1        |            | \$1,413.17        | 1                 | 1             | 0.00%         | \$1,413.17 | \$1,413.17        |                   |
| SEGUROS                     | 1        |            | \$94.21           | 1                 | 1             | 0.00%         | \$94.21    | \$94.21           |                   |
| MANTENIMIENTO               | 1        |            | \$126.82          | 1                 | 1             | 0.00%         | \$126.82   | \$126.82          |                   |
| <b>SUBTOTAL</b>             |          |            | <b>\$2,056.94</b> |                   |               |               |            | <b>\$2,056.94</b> |                   |
|                             |          |            |                   | <b>\$2,056.94</b> | 100.4709      | 122.1358      | 1.2156     | \$2,500.42        | <b>\$2,500.42</b> |
| <b>CARGOS POR CONSUMO</b>   |          |            |                   |                   |               |               |            |                   |                   |
| <b>COMBUSTIBLE</b>          |          |            |                   |                   |               |               |            |                   |                   |
| DIESEL                      | LTO      | 51.0000    | \$17.62           | \$898.62          | 100.5013      | 84.2104       | 0.8379     | \$14.76           | \$752.76          |
| <b>LUBRICANTES</b>          |          |            |                   |                   |               |               |            |                   |                   |
| ACEITES MOTOR               | LTO      | 0.20000    | \$35.80           | \$7.16            | 99.9794       | 105.4846      | 1.0551     | \$37.77           | \$7.55            |
| ACEITES TRANSMISION         | LTO      | 0.20000    | \$45.98           | \$9.20            | 99.9794       | 105.4846      | 1.0551     | \$48.51           | \$9.70            |
| ACEITES MANDOS FINALES      | LTO      | 0.04000    | \$39.50           | \$1.58            | 99.9794       | 105.4846      | 1.0551     | \$41.68           | \$1.67            |
| ACEITE HIDRAULICO           | LTO      | 0.10000    | \$29.80           | \$2.98            | 99.9794       | 105.4846      | 1.0551     | \$31.44           | \$3.14            |
| ACEITE DIFERENCIAL          | LTO      | 0.20000    | \$43.34           | \$8.67            | 99.9794       | 105.4846      | 1.0551     | \$45.73           | \$9.15            |
| GRASA                       | KG       | 0.12000    | \$61.50           | \$7.38            | 89.2864       | 98.4851       | 1.1030     | \$67.83           | \$8.14            |
| <b>OTROS CONSUMOS</b>       |          |            |                   |                   |               |               |            |                   |                   |
| FILTROS                     | PZA      | 1          | \$25.60           | \$25.60           | 100.9496      | 102.4044      | 1.0144     | \$25.97           | \$25.97           |
| HERRAMIENTA DE ATA          | HORA     | 1          | \$38.33           | \$38.33           | 101.0776      | 122.5499      | 1.2124     | \$46.48           | \$46.47           |
| <b>SUBTOTAL</b>             |          |            | <b>\$999.52</b>   |                   |               |               |            | <b>\$864.55</b>   |                   |
| <b>CARGOS POR OPERACIÓN</b> |          |            |                   |                   |               |               |            |                   |                   |
| OPERADOR                    | JOR      | 0.15384615 | \$939.41          | \$144.53          | 378.39        | 401.09        | 1.0600     | \$995.77          | \$153.20          |
| <b>SUBTOTAL</b>             |          |            | <b>\$144.53</b>   |                   |               |               |            | <b>\$153.20</b>   |                   |
| <b>COSTO HORARIO ACTIVO</b> |          |            |                   | <b>\$3,200.99</b> |               |               |            | <b>\$3,518.17</b> |                   |

FACTOR DE ACTUALIZACION 1.0991

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 13 OCTUBRE 2019

### ANÁLISIS DE COSTOS HORARIOS

#### CONCEPTO No. 13

|                            |                |                         |      |
|----------------------------|----------------|-------------------------|------|
| GRUA T 40 TON              |                |                         |      |
| DATOS GENERALES            |                |                         |      |
| VALOR DE ADQUISICION(VA)   | \$1,800,000.00 | VIDA ECONOMICA          | 2000 |
| VALOR DE LLANTAS           | \$15,000.00    | VIDA LLANTAS            | 6000 |
| VALOR NOMINAL              | \$1,785,000.00 |                         |      |
| VALOR DE RESCATE 0.2%      | \$3,570.00     | HORAS ANUALES           | 600  |
| VALOR DE DEPRECIACION(VD)  | \$890.72       | FACTOR DE OPERACIÓN     | 1    |
| TASA INTERES ANUAL (I)     | 7.87%          | FACTOR DE MANTENIMIENTO | 0.2  |
| PRIMA ANUAL DE SEGUROS (S) | 1.50%          | COSTO ANUAL DE ALMAC    | 0    |

UNIDAD HORA  
 FECHA COTIZACION 26 DE NOV DE 2019

#### ACTUALIZACION DE COSTOS HORARIOS

|               |          |       |            |               | 2020          |               |            |            |  |
|---------------|----------|-------|------------|---------------|---------------|---------------|------------|------------|--|
|               |          |       |            |               | INDICE NOV 19 | ABRIL         |            |            |  |
| UNIDAD        | CANTIDAD | COSTO | IMPORTE    | INDICE ABR 20 |               | FACTOR AJUSTE | COSTO ACT  | IMPORTE    |  |
| CARGOS FIJOS  |          |       |            |               |               |               |            |            |  |
| DEPRECIACION  | 1        |       | \$890.72   | 1             | 1             | 0.00%         | \$890.72   | \$890.72   |  |
| INVERSION     | 1        |       | \$117.30   | 1             | 1             | 0.00%         | \$117.30   | \$117.30   |  |
| SEGUROS       | 1        |       | \$22.36    | 1             | 1             | 0.00%         | \$22.36    | \$22.36    |  |
| MANTENIMIENTO | 1        |       | \$178.14   | 1             | 1             | 0.00%         | \$178.14   | \$178.14   |  |
| SUBTOTAL      |          |       | \$1,208.52 |               |               |               |            | \$1,208.52 |  |
|               |          |       | \$1,297.59 | 100.4709      | 122.1358      | 1.2156        | \$1,469.08 | \$1,469.08 |  |

| CARGOS POR CONSUMO     |      |         |         |          |          |          |        |         |          |
|------------------------|------|---------|---------|----------|----------|----------|--------|---------|----------|
| COMBUSTIBLE            |      |         |         |          |          |          |        |         |          |
| DIESEL                 | LTO  | 15.0000 | \$17.62 | \$264.30 | 100.5013 | 84.2104  | 0.8379 | \$14.76 | \$221.40 |
| LUBRICANTES            |      |         |         |          |          |          |        |         |          |
| ACEITES MOTOR          | LTO  | 0.04000 | \$38.70 | \$1.55   | 99.9794  | 105.4846 | 1.0551 | \$40.83 | \$1.63   |
| ACEITES TRANSMISION    | LTO  | 0.02000 | \$45.98 | \$0.92   | 99.9794  | 105.4846 | 1.0551 | \$48.51 | \$0.97   |
| ACEITES MANDOS FINALES | LTO  | 0.02000 | \$39.50 | \$0.79   | 99.9794  | 105.4846 | 1.0551 | \$41.68 | \$0.83   |
| ACEITE HIDRAULICO      | LTO  | 0.05000 | \$29.80 | \$1.49   | 99.9794  | 105.4846 | 1.0551 | \$31.44 | \$1.57   |
| OTROS CONSUMOS         |      |         |         |          |          |          |        |         |          |
| LLANTAS                | HORA | 1       | \$2.50  | \$2.50   | 100.1439 | 102.7206 | 1.0257 | \$2.56  | \$2.56   |
| SUBTOTAL               |      |         |         | \$275.88 |          |          |        |         | \$228.96 |

| CARGOS POR OPERACIÓN |     |       |          |          |        |        |        |          |                 |
|----------------------|-----|-------|----------|----------|--------|--------|--------|----------|-----------------|
| OPERADOR             | JOR | 0.125 | \$832.83 | \$104.11 | 378.39 | 401.09 | 1.0600 | \$882.80 | \$110.35        |
|                      |     |       | SUBTOTAL | \$104.11 |        |        |        |          | <u>\$110.35</u> |
|                      |     |       |          |          |        |        |        |          |                 |

COSTO HORARIO ACTIVO **\$1,677.57**

**\$1,808.39**

FACTOR DE ACTUALIZACION 1.0780



CONSTRUCTORA PROURVIKA, S.A. DE C.V.



PROURVIKA

OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
CONTRATO No. C.O.P.-080-2019-P

### ANÁLISIS DE COSTOS HORARIOS

CONCEPTO No. 14

|                            |                 |                         |       |
|----------------------------|-----------------|-------------------------|-------|
| CARGADOR 980-H             |                 |                         |       |
| DATOS GENERALES            |                 |                         |       |
| VALOR DE ADQUISICION(VA)   | \$12,350,000.00 | VIDA ECONOMICA          | 24000 |
| VALOR DE LLANTAS           | \$328,800.00    | VIDA LLANTAS            | 4000  |
| VALOR DE PZAS ESP          | \$38,500.00     | VIDA PZAS ESPECIALES    | 1000  |
| VALOR NOMINAL              | \$11,982,700.00 |                         |       |
| VALOR DE RESCATE 30%       | \$3,594,810.00  | HORAS ANUALES           | 1800  |
| VALOR DE DEPRECIACION(VD)  | \$349.50        | FACTOR DE OPERACIÓN     | 1     |
| TASA INTERES ANUAL (I)     | 30.00%          | FACTOR DE MANTENIMIENTO | 0.3   |
| PRIMA ANUAL DE SEGUROS (S) | 2.00%           | COSTO ANUAL DE ALMAC    | 0     |

### ACTUALIZACION DE COSTOS HORARIOS

UNIDAD  
FECHA COTIZACION

HORA  
26 DE NOV DE 2019

|               |          |       |            | 2020          |               |               |            |            |
|---------------|----------|-------|------------|---------------|---------------|---------------|------------|------------|
|               |          |       |            | ABRIL         |               |               |            |            |
| UNIDAD        | CANTIDAD | COSTO | IMPORTE    | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT  | IMPORTE    |
| CARGOS FIJOS  |          |       |            |               |               |               |            |            |
| DEPRECIACION  | 1        |       | \$349.50   | 1             | 1             | 0.00%         | \$349.50   | \$349.50   |
| INVERSION     | 1        |       | \$1,298.13 | 1             | 1             | 0.00%         | \$1,298.13 | \$1,298.13 |
| SEGUROS       | 1        |       | \$86.54    | 1             | 1             | 0.00%         | \$86.54    | \$86.54    |
| MANTENIMIENTO | 1        |       | \$104.85   | 1             | 1             | 0.00%         | \$104.85   | \$104.85   |
| SUBTOTAL      |          |       | \$1,839.01 |               |               |               |            | \$1,839.01 |
|               |          |       | \$1,839.01 | 100.4709      | 122.1358      | 1.2156        | \$2,235.50 | \$2,235.50 |

### CARGOS POR CONSUMO

| COMBUSTIBLE         |      |         |         |          |          |          |          |         |          |
|---------------------|------|---------|---------|----------|----------|----------|----------|---------|----------|
| DIESEL              | LTO  | 34.0000 | \$17.62 | \$599.08 | 100.5013 | 84.2104  | 0.8379   | \$14.76 | \$501.84 |
| LUBRICANTES         |      |         |         |          |          |          |          |         |          |
| ACEITES MOTOR       | LTO  | 0.40000 | \$35.80 | \$14.32  | 99.9794  | 105.4846 | 1.0551   | \$37.77 | \$15.11  |
| ACEITES TRANSMISION | LTO  | 0.08000 | \$45.98 | \$3.68   | 99.9794  | 105.4846 | 1.0551   | \$48.51 | \$3.88   |
| ACEITE HIDRAULICO   | LTO  | 0.30000 | \$29.80 | \$8.94   | 99.9794  | 105.4846 | 1.0551   | \$31.44 | \$9.43   |
| ACEITE MAN FIN      | LTO  | 0.20000 | \$43.34 | \$8.67   | 99.9794  | 105.4846 | 1.0551   | \$45.73 | \$9.15   |
| GRASA               | KG   | 0.24500 | \$61.50 | \$15.07  | 89.2863  | 98.4851  | 1.1030   | \$67.83 | \$16.62  |
| OTROS CONSUMOS      |      |         |         |          |          |          |          |         |          |
| FILTROS             | PZA  | 1       | \$16.80 | \$16.80  | 100.9496 | 102.4044 | 1.0144   | \$17.04 | \$17.04  |
| LLANTAS             | HORA | 1       | \$82.20 | \$82.20  | 100.1439 | 102.7205 | 1.0257   | \$84.31 | \$84.31  |
| HERRAMIENTAS CORTE  | HORA | 1       | \$38.50 | \$38.50  | 101.0777 | 122.5499 | 1.2124   | \$46.68 | \$46.68  |
| SUBTOTAL            |      |         |         | \$787.26 |          |          | \$704.06 |         |          |

### CARGOS POR OPERACIÓN

|                      |     |            |          |            |        |        |        |            |            |
|----------------------|-----|------------|----------|------------|--------|--------|--------|------------|------------|
| OPERADOR             | JOR | 0.15384615 | \$996.80 | \$153.35   | 378.39 | 401.09 | 1.0600 | \$1,056.61 | \$162.56   |
| AYUDANTE             |     |            |          | \$0.00     |        |        |        |            |            |
| SUBTOTAL             |     |            |          | \$153.35   |        |        |        |            | \$162.56   |
| COSTO HORARIO ACTIVO |     |            |          | \$2,779.64 |        |        |        |            | \$3,102.12 |

FACTOR DE ACTUALIZACION 1.1160

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
CONSTRUCION

### ANÁLISIS DE COSTOS HORARIOS

#### CONCEPTO No. 15

| CAMION VOLTEO 12 M3         |                   |                          |       |
|-----------------------------|-------------------|--------------------------|-------|
| DATOS GENERALES             |                   |                          |       |
| VALOR DE ADQUISICION(VA)    | \$1,710,000.00    | VIDA ECONOMICA           | 20000 |
| VALOR DE LLANTAS            | \$75,000.00       | VIDA LLANTAS             | 3000  |
| VALOR NOMINAL               | \$1,635,000.00    |                          |       |
| VALOR DE RESCATE 30%        | \$490,500.00      | HORAS ANUALES            | 1400  |
| VALOR DE DEPRECIACION(VD)   | \$57.23           | FACTOR DE OPERACIÓN      | 1     |
| TASA INTERES ANUAL (I)      | 30.00%            | FACTOR DE MANTENIMIE NTO | 0.3   |
| PPRIMA ANUAL DE SEGUROS (S) | 2.00%             | COSTO ANUAL DE ALMAC     | 0     |
| UNIDAD                      | HORA              |                          |       |
| FECHA COTIZACION            | 26 DE NOV DE 2019 |                          |       |

#### ACTUALIZACION DE COSTOS HORARIOS

|                     |          |          |                 | 2020            |                 |                 |               |                 |
|---------------------|----------|----------|-----------------|-----------------|-----------------|-----------------|---------------|-----------------|
|                     |          |          |                 | ABRIL           |                 |                 |               |                 |
| UNIDAD              | CANTIDAD | COSTO    | IMPORTE         | INDICE NOV 19   | INDICE ABR 20   | FACTOR AJUSTE   | COSTO ACT     | IMPORTE         |
| <b>CARGOS FIJOS</b> |          |          |                 |                 |                 |                 |               |                 |
| DEPRECIACION        | 1        | \$57.23  | \$57.23         | 1               | 1               | 0.00%           | \$57.23       | \$57.23         |
| INVERSION           | 1        | \$227.73 | \$227.73        | 1               | 1               | 0.00%           | \$227.73      | \$227.73        |
| SEGUROS             | 1        | \$15.18  | \$15.18         | 1               | 1               | 0.00%           | \$15.18       | \$15.18         |
| MANTENIMIENTO       | 1        | \$17.17  | \$17.17         | 1               | 1               | 0.00%           | \$17.17       | \$17.17         |
| <b>SUBTOTAL</b>     |          |          | <b>\$317.31</b> |                 |                 |                 |               | <b>\$317.31</b> |
|                     |          |          |                 | <b>\$317.31</b> | <b>100.9115</b> | <b>116.6990</b> | <b>1.1564</b> | <b>\$366.94</b> |

| CARGOS POR CONSUMO    |      |        |         |          |          |          |        |         |          |  |
|-----------------------|------|--------|---------|----------|----------|----------|--------|---------|----------|--|
| COMBUSTIBLE           |      |        |         |          |          |          |        |         |          |  |
| DIESEL                | LTO  | 8.0000 | \$17.62 | \$140.96 | 100.5013 | 84.2104  | 0.8379 | \$14.76 | \$118.08 |  |
| LUBRICANTES           |      |        |         |          |          |          |        |         |          |  |
| ACEITES MOTOR         | LTO  | 0.1250 | \$35.80 | \$4.48   | 99.9794  | 105.4846 | 1.0551 | \$37.77 | \$4.72   |  |
| ACEITES TRANSMISION   | LTO  | 0.0300 | \$45.98 | \$1.38   | 99.9794  | 105.4846 | 1.0551 | \$48.51 | \$1.45   |  |
| ACEITES MANDOS MEDIOS | LTO  | 0.0300 | \$43.34 | \$1.30   | 99.9794  | 105.4846 | 1.0551 | \$45.73 | \$1.37   |  |
| ACEITE HIDRAULICO     | LTO  | 0.1200 | \$29.80 | \$3.58   | 99.9794  | 105.4846 | 1.0551 | \$31.44 | \$3.77   |  |
| GRASA                 | KG   | 0.0625 | \$61.50 | \$3.84   | 89.2863  | 98.4851  | 1.1030 | \$67.83 | \$4.24   |  |
| OTROS CONSUMOS        |      |        |         |          |          |          |        |         |          |  |
| FILTROS               | PZA  | 1      | \$3.20  | \$3.20   | 100.9496 | 102.4044 | 1.0144 | \$3.25  | \$3.25   |  |
| LLANTAS               | HORA | 1      | 25      | \$25.00  | 100.1439 | 102.7206 | 1.0257 | \$25.64 | \$25.64  |  |
| SUBTOTAL              |      |        |         | \$183.74 |          |          |        |         | \$162.52 |  |

| CARGOS POR OPERACIÓN |     |                      |          |         |        |        |        |          |          |
|----------------------|-----|----------------------|----------|---------|--------|--------|--------|----------|----------|
| OPERADOR             | JOR | 0.153846154          | \$619.66 | \$95.33 | 378.39 | 401.09 | 1.0600 | \$656.84 | \$101.05 |
|                      |     |                      | SUBTOTAL | \$95.33 |        |        |        |          | \$101.05 |
|                      |     |                      |          |         |        |        |        |          |          |
|                      |     | COSTO HORARIO ACTIVO | \$596.38 |         |        |        |        |          | \$630.51 |

FACTOR DE ACTUALIZACION 1.0572

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
CONSTRUCTORA

### ANÁLISIS DE COSTOS HORARIOS

CONCEPTO No. 18

| EXCAVADORA 320             |                |                         |       |
|----------------------------|----------------|-------------------------|-------|
| DATOS GENERALES            |                |                         |       |
| VALOR DE ADQUISICION(VA)   | \$4,180,000.00 | VIDA ECONOMICA          | 24000 |
| VALOR DE LLANTAS           | \$0.00         | VIDA LLANTAS            | 0     |
| VALOR DE PZAS ESPECIALES   | \$8,600.00     | VIDA PZAS ESPECIAL      | 500   |
| VALOR NOMINAL              | \$4,171,400.00 |                         |       |
| VALOR DE RESCATE 30%       | \$1,251,420.00 | HORAS ANUALES           | 1200  |
| VALOR DE DEPRECIACION(VD)  | \$121.67       | FACTOR DE OPERACIÓN     | 1     |
| TASA INTERES ANUAL (I)     | 30.00%         | FACTOR DE MANTENIMIENTO | 0.3   |
| PRIMA ANUAL DE SEGUROS (S) | 2.00%          | COSTO ANUAL DE ALMAC    | 0     |

UNIDAD HORA  
FECHA COTIZACION 26 DE NOV DE 2019

### ACTUALIZACION DE COSTOS HORARIOS

|                     |          |                 |                 | 2020          |               |               |            |                 |
|---------------------|----------|-----------------|-----------------|---------------|---------------|---------------|------------|-----------------|
|                     |          |                 |                 | ABRIL         |               |               |            |                 |
| UNIDAD              | CANTIDAD | COSTO           | IMPORTE         | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT  | IMPORTE         |
| <b>CARGOS FIJOS</b> |          |                 |                 |               |               |               |            |                 |
| DEPRECIACION        | 1        |                 | \$121.67        | 1             | 1             | 0.00%         | \$121.67   | \$121.67        |
| INVERSION           | 1        |                 | \$677.85        | 1             | 1             | 0.00%         | \$677.85   | \$677.85        |
| SEGUROS             | 1        |                 | \$45.19         | 1             | 1             | 0.00%         | \$45.19    | \$45.19         |
| MANTENIMIENTO       | 1        |                 | \$36.50         | 1             | 1             | 0.00%         | \$36.50    | \$36.50         |
|                     |          | <b>SUBTOTAL</b> | <b>\$881.22</b> |               |               |               |            | <b>\$881.21</b> |
|                     |          |                 | <b>\$881.22</b> | 100.4709      | 122.1358      | 1.2156        | \$1,071.20 | \$1,071.20      |

| CARGOS POR CONSUMO  |      |       |         |          |          |           |        |         |          |
|---------------------|------|-------|---------|----------|----------|-----------|--------|---------|----------|
| COMBUSTIBLE         |      |       |         |          |          |           |        |         |          |
| DIESEL              | LTO  | 26.00 | \$17.62 | \$458.12 | 100.5013 | 84.2104   | 0.8379 | \$14.76 | \$383.76 |
| LUBRICANTES         |      |       |         |          |          |           |        |         |          |
| ACEITES MOTOR       | LTO  | 0.25  | \$35.80 | \$8.95   | 99.9794  | 105.4846  | 1.0551 | \$37.77 | \$9.44   |
| ACEITES TRANSMISION | LTO  | 0.06  | \$45.98 | \$2.76   | 99.9794  | 105.4846  | 1.0551 | \$48.51 | \$2.91   |
| ACEITE HIDRAULICO   | LTO  | 0.35  | \$29.80 | \$10.43  | 99.9794  | 105.4846  | 1.0551 | \$31.44 | \$11.00  |
| ACEITES MANDOS      | LTO  | 0.03  | \$39.50 | \$1.19   | 99.9794  | 105.4846  | 1.0551 | \$41.68 | \$1.25   |
| FINALES             | LTO  | 0.03  | \$54.50 | \$1.64   | 99.9794  | 105.4846  | 1.0551 | \$57.50 | \$1.73   |
| ACEITE P/TANDEM     | LTO  | 0.12  | \$61.50 | \$7.38   | 89.2863  | 98.4851   | 1.1030 | \$67.83 | \$8.14   |
| GRASA               | KG   |       |         |          |          |           |        |         |          |
| OTROS CONSUMOS      |      |       |         |          |          |           |        |         |          |
| FILTROS             | PZA  | 1     | \$13.00 | \$13.00  | 100.9496 | 102.40443 | 1.0144 | \$13.19 | \$13.19  |
| HERRAMIENTAS CORTE  | HORA | 1     | \$17.20 | \$17.20  | 101.0777 | 122.5499  | 1.2124 | \$20.85 | \$20.85  |
| SUBTOTAL            |      |       |         | \$520.66 |          |           |        |         | \$452.27 |

|          |     |            |                      |            |        |        |        |            |            |
|----------|-----|------------|----------------------|------------|--------|--------|--------|------------|------------|
| 741.44   |     |            |                      |            |        |        |        |            |            |
| OPERADOR | JOR | 0.15384615 | \$983.20             | \$151.27   | 378.39 | 401.09 | 1.0600 | \$1,042.19 | \$160.34   |
| AYUDANTE |     |            |                      | \$0.00     |        |        |        |            |            |
|          |     |            | SUBTOTAL             | \$151.27   |        |        |        |            | \$160.34   |
|          |     |            |                      |            |        |        |        |            |            |
|          |     |            | COSTO HORARIO ACTIVO | \$1,553.14 |        |        |        |            | \$1,683.82 |

FACTOR DE ACTUALIZACION 1.0841



CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**

ESTRATEGIA

### ANÁLISIS DE COSTOS HORARIOS

#### CONCEPTO No.20

| PLANTA DE LUZ 5 KW         |                   |                         |      |
|----------------------------|-------------------|-------------------------|------|
| DATOS GENERALES            |                   |                         |      |
| VALOR DE ADQUISICION(VA)   | \$35,000.00       | VIDA ECONOMICA          | 2000 |
| VALOR DE LLANTAS           | \$0.00            | VIDA LLANTAS            | 0    |
| VALOR NOMINAL              | \$35,000.00       |                         |      |
| VALOR DE RESCATE 0%        | \$0.00            | HORAS ANUALES           | 500  |
| VALOR DE DEPRECIACION(VD)  | \$17.50           | FACTOR DE OPERACION     | 1    |
| TASA INTERES ANUAL (I)     | 30.00%            | FACTOR DE MANTENIMIENTO | 0.3  |
| PRIMA ANUAL DE SEGUROS (S) | 2.00%             | COSTO ANUAL DE ALMACEN  | 0    |
| UNIDAD                     | HORA              |                         |      |
| FECHA COTIZACION           | 26 DE NOV DE 2019 |                         |      |

#### ACTUALIZACION DE COSTOS HORARIOS

|                     |          |         |                | 2020          |               |               |           |                |
|---------------------|----------|---------|----------------|---------------|---------------|---------------|-----------|----------------|
|                     |          |         |                | ABRIL         |               |               |           |                |
| UNIDAD              | CANTIDAD | COSTO   | IMPORTE        | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT | IMPORTE        |
| <b>CARGOS FIJOS</b> |          |         |                |               |               |               |           |                |
| DEPRECIACION        | 1        | \$17.50 | \$17.50        | 1             | 1             | 0.00%         | \$17.50   | \$17.50        |
| INVERSION           | 1        | \$10.50 | \$10.50        | 1             | 1             | 0.00%         | \$10.50   | \$10.50        |
| SEGUROS             | 1        | \$0.70  | \$0.70         | 1             | 1             | 0.00%         | \$0.70    | \$0.70         |
| MANTENIMIENTO       | 1        | \$5.25  | \$5.25         | 1             | 1             | 0.00%         | \$5.25    | \$5.25         |
| <b>SUBTOTAL</b>     |          |         | <b>\$33.95</b> |               |               |               |           | <b>\$33.95</b> |
|                     |          |         | <b>\$33.95</b> | 100.3693      | 109.7504      | 1.0935        | \$37.12   | \$37.12        |

| CARGOS POR CONSUMO |     |      |         |         |          |          |        |         |         |
|--------------------|-----|------|---------|---------|----------|----------|--------|---------|---------|
| COMBUSTIBLE        |     |      |         |         |          |          |        |         |         |
| GASOLINA           | LTO | 3.00 | \$15.15 | \$45.45 | 99.1987  | 72.3488  | 0.7293 | \$11.05 | \$33.15 |
| LUBRICANTES        |     |      |         |         |          |          |        |         |         |
| ACEITES            | LTO | 0.05 | \$39.50 | \$1.98  | 99.9794  | 105.4846 | 1.0551 | \$41.68 | \$2.08  |
| OTROS CONSUMOS     |     |      |         |         |          |          |        |         |         |
| GRASA              | KG  | 0    | \$61.50 | \$0.00  | 89.2864  | 98.4851  | 1.1030 | \$67.83 | \$0.00  |
| FILTRO             | PZA | 1    | \$17.00 | \$17.00 | 100.9496 | 102.4044 | 1.0144 | \$17.24 | \$17.24 |
| SUBTOTAL           |     |      | \$64.43 |         |          |          |        |         | \$52.47 |

| CARGOS POR OPERACIÓN |     |         |          |         |        |        |        |          |         |  |
|----------------------|-----|---------|----------|---------|--------|--------|--------|----------|---------|--|
| OPERADOR             | JOR | 0.15385 | \$331.06 | \$50.93 | 378.39 | 401.09 | 1.0600 | \$350.92 | \$53.99 |  |
| AYUDANTE             | JOR |         |          | \$0.00  |        |        |        |          |         |  |
|                      |     |         | SUBTOTAL | \$50.93 |        |        |        |          | \$53.99 |  |
|                      |     |         |          |         |        |        |        |          |         |  |

COSTO HORARIO ACTIVO **\$149.31**

**\$143.58**

FACTOR DE ACTUALIZACION **0.9616**

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE COSTOS HORARIOS

CONCEPTO No. 25

| COMPACTADOR VIBRATORIO     |                |                         |       |
|----------------------------|----------------|-------------------------|-------|
| DATOS GENERALES            |                |                         |       |
| VALOR DE ADQUISICION(VA)   | \$2,880,000.00 | VIDA ECONOMICA          | 24000 |
| VALOR DE LLANTAS           | \$36,000.00    | VIDA LLANTAS            | 6000  |
| VALOR DE PZAS ESP          | \$0.00         | VIDA PZAS ESPECIALES    | 0     |
| VALOR NOMINAL              | \$2,844,000.00 |                         |       |
| VALOR DE RESCATE 30%       | \$853,200.00   | HORAS ANUALES           | 1600  |
| VALOR DE DEPRECIACION(VD)  | \$82.95        | FACTOR DE OPERACIÓN     | 1     |
| TASA INTERES ANUAL (I)     | 30.00%         | FACTOR DE MANTENIMIENTO | 0.3   |
| PRIMA ANUAL DE SEGUROS (S) | 2.00%          | COSTO ANUAL DE ALMAC    | 0     |

UNIDAD HORA  
 FECHA COTIZACION 26 DE NOV DE 2019

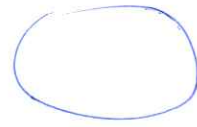
### ACTUALIZACION DE COSTOS HORARIOS

|               |          |       |          |               | 2020          |               |           |          |  |
|---------------|----------|-------|----------|---------------|---------------|---------------|-----------|----------|--|
|               |          |       |          |               | ABRIL         |               |           |          |  |
| UNIDAD        | CANTIDAD | COSTO | IMPORTE  | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT | IMPORTE  |  |
| CARGOS FIJOS  |          |       |          |               |               |               |           |          |  |
| DEPRECIACION  | 1        |       | \$82.95  | 1             | 1             | 0.00%         | \$82.95   | \$82.95  |  |
| INVERSION     | 1        |       | \$346.61 | 1             | 1             | 0.00%         | \$346.61  | \$346.61 |  |
| SEGUROS       | 1        |       | \$23.11  | 1             | 1             | 0.00%         | \$23.11   | \$23.11  |  |
| MANTENIMIENTO | 1        |       | \$24.89  | 1             | 1             | 0.00%         | \$24.89   | \$24.89  |  |
| SUBTOTAL      |          |       | \$477.56 |               |               |               |           | \$477.56 |  |
|               |          |       |          | \$477.56      | 100.4709      | 122.1358      | 1.2156    | \$580.52 |  |
|               |          |       |          |               |               |               | \$580.52  | \$580.52 |  |

| <b>CARGOS POR CONSUMO</b> |      |         |                 |          |          |          |        |         |                 |
|---------------------------|------|---------|-----------------|----------|----------|----------|--------|---------|-----------------|
| <b>COMBUSTIBLE</b>        |      |         |                 |          |          |          |        |         |                 |
| DIESEL                    | LTO  | 12.0000 | \$17.62         | \$211.44 | 100.5013 | 84.2104  | 0.8379 | \$14.76 | \$177.12        |
| LUBRICANTES               |      |         |                 |          |          |          |        |         |                 |
| ACEITES MOTOR             | LTO  | 0.0700  | \$35.80         | \$2.51   | 99.9794  | 105.4846 | 1.0551 | \$37.77 | \$2.64          |
| ACEITE HIDR               | LTO  | 0.0800  | \$29.80         | \$2.38   | 99.9794  | 105.4846 | 1.0551 | \$31.44 | \$2.52          |
| ACEITE TRANSMISION        | LTO  | 0.0400  | \$45.98         | \$1.84   | 99.9794  | 105.4846 | 1.0551 | \$48.51 | \$1.94          |
| ACEITE PARA TANDEM        | LTO  | 0.0800  | \$54.50         | \$4.36   | 99.9794  | 105.4846 | 1.0551 | \$57.50 | \$4.60          |
| ACEITE DIF                | LTO  | 0.0300  | \$43.34         | \$1.30   | 99.9794  | 105.4846 | 1.0551 | \$45.73 | \$1.37          |
| GRASA                     | KG   | 0.0625  | \$61.50         | \$3.84   | 89.2864  | 98.4851  | 1.1030 | \$67.83 | \$4.24          |
| <b>OTROS CONSUMOS</b>     |      |         |                 |          |          |          |        |         |                 |
| FILTROS                   | PZA  | 1       | \$5.60          | \$5.60   | 100.9496 | 102.4044 | 1.0144 | \$5.68  | \$5.68          |
| LLANTAS                   | HORA | 1       | \$6.00          | \$6.00   | 100.1439 | 102.7206 | 1.0257 | \$6.15  | \$6.15          |
| <b>SUBTOTAL</b>           |      |         | <b>\$239.27</b> |          |          |          |        |         | <b>\$206.26</b> |

| <b>CARGOS POR OPERACIÓN</b> |     |            |                |                 |        |        |        |                 |                 |
|-----------------------------|-----|------------|----------------|-----------------|--------|--------|--------|-----------------|-----------------|
| OPERADOR                    | JOR | 0.15384615 | \$619.66       | \$95.33         | 378.39 | 401.09 | 1.0600 | \$656.84        | \$101.05        |
| <b>SUBTOTAL</b>             |     |            | <b>\$95.33</b> |                 |        |        |        |                 | <b>\$101.05</b> |
| <b>COSTO HORARIO ACTIVO</b> |     |            |                | <b>\$812.16</b> |        |        |        | <b>\$887.83</b> |                 |

FACTOR DE ACTUALIZACION 1.0932



CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE COSTOS HORARIOS

CONCEPTO No. 26

|                            |               |                             |
|----------------------------|---------------|-----------------------------|
| SOLDADORA DIESEL           | MARCA:LINCOLN | MODELO: RANGER 305-D        |
| DATOS GENERALES            |               |                             |
| VALOR DE ADQUISICION(VA)   | \$155,000.00  | VIDA ECONOMICA 4000         |
| VALOR DE LLANTAS           | \$2,400.00    | VIDA LLANTAS 6000           |
| VALOR PZAS ESPECIALES      | \$2,500.00    | VIDA PZAS ESPECIALES 1000   |
| VALOR NOMINAL              | \$150,100.00  |                             |
| VALOR DE RESCATE 0%        | \$0.00        | HORAS ANUALES 800           |
| VALOR DE DEPRECIACION(VD)  | \$37.53       | FACTOR DE OPERACIÓN 1       |
| TASA INTERES ANUAL (I)     | 30.00%        | FACTOR DE MANTENIMIENTO 0.3 |
| PRIMA ANUAL DE SEGUROS (S) | 2.00%         | COSTO ANUAL DE ALMAC 0      |

UNIDAD HORA  
 FECHA COTIZACION 26 DE NOV DE 2019

### ACTUALIZACION DE COSTOS HORARIOS

|               |          |       |         | 2020          |               |               |           |         |
|---------------|----------|-------|---------|---------------|---------------|---------------|-----------|---------|
| UNIDAD        | CANTIDAD | COSTO | IMPORTE | INDICE NOV 19 | INDICE ABR 20 | ABRIL         |           |         |
|               |          |       |         |               |               | FACTOR AJUSTE | COSTO ACT | IMPORTE |
| CARGOS FIJOS  |          |       |         |               |               |               |           |         |
| DEPRECIACION  | 1        |       | \$37.53 | 1             | 1             | 0.00%         | \$37.53   | \$37.53 |
| INVERSION     | 1        |       | \$28.14 | 1             | 1             | 0.00%         | \$28.14   | \$28.14 |
| SEGUROS       | 1        |       | \$1.88  | 1             | 1             | 0.00%         | \$1.88    | \$1.88  |
| MANTENIMIENTO | 1        |       | \$11.26 | 1             | 1             | 0.00%         | \$11.26   | \$11.26 |
| SUBTOTAL      |          |       | \$78.81 |               |               |               |           | \$78.80 |
|               |          |       | \$78.81 | 101.2978      | 105.7995      | 1.0444        | \$82.31   | \$82.31 |

| CARGOS POR CONSUMO |      |        |         |         |          |          |        |         |         |
|--------------------|------|--------|---------|---------|----------|----------|--------|---------|---------|
| COMBUSTIBLE        |      |        |         |         |          |          |        |         |         |
| DIESEL             | LTO  | 1.7860 | \$17.62 | \$31.47 | 100.5013 | 84.2104  | 0.8379 | \$14.76 | \$26.36 |
| LUBRICANTES        |      |        |         |         |          |          |        |         |         |
| ACEITES            | LTO  | 0.057  | \$35.80 | \$2.04  | 99.9794  | 105.4846 | 1.0551 | \$37.77 | \$2.15  |
| OTROS CONSUMOS     |      |        |         |         |          |          |        |         |         |
| FILTRO             | PZA  | 1      | \$4.00  | \$4.00  | 100.9496 | 102.4044 | 1.0144 | \$4.06  | \$4.06  |
| LLANTAS            | HORA | 1      | \$0.40  | \$0.40  | 100.1439 | 102.7206 | 1.0257 | \$0.41  | \$0.41  |
| PIEZAS ESPECIALES  | HORA | 1      | \$2.50  | \$2.50  | 101.0776 | 122.5499 | 1.2124 | \$3.03  | \$3.03  |
| SUBTOTAL           |      |        |         | \$40.41 |          |          |        |         | \$36.01 |

| CARGOS POR OPERACIÓN |     |       |          |         |        |        |        |          |         |
|----------------------|-----|-------|----------|---------|--------|--------|--------|----------|---------|
| OFICIAL SOLDADOR     | JOR | 0.125 | \$672.13 | \$84.02 | 378.39 | 401.09 | 1.0600 | \$712.46 | \$89.06 |
|                      |     |       | SUBTOTAL | \$84.02 |        |        |        |          | \$89.06 |
|                      |     |       |          |         |        |        |        |          |         |

COSTO HORARIO ACTIVO \$203.24

\$207.38

FACTOR DE ACTUALIZACION 1.0204



CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE COSTOS HORARIOS

CONCEPTO No. 27

|                      |                       |              |
|----------------------|-----------------------|--------------|
| GENERADOR LUZ DIESEL | MARCA: INGERSOLL-RAND | MODELO: M-45 |
| CAPACIDAD: 45 KW     |                       |              |

#### DATOS GENERALES

|                            |              |                         |       |
|----------------------------|--------------|-------------------------|-------|
| VALOR DE ADQUISICION(VA)   | \$460,000.00 | VIDA ECONOMICA          | 18000 |
| VALOR DE LLANTAS           | \$4,000.00   | VIDA LLANTAS            | 6000  |
| VALOR PZAS ESPECIALES      | \$0.00       | VIDA PZAS ESPECIALES    | 1000  |
| VALOR NOMINAL              | \$456,000.00 |                         |       |
| VALOR DE RESCATE 10%       | \$45,600.00  | HORAS ANUALES           | 1000  |
| VALOR DE DEPRECIACION(VD)  | \$22.80      | FACTOR DE OPERACIÓN     | 1     |
| TASA INTERES ANUAL (I)     | 30.00%       | FACTOR DE MANTENIMIENTO | 0.3   |
| PRIMA ANUAL DE SEGUROS (S) | 2.00%        | COSTO ANUAL DE ALMAC    | 0     |

UNIDAD

HORA

FECHA COTIZACION

26 DE NOV DE 2019

#### ACTUALIZACION DE COSTOS HORARIOS

|               |          |       |          |               | 2020          |               |           |          |  |
|---------------|----------|-------|----------|---------------|---------------|---------------|-----------|----------|--|
|               |          |       |          |               | ABRIL         |               |           |          |  |
| UNIDAD        | CANTIDAD | COSTO | IMPORTE  | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT | IMPORTE  |  |
| CARGOS FIJOS  |          |       |          |               |               |               |           |          |  |
| DEPRECIACION  | 1        |       | \$22.80  | 1             | 1             | 0.00%         | \$22.80   | \$22.80  |  |
| INVERSION     | 1        |       | \$75.24  | 1             | 1             | 0.00%         | \$75.24   | \$75.24  |  |
| SEGUROS       | 1        |       | \$5.02   | 1             | 1             | 0.00%         | \$5.02    | \$5.02   |  |
| MANTENIMIENTO | 1        |       | \$6.84   | 1             | 1             | 0.00%         | \$6.84    | \$6.84   |  |
| SUBTOTAL      |          |       | \$109.90 |               |               |               |           | \$109.90 |  |
|               |          |       | \$109.90 | 100.3693      | 109.7504      | 1.0935        | \$120.17  | \$120.17 |  |

#### CARGOS POR CONSUMO

##### COMBUSTIBLE

|                   |  |      |        |         |          |          |            |        |         |          |
|-------------------|--|------|--------|---------|----------|----------|------------|--------|---------|----------|
| DIESEL            |  | LTO  | 6.1100 | \$17.62 | \$107.66 | 100.5013 | 84.2104    | 0.8379 | \$14.76 | \$90.21  |
| LUBRICANTES       |  |      |        |         |          |          |            |        |         |          |
| ACEITES           |  | LTO  | 0.1950 | \$35.80 | \$6.98   | 99.9794  | 105.484576 | 1.0551 | \$37.77 | \$7.37   |
| GRASA             |  | KG   | 0.0625 | \$61.50 | \$3.84   | 89.2864  | 98.4851    | 1.1030 | \$67.84 | \$4.24   |
| OTROS CONSUMOS    |  |      |        |         |          |          |            |        |         |          |
| FILTRO            |  | PZA  | 1      | \$6.00  | \$6.00   | 100.9496 | 102.4044   | 1.0144 | \$6.09  | \$6.09   |
| LLANTAS           |  | HORA | 1      | \$0.67  | \$0.67   | 100.1439 | 102.7206   | 1.0257 | \$0.68  | \$0.68   |
| PIEZAS ESPECIALES |  | HORA | 1      | \$0.00  | \$0.00   | 101.0776 | 122.5499   | 1.2124 | \$0.00  | \$0.00   |
| SUBTOTAL          |  |      |        |         | \$125.15 |          |            |        |         | \$108.59 |

#### CARGOS POR OPERACIÓN

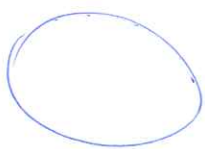
|                        |     |         |                |         |        |        |        |          |                |
|------------------------|-----|---------|----------------|---------|--------|--------|--------|----------|----------------|
| OPERADOR PLANTA DE LUZ | JOR | 0.14286 | \$398.29       | \$56.90 | 378.39 | 401.09 | 1.0600 | \$422.19 | \$60.31        |
| <b>SUBTOTAL</b>        |     |         | <b>\$56.90</b> |         |        |        |        |          | <b>\$60.31</b> |

**COSTO HORARIO ACTIVO \$291.95**

**\$289.07**

FACTOR DE ACTUALIZACION

0.9901



CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE COSTOS AUXILIARES

CONCEPTO ACARREO PRIMER KM

ACTUALIZACION AJUSTE DE COSTOS

UNIDAD M3  
 FECHA COTIZACION 26 DE NOV DE 2019

|                                         |          |                 |                |               | 2020          |               |           |                |  |
|-----------------------------------------|----------|-----------------|----------------|---------------|---------------|---------------|-----------|----------------|--|
|                                         |          |                 |                |               | ABRIL         |               |           |                |  |
| UNIDAD                                  | CANTIDAD | COSTO           | IMPORTE        | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT | IMPORTE        |  |
| <b>MATERIALES</b>                       |          |                 |                |               |               |               |           |                |  |
|                                         |          |                 | \$ 0.00        | 1             | 1             | 1.0000        | \$ -      | \$0.00         |  |
|                                         |          | <b>SUBTOTAL</b> | <b>\$0.00</b>  |               |               |               |           | <b>\$0.00</b>  |  |
| <b>MANO DE OBRA</b>                     |          |                 |                |               |               |               |           |                |  |
|                                         |          |                 | \$ 0.00        | 378.39        | 401.09        | 1.0600        | \$ -      | \$0.00         |  |
|                                         |          | <b>SUBTOTAL</b> | <b>\$0.00</b>  |               |               |               |           | <b>\$0.00</b>  |  |
| <b>EQUIPO</b>                           |          |                 |                |               |               |               |           |                |  |
| CAMION VOLTEO MARCA: HR                 | 0.02088  | 596.38          | \$ 12.45       | 596.38        | 630.5136      | 1.0572        | \$ 630.49 | \$13.16        |  |
| KENWORTH MODELO: T-300 CAPACIDAD: 14 M3 |          |                 |                |               |               |               |           |                |  |
|                                         |          | <b>SUBTOTAL</b> | <b>\$12.45</b> |               |               |               |           | <b>\$13.16</b> |  |
| HERRAMIENTA MENOR                       | %        | 3.00%           | \$0.00         | 378.39        | 401.09        | 1.0600        | \$ -      | \$0.00         |  |
| <b>COSTO DIRECTO</b>                    |          |                 | <b>\$12.45</b> |               |               |               |           | <b>\$13.16</b> |  |

FACTOR DE ACTUALIZACION 1.0568

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE COSTOS AUXILIARES

CONCEPTO ACARREO KMS SUBSECUENTES

|  |
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|--|

### ACTUALIZACION AJUSTE DE COSTOS

UNIDAD M3-KM  
 FECHA COTIZACION 26 DE NOV DE 2019

|                         |          |                      |               |               | 2020          |               |           |               |  |
|-------------------------|----------|----------------------|---------------|---------------|---------------|---------------|-----------|---------------|--|
|                         |          |                      |               |               | ABRIL         |               |           |               |  |
| UNIDAD                  | CANTIDAD | COSTO                | IMPORTE       | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT | IMPORTE       |  |
| MATERIALES              |          |                      |               |               |               |               |           |               |  |
|                         |          |                      | \$ 0.00       | 1             | 1             | 1.0000        | \$ -      | \$0.00        |  |
|                         |          | <b>SUBTOTAL</b>      | <b>\$0.00</b> |               |               |               |           | <b>\$0.00</b> |  |
| MANO DE OBRA            |          |                      |               |               |               |               |           |               |  |
|                         |          |                      | \$ 0.00       | 378.39        | 401.09        | 1.0600        | \$ -      | \$0.00        |  |
|                         |          | <b>SUBTOTAL</b>      | <b>\$0.00</b> |               |               |               |           | <b>\$0.00</b> |  |
| EQUIPO                  |          |                      |               |               |               |               |           |               |  |
| CAMION VOLTEO MARCA: HR | 0.00899  | 596.38               | \$ 5.36       | 596.38        | 630.5136      | 1.0572        | \$ 630.49 | \$5.67        |  |
| KENWORTH MODELO: T-300  |          |                      |               |               |               |               |           |               |  |
| CAPACIDAD: 14 M3        |          |                      |               |               |               |               |           |               |  |
|                         |          | <b>SUBTOTAL</b>      | <b>\$5.36</b> |               |               |               |           | <b>\$5.67</b> |  |
| HERRAMIENTA MENOR       | %        | 3.00%                | \$0.00        | 378.39        | 401.09        | 1.0600        | \$ -      | \$0.00        |  |
|                         |          | <b>COSTO DIRECTO</b> | <b>\$5.36</b> |               |               |               |           | <b>\$5.67</b> |  |

FACTOR DE ACTUALIZACION 1.0578

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE COSTOS AUXILIARES

CONCEPTO PLANTILLA DE CONCRETO HIDRAULICO F'C=100 KG/CM2 DE 5 CMS DE ESPESOR

### ACTUALIZACION AJUSTE DE COSTOS

UNIDAD M2  
 FECHA  
 COTIZACION 26 DE NOV DE 2019

|                                       |        |          |            |          | 2020          |               |               |             |          |
|---------------------------------------|--------|----------|------------|----------|---------------|---------------|---------------|-------------|----------|
|                                       |        |          |            |          | ABRIL         |               |               |             |          |
|                                       | UNIDAD | CANTIDAD | COSTO      | IMPORTE  | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT   | IMPORTE  |
| MATERIALES                            |        |          |            |          |               |               |               |             |          |
| CONCRETO Fc= 100 KG/CM2 HECHO EN OBRA | M3     | 0.054000 | \$1,368.85 | \$73.92  | 100.6149      | 102.2260      | 1.0160        | \$ 1,390.75 | \$75.10  |
| CURACRETO                             | LTO    | 0.250000 | \$22.00    | \$5.50   | 101.3110      | 117.6115      | 1.1609        | \$ 25.54    | \$6.39   |
| MADERA                                | PT     | 0.200000 | \$13.00    | \$2.60   | 100.5478      | 100.0183      | 0.9947        | \$ 12.93    | \$2.59   |
| DESMOLDANTE                           | LTO    | 0.050000 | \$24.00    | \$1.20   | 101.0796      | 110.3551      | 1.0918        | \$ 26.20    | \$1.31   |
| SUBTOTAL                              |        |          |            | \$83.23  |               |               |               |             | \$85.39  |
| MANO DE OBRA                          |        |          |            |          |               |               |               |             |          |
| OFICIAL ALBAÑIL                       | JOR    | 0.040000 | \$672.13   | \$26.89  | 378.39        | 401.09        | 1.0600        | \$ 712.46   | \$28.50  |
| PEON EN GENERAL                       | jor    | 0.040000 | 331.06     | \$13.24  | 378.39        | 401.09        | 1.0600        | \$ 350.92   | \$14.04  |
| SUBTOTAL                              |        |          |            | \$40.13  |               |               |               |             | \$42.54  |
| EQUIPO                                |        |          |            |          |               |               |               |             |          |
|                                       |        |          |            | \$0.00   | 1.00          | 1.00          | 1.0000        | \$ -        | \$0.00   |
| SUBTOTAL                              |        |          |            | \$0.00   |               |               |               |             | \$0.00   |
| HERRAMIENTA MENOR                     | %      | 3.00%    | \$40.13    | \$1.20   | 378.39        | 401.09        | 1.0600        | \$ 42.54    | \$1.28   |
| HERRAMIENTA MENOR                     | %      | 3.00%    | \$40.13    | \$1.20   | 378.39        | 401.09        | 1.0600        | \$ 42.54    | \$1.28   |
| SUBTOTAL                              |        |          |            | \$2.41   |               |               |               |             | \$2.56   |
| COSTO DIRECTO                         |        |          |            | \$125.75 |               |               |               |             | \$130.49 |

FACTOR DE ACTUALIZACION 1.0378

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE COSTOS AUXILIARES

CONCEPTO: COLADO DE CONCRETO PREMEZCLADO EN CIMENTACIONES, BASES, TRINCHERAS

|                                                                                        |     |          |          |          | ACTUALIZACION AJUSTE DE COSTOS |               |               |           |          |
|----------------------------------------------------------------------------------------|-----|----------|----------|----------|--------------------------------|---------------|---------------|-----------|----------|
| UNIDAD                                                                                 |     |          |          |          | M2                             |               |               |           |          |
| FECHA                                                                                  |     |          |          |          |                                |               |               |           |          |
| COTIZACION                                                                             |     |          |          |          | 26 DE NOV DE 2019              |               |               |           |          |
|                                                                                        |     |          |          |          | 2020                           |               |               |           |          |
|                                                                                        |     |          |          |          | ABRIL                          |               |               |           |          |
|                                                                                        |     |          |          |          | INDICE NOV 19                  | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT | IMPORTE  |
| MATERIALES                                                                             |     |          |          |          |                                |               |               |           |          |
| CURACRETO                                                                              | LTO | 0.895000 | \$22.00  | \$19.69  | 101.3110                       | 117.6115      | 1.1609        | \$ 25.54  | \$22.86  |
| SUBTOTAL                                                                               |     |          |          | \$19.70  |                                |               |               |           | \$22.86  |
| MANO DE OBRA                                                                           |     |          |          |          |                                |               |               |           |          |
| OFICIAL ALBAÑIL                                                                        | JOR | 0.220000 | \$672.13 | \$147.87 | 378.39                         | 401.09        | 1.0600        | \$ 712.46 | \$156.74 |
| PEON EN GENERAL                                                                        | jor | 0.220000 | 331.06   | \$72.83  | 378.39                         | 401.09        | 1.0600        | \$ 350.92 | \$77.20  |
| SUBTOTAL                                                                               |     |          |          | \$220.70 |                                |               |               |           | \$233.94 |
| EQUIPO                                                                                 |     |          |          |          |                                |               |               |           |          |
| VIBRADOR<br>GASOLINA<br>MARCA: CIPSA-<br>DYNAPAC<br>MODELO: MV-B5<br>CAPACIDAD: 5 H.P. | HR  | 0.080000 | \$117.25 | \$9.38   | 117.2500                       | 118.2500      | 1.0085        | \$ 118.25 | \$9.46   |
| SUBTOTAL                                                                               |     |          |          | \$9.38   |                                |               |               |           | \$9.46   |
| HERRAMIENTA<br>MENOR                                                                   | %   | 3.00%    | \$220.70 | \$6.62   | 378.39                         | 401.09        | 1.0600        | \$ 233.94 | \$7.02   |
| HERRAMIENTA<br>MENOR                                                                   | %   | 3.00%    | \$220.70 | \$6.62   | 378.39                         | 401.09        | 1.0600        | \$ 233.94 | \$7.02   |
| SUBTOTAL                                                                               |     |          |          | \$13.24  |                                |               |               |           | \$14.04  |
| COSTO DIRECTO                                                                          |     |          |          | \$263.01 |                                |               |               |           | \$280.32 |

FACTOR DE ACTUALIZACION 1.0658

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**

BOGOTÁ, COLOMBIA

### ANÁLISIS DE COSTOS AUXILIARES

#### CONCEPTO CIMBRA

UNIDAD M2  
 FECHA COTIZACION 26 DE NOV DE 2019

#### ACTUALIZACION AJUSTE DE COSTOS

| FECHA COTIZACION                            |          |          |             | 20 DE NOV DE 2019 |               | 2020          |           |             |          |  |
|---------------------------------------------|----------|----------|-------------|-------------------|---------------|---------------|-----------|-------------|----------|--|
|                                             |          |          |             | ABRIL             |               |               |           |             |          |  |
|                                             |          |          |             | INDICE NOV 19     | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT | IMPORTE     |          |  |
| UNIDAD                                      | CANTIDAD | COSTO    | IMPORTE     |                   |               |               |           |             |          |  |
| MATERIALES                                  |          |          |             |                   |               |               |           |             |          |  |
| MADERA                                      | PT       | 2.734480 | \$ 13.00    | \$ 35.55          | 100.5478      | 100.0183      | 0.9947    | \$ 12.93    | \$35.36  |  |
| TRIPLAY 5/8" P/CIMBRA                       | M2       | 0.250000 | \$205.00    | \$ 51.25          | 97.3881       | 97.3730       | 0.9998    | \$ 204.96   | \$51.24  |  |
| CLAVO                                       | KG       | 0.200000 | \$17.84     | \$ 3.57           | 101.0776      | 122.5499      | 1.2124    | \$ 21.63    | \$4.33   |  |
| DESMOLDANTE                                 | LTO      | 0.250000 | \$24.00     | \$ 6.00           | 101.0796      | 110.3551      | 1.0918    | \$ 26.20    | \$6.55   |  |
| ALAMBRE RECOCIDO KALISCH                    | KG       | 0.100000 | \$15.64     | \$ 1.56           | 98.8376       | 98.1713       | 0.9933    | \$ 15.54    | \$1.55   |  |
| SUBTOTAL                                    |          |          |             | \$97.93           |               |               |           |             | \$99.03  |  |
| MANO DE OBRA                                |          |          |             |                   |               |               |           |             |          |  |
| CUADRILLA 19 (OF. CARPINTERO O.N.+AYUDANTE) | JOR      | 0.110000 | \$ 1,383.21 | \$ 152.15         | 378.39        | 401.09        | 1.0600    | \$ 1,466.20 | \$161.28 |  |
| SUBTOTAL                                    |          |          |             | \$152.15          |               |               |           |             | \$161.28 |  |
| EQUIPO                                      |          |          |             |                   |               |               |           |             |          |  |
|                                             |          |          |             | \$ 0.00           | 1             | 1             | 1.0000    | \$ -        | \$0.00   |  |
|                                             |          |          | SUBTOTAL    | \$0.00            |               |               |           |             | \$0.00   |  |
|                                             |          |          |             | \$0.00            | 378.39        | 401.09        | 1.0600    | \$ -        | \$0.00   |  |
| COSTO DIRECTO                               |          |          |             | \$250.08          |               |               |           |             | \$260.32 |  |

FACTOR DE ACTUALIZACION

1.0409

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUYENDO EL FUTURO

### ANÁLISIS DE COSTOS AUXILIARES

CONCEPTO: ACERO DE REFUERZO, SUMINISTRO, HABILITADO Y COLOCACIÓN

### ACTUALIZACION AJUSTE DE COSTOS

UNIDAD KG  
 FECHA COTIZACION 26 DE NOV DE 2019

|                      |        |          |         |                | 2020          |               |               |             |                |
|----------------------|--------|----------|---------|----------------|---------------|---------------|---------------|-------------|----------------|
|                      |        |          |         |                | ABRIL         |               |               |             |                |
|                      | UNIDAD | CANTIDAD | COSTO   | IMPORTE        | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT   | IMPORTE        |
| <b>MATERIALES</b>    |        |          |         |                |               |               |               |             |                |
| ACERO DE REFUERZO    | KG     | 1.050000 | 11.05   | \$ 11.60       | 90.6941       | 101.2429      | 1.1163        | \$ 12.34    | \$12.96        |
| ALAMBRE RECOCIDO     | KG     | 0.065000 | 15.64   | \$ 1.02        | 98.8376       | 98.1713       | 0.9933        | \$ 15.54    | \$1.01         |
| <b>SUBTOTAL</b>      |        |          |         | <b>\$12.63</b> |               |               |               |             | <b>\$13.97</b> |
| <b>MANO DE OBRA</b>  |        |          |         |                |               |               |               |             |                |
| OFICIAL FERRERO      | JOR    | 0.003700 | 1078.79 | \$ 3.99        | 378.39        | 401.09        | 1.0600        | \$ 1,143.52 | \$4.23         |
| PEON EN GENERAL      | jor    | 0.003700 | 331.06  | \$ 1.22        | 378.39        | 401.09        | 1.0600        | \$ 350.92   | \$1.30         |
| <b>SUBTOTAL</b>      |        |          |         | <b>\$5.22</b>  |               |               |               |             | <b>\$5.53</b>  |
| <b>EQUIPO</b>        |        |          |         |                |               |               |               |             |                |
|                      |        |          |         | \$ 0.00        | 1             | 1             | 1.0000        | \$0.00      | \$0.00         |
| <b>SUBTOTAL</b>      |        |          |         | <b>\$0.00</b>  |               |               |               |             | <b>\$0.00</b>  |
| HERRAMIENTA MENOR    | %      | 3.00%    | \$5.22  | \$0.16         | 378.39        | 401.09        | 1.0600        | \$ 5.53     | \$0.17         |
| HERRAMIENTA MENOR    | %      | 3.00%    | \$5.22  | \$0.16         | 378.39        | 401.09        | 1.0600        | \$ 5.53     | \$0.17         |
| <b>SUBTOTAL</b>      |        |          |         | <b>\$0.31</b>  |               |               |               |             | <b>\$0.34</b>  |
| <b>COSTO DIRECTO</b> |        |          |         | <b>\$18.15</b> |               |               |               |             | <b>\$19.84</b> |

FACTOR DE ACTUALIZACION

1.0930

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Handwritten signature and stamp.

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE COSTOS AUXILIARES

CONCEPTO: COLADO DE CONCRETO PREMEZCLADO EN ALBAÑILERIA

### ACTUALIZACION AJUSTE DE COSTOS

UNIDAD M2  
 FECHA  
 COTIZACION 26 DE NOV DE 2019

|                                                                                        |     |               |          |          | 2020          |               |               |           |          |          |
|----------------------------------------------------------------------------------------|-----|---------------|----------|----------|---------------|---------------|---------------|-----------|----------|----------|
|                                                                                        |     |               |          |          | ABRIL         |               |               |           |          |          |
| UNIDAD                                                                                 |     | CANTIDAD      | COSTO    | IMPORTE  | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT | IMPORTE  |          |
| MATERIALES                                                                             |     |               |          |          |               |               |               |           |          |          |
| CURACRETO                                                                              | LTO | 0.75          | \$22.00  | \$16.50  | 101.3110      | 117.6115      | 1.1609        | \$ 25.54  | \$19.16  |          |
| SUBTOTAL                                                                               |     |               |          | \$16.51  |               |               |               |           | \$19.16  |          |
|                                                                                        |     |               |          |          |               |               |               |           |          |          |
| MANO DE OBRA                                                                           |     |               |          |          |               |               |               |           |          |          |
| OFICIAL ALBAÑIL                                                                        | JOR | 0.260000      | \$672.13 | \$174.75 | 378.39        | 401.09        | 1.0600        | \$ 712.46 | \$185.24 |          |
| PEON EN GENERAL                                                                        | jor | 0.260000      | 331.06   | \$86.08  | 378.39        | 401.09        | 1.0600        | \$ 350.92 | \$91.24  |          |
| SUBTOTAL                                                                               |     |               |          | \$260.83 |               |               |               |           | \$276.48 |          |
|                                                                                        |     |               |          |          |               |               |               |           |          |          |
| EQUIPO                                                                                 |     |               |          |          |               |               |               |           |          |          |
| VIBRADOR<br>GASOLINA<br>MARCA: CIPSA-<br>DYNAPAC<br>MODELO: MV-B5<br>CAPACIDAD: 5 H.P. | HR  | 0.120000      | \$117.25 | \$14.07  | 117.2500      | 118.2500      | 1.0085        | \$ 118.25 | \$14.19  |          |
| SUBTOTAL                                                                               |     |               |          | \$14.07  |               |               |               |           | \$14.19  |          |
|                                                                                        |     |               |          |          |               |               |               |           |          |          |
| HERRAMIENTA<br>MENOR                                                                   | %   | 3.00%         | \$260.83 | \$7.82   | 378.39        | 401.09        | 1.0600        | \$ 276.48 | \$8.29   |          |
| HERRAMIENTA<br>MENOR                                                                   | %   | 3.00%         | \$260.83 | \$7.82   | 378.39        | 401.09        | 1.0600        | \$ 276.48 | \$8.29   |          |
| SUBTOTAL                                                                               |     |               |          | \$15.65  |               |               |               |           | \$16.58  |          |
|                                                                                        |     |               |          |          |               |               |               |           |          |          |
|                                                                                        |     | COSTO DIRECTO |          | \$307.04 |               |               |               |           |          | \$326.42 |

FACTOR DE ACTUALIZACION 1.0631

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**

CONSTRUYENDO EL FUTURO

### ANÁLISIS DE COSTOS AUXILIARES

CONCEPTO CIMBRA EN COLUMNAS Y TRABES

### ACTUALIZACION AJUSTE DE COSTOS

UNIDAD M2  
 FECHA COTIZACION 26 DE NOV DE 2019

|                                             |     |          |             |           | 2020          |               |               |             |          |
|---------------------------------------------|-----|----------|-------------|-----------|---------------|---------------|---------------|-------------|----------|
|                                             |     |          |             |           | ABRIL         |               |               |             |          |
| UNIDAD                                      |     | CANTIDAD | COSTO       | IMPORTE   | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT   | IMPORTE  |
| MATERIALES                                  |     |          |             |           |               |               |               |             |          |
| MADERA                                      | PT  | 8.250000 | \$13.00     | \$ 107.25 | 100.5478      | 100.0183      | 0.9947        | \$ 12.93    | \$106.68 |
| TUINO                                       | ML  | 0.670000 | \$6.00      | \$ 4.02   | 99.5995       | 101.4315      | 1.0184        | \$ 6.11     | \$4.09   |
| CLAVO                                       | KG  | 0.200000 | \$17.84     | \$ 3.57   | 101.0776      | 122.5499      | 1.2124        | \$ 21.63    | \$4.33   |
| DIESEL                                      | LTO | 0.670000 | \$17.62     | \$ 11.81  | 100.5013      | 84.2104       | 0.8379        | \$ 14.76    | \$9.89   |
| ALAMBRE RECOCIDO                            | KG  | 0.100000 | \$15.64     | \$ 1.56   | 98.8376       | 98.1713       |               | \$ 15.54    | \$1.55   |
| KALISCH                                     |     |          |             |           |               |               | 0.9933        |             |          |
| SUBTOTAL                                    |     |          |             | \$128.21  |               |               |               |             | \$126.54 |
|                                             |     |          |             |           |               |               |               |             |          |
| MANO DE OBRA                                |     |          |             |           |               |               |               |             |          |
| CUADRILLA 19 (OF. CARPINTERO O.N.+AYUDANTE) | JOR | 0.17000  | \$ 1,063.39 | \$ 180.78 | 378.39        | 401.09        | 1.0600        | \$ 1,127.19 | \$191.62 |
| SUBTOTAL                                    |     |          |             | \$180.78  |               |               |               |             | \$191.62 |
|                                             |     |          |             |           |               |               |               |             |          |
| EQUIPO                                      |     |          |             |           |               |               |               |             |          |
|                                             |     |          |             | \$ 0.00   | 1             | 1             | 1.0000        | \$ -        | \$0.00   |
|                                             |     |          | SUBTOTAL    | \$0.00    |               |               |               |             | \$0.00   |
|                                             |     |          |             |           |               |               |               |             |          |
|                                             |     |          |             | \$0.00    | 378.39        | 401.09        | 1.0600        | \$ -        | \$0.00   |
| COSTO DIRECTO                               |     |          |             | \$308.99  |               |               |               |             | \$318.17 |

FACTOR DE ACTUALIZACION

1.0297

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE COSTOS AUXILIARES

CONCEPTO CIMBRA APARENTE EN COLUMNAS Y TRABES CON TRIPLAY CARA DE PAPEL DE 5/8"

ACTUALIZACION AJUSTE DE COSTOS

UNIDAD M2  
 FECHA COTIZACION 26 DE NOV DE 2019

|                                                      |     |          |             | 2020      |               |               |               |             |          |
|------------------------------------------------------|-----|----------|-------------|-----------|---------------|---------------|---------------|-------------|----------|
|                                                      |     |          |             | ABRIL     |               |               |               |             |          |
| UNIDAD                                               |     | CANTIDAD | COSTO       | IMPORTE   | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT   | IMPORTE  |
| MATERIALES                                           |     |          |             |           |               |               |               |             |          |
| MADERA                                               | PT  | 8.25     | \$13.00     | \$ 107.25 | 100.5478      | 100.0183      | 0.9947        | \$ 12.93    | \$106.67 |
| TUINO                                                | ML  | 0.670000 | \$6.00      | \$ 4.02   | 99.5995       | 101.4315      | 1.0184        | \$ 6.11     | \$4.09   |
| CLAVO                                                | KG  | 0.200000 | \$17.84     | \$ 3.57   | 101.0776      | 122.5499      | 1.2124        | \$ 21.63    | \$4.33   |
| DIESEL                                               | LTO | 0.670000 | \$17.62     | \$ 11.81  | 100.5013      | 84.2104       | 0.8379        | \$ 14.76    | \$9.89   |
| ALAMBRE RECOCIDO KALISCH                             | KG  | 0.100000 | \$15.64     | \$ 1.56   | 98.8376       | 98.1713       | 0.9933        | \$ 15.54    | \$1.55   |
| TRIPLAY CARA DE PAPEL DE 5/8"                        | M2  | .25      | \$241.87    | \$ 60.47  | 97.3881       | 97.3730       | 0.9998        | \$ 241.82   | \$60.46  |
| SUBTOTAL                                             |     |          |             | \$188.67  |               |               |               |             | \$186.99 |
| MANO DE OBRA                                         |     |          |             |           |               |               |               |             |          |
| CUADRILLA 8 (1 OFICIAL ALBAÑIL + 1 PEON EN GENERAL ) | JOR | 0.170000 | \$ 1,063.39 | \$ 180.78 | 378.39        | 401.09        | 1.0600        | \$ 1,127.19 | \$191.62 |
| SUBTOTAL                                             |     |          |             | \$180.78  |               |               |               |             | \$191.62 |
| EQUIPO                                               |     |          |             |           |               |               |               |             |          |
|                                                      |     |          |             | \$ 0.00   | 1             | 1             | 1.0000        | \$ -        | \$0.00   |
|                                                      |     |          |             | SUBTOTAL  |               |               |               |             | \$0.00   |
|                                                      |     |          |             | \$0.00    | 378.39        | 401.09        | 1.0600        | \$ -        | \$0.00   |
| COSTO DIRECTO                                        |     |          |             | \$369.46  |               |               |               |             | \$378.62 |

FACTOR DE ACTUALIZACION

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE COSTOS AUXILIARES

CONCEPTO CIMBRA EN LOSA

ACTUALIZACION AJUSTE DE COSTOS

UNIDAD M2  
 FECHA COTIZACION 26 DE NOV DE 2019

|                                                      |        |          |             |           | 2020          |               |               |             |          |
|------------------------------------------------------|--------|----------|-------------|-----------|---------------|---------------|---------------|-------------|----------|
|                                                      |        |          |             |           | ABRIL         |               |               |             |          |
|                                                      | UNIDAD | CANTIDAD | COSTO       | IMPORTE   | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT   | IMPORTE  |
| MATERIALES                                           |        |          |             |           |               |               |               |             |          |
| MADERA                                               | PT     | 4.500000 | \$13.00     | \$ 58.50  | 100.5478      | 100.0183      | 0.9947        | \$ 12.93    | \$58.19  |
| TRIPLAY 5/8" P/CIMBRA                                | M2     | 0.200000 | \$205.00    | \$ 41.00  | 97.3881       | 97.3730       | 0.9998        | \$ 204.96   | \$40.99  |
| CLAVO                                                | KG     | 0.200000 | \$17.84     | \$ 3.57   | 101.0776      | 122.5499      | 1.2124        | \$ 21.63    | \$4.33   |
| DIESEL                                               | LTO    | 0.670000 | \$17.62     | \$ 11.81  | 100.5013      | 84.2104       | 0.8379        | \$ 14.76    | \$9.89   |
| TUINO                                                | ML     | 0.670000 | \$6.00      | \$ 4.02   | 99.5995       | 101.4315      | 1.0184        | \$ 6.11     | \$4.09   |
| ALAMBRE RECOCIDO KALISCH                             | KG     | 0.100000 | \$15.64     | \$ 1.56   | 98.8376       | 98.1713       | 0.9933        | \$ 15.54    | \$1.55   |
| SUBTOTAL                                             |        |          |             | \$120.46  |               |               |               |             | \$119.04 |
| MANO DE OBRA                                         |        |          |             |           |               |               |               |             |          |
| CUADRILLA 8 (1 OFICIAL ALBAÑIL + 1 PEON EN GENERAL ) | JOR    | 0.115000 | \$ 1,063.39 | \$ 122.29 | 378.39        | 401.09        | 1.0600        | \$ 1,127.19 | \$129.63 |
| SUBTOTAL                                             |        |          |             | \$122.29  |               |               |               |             | \$129.63 |
| EQUIPO                                               |        |          |             |           |               |               |               |             |          |
|                                                      |        |          |             | \$ 0.00   | 1             | 1             | 1.0000        | \$ -        | \$0.00   |
|                                                      |        |          | SUBTOTAL    | \$0.00    |               |               |               |             | \$0.00   |
|                                                      |        |          |             | \$0.00    | 378.39        | 401.09        | 1.0600        | \$ -        | \$0.00   |
| COSTO DIRECTO                                        |        |          | \$242.75    |           |               |               |               |             | \$248.68 |

FACTOR DE ACTUALIZACION

1.0244

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE COSTOS AUXILIARES

CONCEPTO: COLADO EN LOSA

### ACTUALIZACION AJUSTE DE COSTOS

UNIDAD M2  
 FECHA  
 COTIZACION 26 DE NOV DE 2019

|                                                                   |          |          |                |               | 2020          |               |           |                |         |
|-------------------------------------------------------------------|----------|----------|----------------|---------------|---------------|---------------|-----------|----------------|---------|
|                                                                   |          |          |                |               | ABRIL         |               |           |                |         |
| UNIDAD                                                            | CANTIDAD | COSTO    | IMPORTE        | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT | IMPORTE        |         |
| <b>MATERIALES</b>                                                 |          |          |                |               |               |               |           |                |         |
|                                                                   |          |          | \$0.00         | 1             | 1             | 1.0000        | \$ -      | \$0.00         |         |
| <b>SUBTOTAL</b>                                                   |          |          | <b>\$0.01</b>  |               |               |               |           | <b>\$0.00</b>  |         |
| <b>MANO DE OBRA</b>                                               |          |          |                |               |               |               |           |                |         |
| CUADRILLA 8 (1 OFICIAL ALBAÑIL + 1 PEON EN GENERAL )              | JOR      | 0.060000 | \$1,063.39     | \$63.80       | 378.39        | 401.09        | 1.0600    | \$ 1,127.19    | \$67.63 |
| ACABADO FLOTEADO, RAYADO, O SEMIPULIDO                            | M2       | 1.000000 | \$23.93        | \$23.93       | 378.39        | 401.09        | 1.0600    | \$ 25.37       | \$25.37 |
| <b>SUBTOTAL</b>                                                   |          |          | <b>\$87.73</b> |               |               |               |           | <b>\$93.00</b> |         |
| <b>EQUIPO</b>                                                     |          |          |                |               |               |               |           |                |         |
| VIBRADOR ELECTRICO MARCA: WACKER MODELO: M-2000 CAPACIDAD: 2000 W | HR       | 0.06234  | \$87.43        | \$5.45        | 87.4300       | 93.4900       | 1.0693    | \$ 93.49       | \$5.83  |
| <b>SUBTOTAL</b>                                                   |          |          | <b>\$5.45</b>  |               |               |               |           | <b>\$5.83</b>  |         |
| HERRAMIENTA MENOR                                                 | %        | 0.00%    | \$87.73        | \$0.00        | 378.39        | 401.09        | 1.0600    | \$ 93.00       | \$0.00  |
| HERRAMIENTA MENOR                                                 | %        | 0.00%    | \$87.73        | \$0.00        | 378.39        | 401.09        | 1.0600    | \$ 93.00       | \$0.00  |
| <b>SUBTOTAL</b>                                                   |          |          | <b>\$0.00</b>  |               |               |               |           | <b>\$0.00</b>  |         |
| <b>COSTO DIRECTO</b>                                              |          |          | <b>\$93.17</b> |               |               |               |           | <b>\$98.84</b> |         |

FACTOR DE ACTUALIZACION 1.0608

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE COSTOS AUXILIARES

CONCEPTO: CURADO DE CONCRETO

### ACTUALIZACION AJUSTE DE COSTOS

UNIDAD M2  
 FECHA  
 COTIZACION 26 DE NOV DE 2019

|                           |          |          |                      |               | 2020          |               |           |           |               |
|---------------------------|----------|----------|----------------------|---------------|---------------|---------------|-----------|-----------|---------------|
|                           |          |          |                      |               | ABRIL         |               |           |           |               |
| UNIDAD                    | CANTIDAD | COSTO    | IMPORTE              | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT | IMPORTE   |               |
| <b>MATERIALES</b>         |          |          |                      |               |               |               |           |           |               |
| CURACRETO                 | LTO      | 0.015000 | \$22.00              | \$0.33        | 101.3110      | 117.6115      | 1.1609    | \$ 25.54  | \$0.38        |
|                           |          |          | <b>SUBTOTAL</b>      |               |               |               |           |           | <b>\$0.38</b> |
| <b>MANO DE OBRA</b>       |          |          |                      |               |               |               |           |           |               |
| CUADRILLA 7 ( 1 AYUDANTE) | JOR      | 0.008530 | \$350.92             | \$2.99        | 378.39        | 399.82        | 1.0566    | \$ 370.78 | \$3.16        |
|                           |          |          | <b>SUBTOTAL</b>      |               |               |               |           |           | <b>\$3.16</b> |
| <b>EQUIPO</b>             |          |          |                      |               |               |               |           |           |               |
|                           |          |          | \$0.00               | 1.00          | 1.00          | 1.0000        | \$ -      | \$0.00    |               |
|                           |          |          | <b>SUBTOTAL</b>      |               |               |               |           |           | <b>\$0.00</b> |
| HERRAMIENTA MENOR         | %        | 0.00%    | \$2.99               | \$0.00        | 378.39        | 401.09        | 1.0600    | \$ 3.17   | \$0.00        |
| HERRAMIENTA MENOR         | %        | 0.00%    | \$2.99               | \$0.00        | 378.39        | 401.09        | 1.0600    | \$ 3.17   | \$0.00        |
|                           |          |          | <b>SUBTOTAL</b>      |               |               |               |           |           | <b>\$0.00</b> |
|                           |          |          | <b>COSTO DIRECTO</b> |               |               |               |           |           | <b>\$3.54</b> |

FACTOR DE ACTUALIZACION 1.0652

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Handwritten signature/initials

CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
CONTRATO No. C.O.P.-080-2019-P



PROURVIKA

CONSTRUYENDO EL FUTURO

### ANÁLISIS DE COSTOS AUXILIARES

CONCEPTO: Suministro, fabricación y montaje de conexiones a base de placa

### ACTUALIZACION AJUSTE DE COSTOS

UNIDAD KG  
FECHA COTIZACION 26 DE NOV DE 2019

|                                                                                                                |        |          |             |          | 2020          |               |               |              |         |
|----------------------------------------------------------------------------------------------------------------|--------|----------|-------------|----------|---------------|---------------|---------------|--------------|---------|
|                                                                                                                |        |          |             |          | ABRIL         |               |               |              |         |
|                                                                                                                | UNIDAD | CANTIDAD | COSTO       | IMPORTE  | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT    | IMPORTE |
| MATERIALES                                                                                                     |        |          |             |          |               |               |               |              |         |
| Placa H - 50                                                                                                   | kg     | 1.040000 | \$18.20     | \$ 18.93 | 93.1105       | 74.9589       | 0.8051        | \$ 14.65     | \$15.24 |
| FLETE A OBRA                                                                                                   | PZA    | 0.000220 | \$10,000.00 | \$ 2.20  | 100.9115      | 116.6990      | 1.1564        | \$ 11,564.00 | \$2.54  |
| Gas Lp                                                                                                         | kg     | 0.014290 | \$16.94     | \$ 0.24  | 110.9904      | 112.8965      | 1.0172        | \$ 17.23     | \$0.25  |
| Soldadura electrodo 7018 de 1/8"                                                                               | kg     | 0.010000 | \$41.37     | \$ 0.41  | 99.4963       | 101.1516      | 1.0166        | \$ 42.06     | \$0.42  |
| Gas oxígeno                                                                                                    | kg     | 0.002270 | \$52.01     | \$ 0.12  | 100.1454      | 104.6744      | 1.0452        | \$ 54.36     | \$0.12  |
| Primer Shop E20-AJ08 Sherwin Williams                                                                          | lto    | 0.008000 | \$82.74     | \$ 0.66  | 100.2022      | 110.6692      | 1.1045        | \$ 91.39     | \$0.73  |
| Insumos de Montaje (soldadura 7018, gases)                                                                     | kg     | 0.538460 | \$0.77      | \$ 0.41  | 1.0000        | 1.0000        | 1.0000        | \$ 0.77      | \$0.41  |
| PINTURA ALQUIDALICA SHERWIN WILLIAMS                                                                           | lto    | 0.007500 | \$168.00    | \$ 1.26  | 100.2022      | 110.6692      | 1.1045        | \$ 185.56    | \$1.39  |
| SUBTOTAL                                                                                                       |        |          |             | \$24.23  |               |               |               |              | \$21.10 |
| MANO DE OBRA                                                                                                   |        |          |             |          |               |               |               |              |         |
| Cuadrilla de Fabricacion (1 Armador + 2 Soldadores + 2 Ayudante de soldador + 1 Pintor + 1 Ayudante de Pintor) | jor    | 0.001540 | \$ 3,533.54 | \$ 5.44  | 378.39        | 399.82        | 1.0566        | \$ 3,733.54  | \$5.75  |
| Cuadrilla de Montaje (1 Montador + 2 Soldadores + 2 Ayudante)                                                  | jor    | 0.001320 | \$ 2,546.06 | \$ 3.36  | 378.39        | 399.82        | 1.0566        | \$ 2,690.17  | \$3.55  |
| SUBTOTAL                                                                                                       |        |          |             | \$8.80   |               |               |               |              | \$9.30  |
| EQUIPO                                                                                                         |        |          |             |          |               |               |               |              |         |
| SOLDADORA DIESEL MARCA:LINCOLN MODELO: RANGER 305-D                                                            | HR     | 0.000980 | \$ 203.24   | \$ 0.20  | 203.2400      | 207.3800      | 1.0204        | \$ 207.39    | \$0.20  |
| GENERADOR LUZ DIESEL MARCA: INGERSOLL-RAND MODELO: M-45 CAPACIDAD: 45 KW                                       | HR     | 0.005000 | \$ 291.95   | \$ 1.46  | 291.9500      | 289.0700      | 0.9901        | \$ 289.06    | \$1.45  |
| GRUA HIDRAULICA MARCA: GROVE MODELO: GXR-40 CAPACIDAD: 40 TON                                                  | hora   | 0.000500 | \$ 1,677.57 | \$ 0.84  | 1677.5700     | 1808.3900     | 1.0780        | \$ 1,808.42  | \$0.90  |
| SUBTOTAL                                                                                                       |        |          |             | \$2.50   |               |               |               |              | \$2.55  |
| HERRAMIENTA MENOR                                                                                              | (%)mo  | 0.03     | \$8.80      | \$0.26   | 378.39        | 401.09        | 1.0600        | \$ 9.33      | \$0.28  |
| LIMPIEZA GRUESA Y FINA                                                                                         | (%)mo  | 0.03     | \$8.80      | \$0.26   | 378.39        | 401.09        | 1.0600        | \$ 9.33      | \$0.28  |
| COSTO DIRECTO                                                                                                  |        |          |             | \$36.05  |               |               |               |              | \$33.52 |

FACTOR DE ACTUALIZACION

0.9299



# PROURVIKA

1.0858



**ANÁLISIS DE COSTOS AUXILIARES**

CONCEPTO: Suministro, fabricacion y montaje de columnas a base de IPR

**ACTUALIZACION AJUSTE DE COSTOS**

UNIDAD KG  
 FECHA COTIZACION 26 DE NOV DE 2019

|                                            |          |          |                |               | 2020<br>ABRIL |               |           |              |                |
|--------------------------------------------|----------|----------|----------------|---------------|---------------|---------------|-----------|--------------|----------------|
| UNIDAD                                     | CANTIDAD | COSTO    | IMPORTE        | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT | IMPORTE      |                |
| <b>MATERIALES</b>                          |          |          |                |               |               |               |           |              |                |
| Perfil IPR                                 | kg       | 1.030000 | \$ 19.39       | \$ 19.97      | 96.3350       | 100.5658      | 1.0439    | \$ 20.24     | \$20.85        |
| FLETE A OBRA                               | PZA      | 0.000160 | \$10,000.00    | \$ 1.60       | 100.9115      | 116.6990      | 1.1564    | \$ 11,564.00 | \$1.85         |
| Gas Lp                                     | kg       | 0.014290 | \$16.94        | \$ 0.24       | 110.9904      | 112.8965      | 1.0172    | \$ 17.23     | \$0.25         |
| Soldadura electrodo 7018 de 1/8"           | kg       | 0.010000 | \$41.37        | \$ 0.41       | 99.6824       | 103.1446      | 1.0347    | \$ 42.81     | \$0.43         |
| Gas oxigeno                                | kg       | 0.002270 | \$52.01        | \$ 0.12       | 100.1454      | 104.6744      | 1.0452    | \$ 54.36     | \$0.12         |
| Primer Shop E20-AJ08 Sherwin Williams      | lto      | 0.008000 | \$82.74        | \$ 0.66       | 100.2022      | 110.6692      | 1.1045    | \$ 91.39     | \$0.73         |
| Insumos de Montaje (soldadura 7018, gases) | kg       | 0.538460 | \$0.77         | \$ 0.41       | 1.0000        | 1.0000        | 1.0000    | \$ 0.77      | \$0.41         |
| Tornilleria A-325 Promedio                 | pza      | 0.011820 | \$65.01        | \$ 0.77       | 101.0776      | 122.5499      | 1.2124    | \$ 78.82     | \$0.93         |
| PINTURA ALQUIDALICA SHERWIN WILLIAMS       | lto      | 0.006750 | \$168.00       | \$ 1.13       | 100.2022      | 110.6692      | 1.1045    | \$ 185.56    | \$1.25         |
| <b>SUBTOTAL</b>                            |          |          | <b>\$25.31</b> |               |               |               |           |              | <b>\$26.82</b> |

|                                                                                                                |     |          |               |         |        |        |        |             |               |
|----------------------------------------------------------------------------------------------------------------|-----|----------|---------------|---------|--------|--------|--------|-------------|---------------|
| <b>MANO DE OBRA</b>                                                                                            |     |          |               |         |        |        |        |             |               |
| Cuadrilla de Fabricacion (1 Armador + 2 Soldadores + 2 Ayudante de soldador + 1 Pintor + 1 Ayudante de Pintor) | jor | 0.001540 | \$ 3,533.54   | \$ 5.44 | 378.39 | 401.09 | 1.0600 | \$ 3,745.55 | \$5.77        |
| Cuadrilla de Montaje (1 Montador + 2 Soldadores + 2 Ayudante)                                                  | jor | 0.001180 | \$ 2,546.06   | \$ 3.00 | 378.39 | 401.09 | 1.0600 | \$ 2,698.82 | \$3.18        |
| <b>SUBTOTAL</b>                                                                                                |     |          | <b>\$8.45</b> |         |        |        |        |             | <b>\$8.95</b> |

|                                                                          |      |          |               |         |         |           |        |             |               |
|--------------------------------------------------------------------------|------|----------|---------------|---------|---------|-----------|--------|-------------|---------------|
| <b>EQUIPO</b>                                                            |      |          |               |         |         |           |        |             |               |
| SOLDADORA DIESEL MARCA: LINCOLN MODELO: RANGER 305-D                     | HR   | 0.000980 | \$ 203.24     | \$ 0.20 | 203.24  | 207.3800  | 1.0204 | \$ 207.39   | \$0.20        |
| GENERADOR LUZ DIESEL MARCA: INGERSOLL-RAND MODELO: M-45 CAPACIDAD: 45 KW | HR   | 0.005000 | \$ 291.95     | \$ 1.46 | 291.95  | 289.0700  | 0.9901 | \$ 289.06   | \$1.45        |
| GRUA HIDRAULICA MARCA: GROVE MODELO: GXR-40 CAPACIDAD: 40 TON            | hora | 0.000500 | \$ 1,677.57   | \$ 0.84 | 1677.57 | 1808.3900 | 1.0780 | \$ 1,808.42 | \$0.90        |
| <b>SUBTOTAL</b>                                                          |      |          | <b>\$2.50</b> |         |         |           |        |             | <b>\$2.55</b> |

|                        |       |      |        |        |        |        |        |         |        |
|------------------------|-------|------|--------|--------|--------|--------|--------|---------|--------|
| HERRAMIENTA MENOR      | (%)mo | 0.03 | \$8.45 | \$0.25 | 378.39 | 401.09 | 1.0600 | \$ 8.96 | \$0.27 |
| LIMPIEZA GRUESA Y FINA | (%)mo | 0.03 | \$8.45 | \$0.25 | 378.39 | 401.09 | 1.0600 | \$ 8.96 | \$0.27 |

**COSTO DIRECTO \$36.75**

**\$38.86**

FACTOR DE ACTUALIZACION

1.0575

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### ANÁLISIS DE COSTOS AUXILIARES

CONCEPTO: Suministro, fabricacion y montaje de columnas a base de OR

### ACTUALIZACION AJUSTE DE COSTOS

UNIDAD KG  
FECHA COTIZACION 26 DE NOV DE 2019

|                                            |        |          |             |          | 2020          |               |               |              |         |
|--------------------------------------------|--------|----------|-------------|----------|---------------|---------------|---------------|--------------|---------|
|                                            |        |          |             |          | ABRIL         |               |               |              |         |
|                                            | UNIDAD | CANTIDAD | COSTO       | IMPORTE  | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT    | IMPORTE |
| MATERIALES                                 |        |          |             |          |               |               |               |              |         |
| Perfil HSS                                 | kg     | 1.030000 | \$24.02     | \$ 24.74 | 96.3350       | 100.5658      | 1.0439        | \$ 25.07     | \$25.82 |
| FLETE A OBRA                               | PZA    | 0.000160 | \$10,000.00 | \$ 1.60  | 100.9115      | 116.6990      | 1.1564        | \$ 11,564.00 | \$1.85  |
| Gas Lp                                     | kg     | 0.014290 | \$16.94     | \$ 0.24  | 110.9904      | 112.8965      | 1.0172        | \$ 17.23     | \$0.25  |
| Soldadura electrodo7018 de 1/8"            | kg     | 0.010000 | \$41.37     | \$ 0.41  | 99.6824       | 103.1446      | 1.0347        | \$ 42.81     | \$0.43  |
| Gas oxigeno                                | kg     | 0.002270 | \$52.01     | \$ 0.12  | 100.1454      | 104.6744      | 1.0452        | \$ 54.36     | \$0.12  |
| Primer Shop E20-AJ08 Sherwin Williams      | lto    | 0.008000 | \$82.74     | \$ 0.66  | 100.2022      | 110.6692      | 1.1045        | \$ 91.39     | \$0.73  |
| Insumos de Montaje (soldadura 7018, gases) | kg     | 0.538460 | \$0.77      | \$ 0.41  | 1.0000        | 1.0000        | 1.0000        | \$ 0.77      | \$0.41  |
| Tornilleria A-325 Promedio                 | pza    | 0.011820 | \$65.01     | \$ 0.77  | 101.0776      | 122.5499      | 1.2124        | \$ 78.82     | \$0.93  |
| PINTURA ALQUIDALICA SHERWIN WILLIAMS       | lto    | 0.006750 | \$168.00    | \$ 1.13  | 100.2022      | 110.6692      | 1.1045        | \$ 185.56    | \$1.25  |
| SUBTOTAL                                   |        |          |             | \$30.08  |               |               |               |              | \$31.79 |

|                                                                                                                |     |          |                 |         |        |        |        |             |               |
|----------------------------------------------------------------------------------------------------------------|-----|----------|-----------------|---------|--------|--------|--------|-------------|---------------|
| <b>MANO DE OBRA</b>                                                                                            |     |          |                 |         |        |        |        |             |               |
| Cuadrilla de Fabricacion (1 Armador + 2 Soldadores + 2 Ayudante de soldador + 1 Pintor + 1 Ayudante de Pintor) | jor | 0.001540 | \$ 3,533.54     | \$ 5.44 | 378.39 | 401.09 | 1.0600 | \$ 3,745.55 | \$5.77        |
| Cuadrilla de Montaje (1 Montador + 2 Soldadores + 2 Ayudante)                                                  | jor | 0.001180 | \$ 2,546.06     | \$ 3.00 | 378.39 | 401.09 | 1.0600 | \$ 2,698.82 | \$3.18        |
|                                                                                                                |     |          | <b>SUBTOTAL</b> |         |        |        |        |             | <b>\$8.95</b> |

|                                                                          |      |          |                 |         |          |           |        |             |               |
|--------------------------------------------------------------------------|------|----------|-----------------|---------|----------|-----------|--------|-------------|---------------|
| <b>EQUIPO</b>                                                            |      |          |                 |         |          |           |        |             |               |
| SOLDADORA DIESEL MARCA: LINCOLN MODELO: RANGER 305-D                     | HR   | 0.000980 | \$ 203.24       | \$ 0.20 | 203.2400 | 207.3800  | 1.0204 | \$ 207.39   | \$0.20        |
| GENERADOR LUZ DIESEL MARCA: INGERSOLL-RAND MODELO: M-45 CAPACIDAD: 45 KW | HR   | 0.005000 | \$ 291.95       | \$ 1.46 | 291.95   | 289.0700  | 0.9901 | \$ 289.06   | \$1.45        |
| GRUA HIDRAULICA MARCA: GROVE MODELO: GXR-40 CAPACIDAD: 40 TON            | hora | 0.000500 | \$ 1,677.57     | \$ 0.84 | 1677.57  | 1808.3900 | 1.0780 | \$ 1,808.42 | \$0.90        |
|                                                                          |      |          | <b>SUBTOTAL</b> |         |          |           |        |             | <b>\$2.55</b> |

|                        |       |      |        |        |        |        |        |         |        |
|------------------------|-------|------|--------|--------|--------|--------|--------|---------|--------|
| HERRAMIENTA MENOR      | (%)mo | 0.03 | \$8.44 | \$0.25 | 378.39 | 401.09 | 1.0600 | \$ 8.95 | \$0.27 |
| LIMPIEZA GRUESA Y FINA | (%)mo | 0.03 | \$8.44 | \$0.25 | 378.39 | 401.09 | 1.0600 | \$ 8.95 | \$0.27 |

**COSTO DIRECTO \$41.52**

**\$43.83**

FACTOR DE ACTUALIZACION

1.0556

K O

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**

100% - 01/19/20

### ANÁLISIS DE COSTOS AUXILIARES

CONCEPTO: Suministro, fabricación y montaje de armadura a base de ángulo

### ACTUALIZACION AJUSTE DE COSTOS

UNIDAD KG  
 FECHA COTIZACION 26 DE NOV DE 2019

|                                                                          |          |          |                      |               | 2020<br>ABRIL |               |           |              |                |
|--------------------------------------------------------------------------|----------|----------|----------------------|---------------|---------------|---------------|-----------|--------------|----------------|
| UNIDAD                                                                   | CANTIDAD | COSTO    | IMPORTE              | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT | IMPORTE      |                |
| <b>MATERIALES</b>                                                        |          |          |                      |               |               |               |           |              |                |
| Armadura a base de ang                                                   | kg       | 1.000000 | \$28.89              | \$ 28.89      | 96.3350       | 100.5658      | 1.0439    | \$ 30.16     | \$30.16        |
| FLETE A OBRA                                                             | PZA      | 0.000181 | \$10,000.00          | \$ 1.81       | 100.9115      | 116.6990      | 1.1564    | \$ 11,564.00 | \$2.09         |
| Primer Shop E20-AJ08 Sherwin Williams                                    | lto      | 0.008000 | \$82.74              | \$ 0.66       | 100.2022      | 110.6692      | 1.1045    | \$ 91.39     | \$0.73         |
| Insumos de Montaje (soldadura 7018, gases)                               | kg       | 0.538460 | \$0.77               | \$ 0.41       | 1.0000        | 1.0000        | 1.0000    | \$ 0.77      | \$0.41         |
| PINTURA ALQUIDALICA SHERWIN WILLIAMS                                     | lto      | 0.006750 | \$168.00             | \$ 1.13       | 100.2022      | 110.6692      | 1.1045    | \$ 185.56    | \$1.25         |
|                                                                          |          |          | <b>SUBTOTAL</b>      |               |               |               |           |              | <b>\$34.64</b> |
| <b>MANO DE OBRA</b>                                                      |          |          |                      |               |               |               |           |              |                |
| Cuadrilla de Montaje (1 Montador + 2 Soldadores + 2 Ayudante)            | jor      | 0.001310 | \$ 2,546.06          | \$ 3.34       | 378.39        | 401.09        | 1.0600    | \$ 2,698.82  | \$3.54         |
|                                                                          |          |          | <b>SUBTOTAL</b>      |               |               |               |           |              | <b>\$3.54</b>  |
| <b>EQUIPO</b>                                                            |          |          |                      |               |               |               |           |              |                |
| SOLDADORA DIESEL MARCA: LINCOLN MODELO: RANGER 305-D                     | HR       | 0.000980 | \$ 203.24            | \$ 0.20       | 203.24        | 207.3800      | 1.0204    | \$ 207.39    | \$0.20         |
| GENERADOR LUZ DIESEL MARCA: INGERSOLL-RAND MODELO: M-45 CAPACIDAD: 45 KW | HR       | 0.005000 | \$ 291.95            | \$ 1.46       | 291.95        | 289.0700      | 0.9901    | \$ 289.06    | \$1.45         |
| GRUA HIDRAULICA MARCA: GROVE MODELO: GXR-40 CAPACIDAD: 40 TON            | hora     | 0.000500 | \$ 1,677.57          | \$ 0.84       | 1677.57       | 1808.3900     | 1.0780    | \$ 1,808.42  | \$0.90         |
|                                                                          |          |          | <b>SUBTOTAL</b>      |               |               |               |           |              | <b>\$2.55</b>  |
| HERRAMIENTA MENOR                                                        | (%)mo    | 0.03     | \$3.34               | \$0.10        | 378.39        | 401.09        | 1.0600    | \$ 3.54      | \$0.11         |
| LIMPIEZA GRUESA Y FINA                                                   | (%)mo    | 0.03     | \$3.34               | \$0.10        | 378.39        | 401.09        | 1.0600    | \$ 3.54      | \$0.11         |
|                                                                          |          |          | <b>COSTO DIRECTO</b> |               |               |               |           |              | <b>\$40.95</b> |

FACTOR DE ACTUALIZACION

1.0519



CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
CONTRATO No. C.O.P.-080-2019-P



PROURVIKA  
CALLE 100 # 100-100

### ANÁLISIS DE COSTOS AUXILIARES

CONCEPTO: Suministro, fabricacion y montaje de conexiones a base de placa Columnas

### ACTUALIZACION AJUSTE DE COSTOS

UNIDAD KG  
FECHA COTIZACION 26 DE NOV DE 2019

|                                            |        |          |             |          | 2020          |               |               |              |         |
|--------------------------------------------|--------|----------|-------------|----------|---------------|---------------|---------------|--------------|---------|
|                                            |        |          |             |          | ABRIL         |               |               |              |         |
|                                            | UNIDAD | CANTIDAD | COSTO       | IMPORTE  | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT    | IMPORTE |
| MATERIALES                                 |        |          |             |          |               |               |               |              |         |
| Placa H - 50                               | kg     | 1.040000 | \$18.20     | \$ 18.93 | 93.1105       | 74.9589       | 0.8051        | \$ 14.65     | \$15.24 |
| FLETE A OBRA                               | PZA    | 0.000220 | \$10,000.00 | \$ 2.20  | 100.9115      | 116.6990      | 1.1564        | \$ 11,564.00 | \$2.54  |
| Gas Lp                                     | kg     | 0.014290 | \$16.94     | \$ 0.24  | 110.9904      | 112.8965      | 1.0172        | \$ 17.23     | \$0.25  |
| Soldadura electrodo 7018 de 1/8"           | kg     | 0.010000 | \$41.37     | \$ 0.41  | 99.4963       | 101.1516      | 1.0166        | \$ 42.06     | \$0.43  |
| Gas oxigeno                                | kg     | 0.002270 | \$52.01     | \$ 0.12  | 100.1454      | 104.6744      | 1.0452        | \$ 54.36     | \$0.12  |
| Primer Shop E20-AJ08 Sherwin Williams      | lto    | 0.008000 | \$82.74     | \$ 0.66  | 100.2022      | 110.6692      | 1.1045        | \$ 91.39     | \$0.73  |
| Insumos de Montaje (soldadura 7018, gases) | kg     | 0.538460 | \$0.77      | \$ 0.41  | 1.0000        | 1.0000        | 1.0000        | \$ 0.77      | \$0.41  |
| PINTURA ALQUIDALICA SHERWIN WILLIAMS       | lto    | 0.006750 | \$168.00    | \$ 1.13  | 100.2022      | 110.6692      | 1.1045        | \$ 185.56    | \$1.25  |
| SUBTOTAL                                   |        |          |             | \$24.10  |               |               |               |              | \$20.97 |

|                                                                                                                |     |          |               |         |        |        |        |                    |
|----------------------------------------------------------------------------------------------------------------|-----|----------|---------------|---------|--------|--------|--------|--------------------|
| <b>MANO DE OBRA</b>                                                                                            |     |          |               |         |        |        |        |                    |
| Cuadrilla de Fabricacion (1 Armador + 2 Soldadores + 2 Ayudante de soldador + 1 Pintor + 1 Ayudante de Pintor) | jor | 0.001540 | \$ 3,533.54   | \$ 5.44 | 378.39 | 401.09 | 1.0600 | \$ 3,745.55 \$5.77 |
| Cuadrilla de Montaje (1 Montador + 2 Soldadores + 2 Ayudante)                                                  | jor | 0.001320 | \$ 2,546.06   | \$ 3.36 | 378.39 | 401.09 | 1.0600 | \$ 2,698.82 \$3.56 |
| <b>SUBTOTAL</b>                                                                                                |     |          | <b>\$8.80</b> |         |        |        |        | <b>\$9.33</b>      |

|                                                                          |      |          |               |         |          |           |        |                    |
|--------------------------------------------------------------------------|------|----------|---------------|---------|----------|-----------|--------|--------------------|
| <b>EQUIPO</b>                                                            |      |          |               |         |          |           |        |                    |
| SOLDADORA DIESEL MARCA: LINCOLN MODELO: RANGER 305-D                     | HR   | 0.000980 | \$ 203.24     | \$ 0.20 | 203.2400 | 207.3800  | 1.0204 | \$ 207.39 \$0.20   |
| GENERADOR LUZ DIESEL MARCA: INGERSOLL-RAND MODELO: M-45 CAPACIDAD: 45 KW | HR   | 0.005000 | \$ 291.95     | \$ 1.46 | 291.95   | 289.0700  | 0.9901 | \$ 289.06 \$1.45   |
| GRUA HIDRAULICA MARCA: GROVE MODELO: GXR-40 CAPACIDAD: 40 TON            | hora | 0.000500 | \$ 1,677.57   | \$ 0.84 | 1677.57  | 1808.3900 | 1.0780 | \$ 1,808.42 \$0.90 |
| <b>SUBTOTAL</b>                                                          |      |          | <b>\$2.50</b> |         |          |           |        | <b>\$2.55</b>      |

|                        |       |      |        |        |        |        |        |                |
|------------------------|-------|------|--------|--------|--------|--------|--------|----------------|
| HERRAMIENTA MENOR      | (%)mo | 0.03 | \$8.80 | \$0.26 | 378.39 | 401.09 | 1.0600 | \$ 9.33 \$0.28 |
| LIMPIEZA GRUESA Y FINA | (%)mo | 0.03 | \$8.80 | \$0.26 | 378.39 | 401.09 | 1.0600 | \$ 9.33 \$0.28 |

**COSTO DIRECTO \$35.92**

**\$33.41**

FACTOR DE ACTUALIZACION

0.9302



### ANÁLISIS DE COSTOS AUXILIARES

CONCEPTO: Suministro, fabricacion y montaje de vigas a base de IPR

### ACTUALIZACION AJUSTE DE COSTOS

UNIDAD KG  
 FECHA COTIZACION 26 DE NOV DE 2019

|                                                                                                                |        |          |             |          | 2020          |               |               |              |         |
|----------------------------------------------------------------------------------------------------------------|--------|----------|-------------|----------|---------------|---------------|---------------|--------------|---------|
|                                                                                                                |        |          |             |          | ABRIL         |               |               |              |         |
|                                                                                                                | UNIDAD | CANTIDAD | COSTO       | IMPORTE  | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT    | IMPORTE |
| MATERIALES                                                                                                     |        |          |             |          |               |               |               |              |         |
| Perfil IPR                                                                                                     | kg     | 1.030000 | \$19.39     | \$ 19.97 | 96.3350       | 100.5658      | 1.0439        | \$ 20.24     | \$20.85 |
| FLETE A OBRA                                                                                                   | PZA    | 0.000160 | \$10,000.00 | \$ 1.60  | 100.9115      | 116.6990      | 1.1564        | \$ 11,564.00 | \$1.85  |
| Gas Lp                                                                                                         | kg     | 0.014290 | \$16.94     | \$ 0.24  | 110.9904      | 112.8965      | 1.0172        | \$ 17.23     | \$0.25  |
| Soldadura electrodo7018 de 1/8"                                                                                | kg     | 0.010000 | \$41.37     | \$ 0.41  | 99.6824       | 103.1446      | 1.0347        | \$ 42.81     | \$0.43  |
| Gas oxígeno                                                                                                    | kg     | 0.002270 | \$52.01     | \$ 0.12  | 100.1454      | 104.6744      | 1.0452        | \$ 54.36     | \$0.12  |
| Primer Shop E20-AJ08 Sherwin Williams                                                                          | lto    | 0.008000 | \$82.74     | \$ 0.66  | 100.2022      | 110.6692      | 1.1045        | \$ 91.39     | \$0.73  |
| Insumos de Montaje (soldadura 7018, gases)                                                                     | kg     | 0.538460 | \$0.77      | \$ 0.41  | 1.0000        | 1.0000        | 1.0000        | \$ 0.77      | \$0.41  |
| Tornilleria A-325 Promedio                                                                                     | pza    | 0.011820 | \$65.01     | \$ 0.77  | 101.0776      | 122.5499      | 1.2124        | \$ 78.82     | \$0.93  |
| PINTURA ALQUIDALICA SHERWIN WILLIAMS                                                                           | lto    | 0.006750 | \$168.00    | \$ 1.13  | 100.2022      | 110.6692      | 1.1045        | \$ 185.56    | \$1.25  |
| SUBTOTAL                                                                                                       |        |          |             | \$25.31  |               |               | \$26.81       |              |         |
| MANO DE OBRA                                                                                                   |        |          |             |          |               |               |               |              |         |
| Cuadrilla de Fabricacion (1 Armador + 2 Soldadores + 2 Ayudante de soldador + 1 Pintor + 1 Ayudante de Pintor) | jor    | 0.001540 | \$ 3,533.54 | \$ 5.44  | 378.39        | 401.09        | 1.0600        | \$ 3,745.55  | \$5.77  |
| Cuadrilla de Montaje (1 Montador + 2 Soldadores + 2 Ayudante)                                                  | jor    | 0.001180 | \$ 2,546.06 | \$ 3.00  | 378.39        | 401.09        | 1.0600        | \$ 2,698.82  | \$3.18  |
| SUBTOTAL                                                                                                       |        |          |             | \$8.44   |               |               | \$8.95        |              |         |
| EQUIPO                                                                                                         |        |          |             |          |               |               |               |              |         |
| SOLDADORA DIESEL MARCA:LINCOLN MODELO: RANGER 305-D                                                            | HR     | 0.000980 | \$ 203.24   | \$ 0.20  | 203.2400      | 207.3800      | 1.0204        | \$ 207.39    | \$0.20  |
| GENERADOR LUZ DIESEL MARCA: INGERSOLL-RAND MODELO: M-45 CAPACIDAD: 45 KW                                       | HR     | 0.005000 | \$ 291.95   | \$ 1.46  | 291.95        | 289.0700      | 0.9901        | \$ 289.06    | \$1.45  |
| GRUA HIDRAULICA MARCA: GROVE MODELO: GXR-40 CAPACIDAD: 40 TON                                                  | hora   | 0.002000 | \$ 1,677.57 | \$ 3.36  | 1677.57       | 1808.3900     | 1.0780        | \$ 1,808.42  | \$3.62  |
| SUBTOTAL                                                                                                       |        |          |             | \$5.01   |               |               | \$5.27        |              |         |
| HERRAMIENTA MENOR                                                                                              | (%)mo  | 0.03     | \$8.44      | \$0.25   | 378.39        | 401.09        | 1.0600        | \$ 8.95      | \$0.27  |
| LIMPIEZA GRUESA Y FINA                                                                                         | (%)mo  | 0.03     | \$8.44      | \$0.25   | 378.39        | 401.09        | 1.0600        | \$ 8.95      | \$0.27  |
| COSTO DIRECTO                                                                                                  |        |          |             | \$39.27  |               |               | \$41.57       |              |         |

FACTOR DE ACTUALIZACION

1.0585



### ANÁLISIS DE COSTOS AUXILIARES

CONCEPTO: Suministro, fabricacion y montaje de vigas a base de IPR

### ACTUALIZACION AJUSTE DE COSTOS

UNIDAD KG  
 FECHA COTIZACION 26 DE NOV DE 2019

|                                            |          |          |                 |               | 2020<br>ABRIL |               |           |              |                |
|--------------------------------------------|----------|----------|-----------------|---------------|---------------|---------------|-----------|--------------|----------------|
| UNIDAD                                     | CANTIDAD | COSTO    | IMPORTE         | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT | IMPORTE      |                |
| <b>MATERIALES</b>                          |          |          |                 |               |               |               |           |              |                |
| Perfil IPR de Importacion                  | kg       | 1.030000 | \$24.95         | \$ 25.70      | 96.3350       | 100.5658      | 1.0439    | \$ 26.05     | \$26.83        |
| FLETE A OBRA                               | PZA      | 0.000160 | \$10,000.00     | \$ 1.60       | 100.9115      | 116.6990      | 1.1564    | \$ 11,564.00 | \$1.85         |
| Gas Lp                                     | kg       | 0.014290 | \$16.94         | \$ 0.24       | 110.9904      | 112.8965      | 1.0172    | \$ 17.23     | \$0.25         |
| Soldadura electrodos 7018 de 1/8"          | kg       | 0.010000 | \$41.37         | \$ 0.41       | 99.6824       | 103.1446      | 1.0347    | \$ 42.81     | \$0.43         |
| Gas oxigeno                                | kg       | 0.002270 | \$52.01         | \$ 0.12       | 100.1454      | 104.6744      | 1.0452    | \$ 54.36     | \$0.12         |
| Primer Shop E20-AJ08 Sherwin Williams      | lto      | 0.008000 | \$82.74         | \$ 0.66       | 100.2022      | 110.6692      | 1.1045    | \$ 91.39     | \$0.73         |
| Insumos de Montaje (soldadura 7018, gases) | kg       | 0.538460 | \$0.77          | \$ 0.41       | 1.0000        | 1.0000        | 1.0000    | \$ 0.77      | \$0.41         |
| Tornilleria A-325 Promedio                 | pza      | 0.011820 | \$65.01         | \$ 0.77       | 101.0776      | 122.5499      | 1.2124    | \$ 78.82     | \$0.93         |
| PINTURA ALQUIDALICA SHERWIN WILLIAMS       | lto      | 0.006750 | \$168.00        | \$ 1.13       | 100.2022      | 110.6692      | 1.1045    | \$ 185.56    | \$1.25         |
|                                            |          |          | <b>SUBTOTAL</b> |               |               |               |           |              | <b>\$32.80</b> |

|                                                                                                                |     |          |                 |         |        |        |        |             |               |
|----------------------------------------------------------------------------------------------------------------|-----|----------|-----------------|---------|--------|--------|--------|-------------|---------------|
| <b>MANO DE OBRA</b>                                                                                            |     |          |                 |         |        |        |        |             |               |
| Cuadrilla de Fabricacion (1 Armador + 2 Soldadores + 2 Ayudante de soldador + 1 Pintor + 1 Ayudante de Pintor) | jor | 0.001540 | \$ 3,533.54     | \$ 5.44 | 378.39 | 401.09 | 1.0600 | \$ 3,745.55 | \$5.77        |
| Cuadrilla de Montaje (1 Montador + 2 Soldadores + 2 Ayudante)                                                  | jor | 0.001180 | \$ 2,546.06     | \$ 3.00 | 378.39 | 401.09 | 1.0600 | \$ 2,698.82 | \$3.18        |
|                                                                                                                |     |          | <b>SUBTOTAL</b> |         |        |        |        |             | <b>\$8.95</b> |

|                                                                          |      |          |                 |         |          |           |        |             |               |
|--------------------------------------------------------------------------|------|----------|-----------------|---------|----------|-----------|--------|-------------|---------------|
| <b>EQUIPO</b>                                                            |      |          |                 |         |          |           |        |             |               |
| SOLDADORA DIESEL MARCA: LINCOLN MODELO: RANGER 305-D                     | HR   | 0.000980 | \$ 203.24       | \$ 0.20 | 203.2400 | 207.3800  | 1.0204 | \$ 207.39   | \$0.20        |
| GENERADOR LUZ DIESEL MARCA: INGERSOLL-RAND MODELO: M-45 CAPACIDAD: 45 KW | HR   | 0.005000 | \$ 291.95       | \$ 1.46 | 291.95   | 289.0700  | 0.9901 | \$ 289.06   | \$1.45        |
| GRUA HIDRAULICA MARCA: GROVE MODELO: GXR-40 CAPACIDAD: 40 TON            | hora | 0.000500 | \$ 1,677.57     | \$ 0.84 | 1677.57  | 1808.3900 | 1.0780 | \$ 1,808.42 | \$0.90        |
|                                                                          |      |          | <b>SUBTOTAL</b> |         |          |           |        |             | <b>\$2.55</b> |

|                        |       |      |        |        |        |        |        |         |        |
|------------------------|-------|------|--------|--------|--------|--------|--------|---------|--------|
| HERRAMIENTA MENOR      | (%)mo | 0.03 | \$8.44 | \$0.25 | 378.39 | 401.09 | 1.0600 | \$ 8.95 | \$0.27 |
| LIMPIEZA GRUESA Y FINA | (%)mo | 0.03 | \$8.44 | \$0.25 | 378.39 | 401.09 | 1.0600 | \$ 8.95 | \$0.27 |

**COSTO DIRECTO \$42.48**

**\$44.84**

FACTOR DE ACTUALIZACION

1.0555



CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 C.R.S. / B.T.P.S.

### ANÁLISIS DE COSTOS AUXILIARES

CONCEPTO: Suministro, fabricacion y montaje de Joist tipo K

### ACTUALIZACION AJUSTE DE COSTOS

UNIDAD KG  
 FECHA COTIZACION 26 DE NOV DE 2019

|                                                                          |        |               |             |          | 2020          |               |               |              |         |         |
|--------------------------------------------------------------------------|--------|---------------|-------------|----------|---------------|---------------|---------------|--------------|---------|---------|
|                                                                          |        |               |             |          | ABRIL         |               |               |              |         |         |
|                                                                          | UNIDAD | CANTIDAD      | COSTO       | IMPORTE  | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT    | IMPORTE |         |
| MATERIALES                                                               |        |               |             |          |               |               |               |              |         |         |
| Joist                                                                    | kg     | 1.000000      | \$28.89     | \$ 28.89 | 96.3350       | 100.5658      | 1.0439        | \$ 30.16     | \$30.16 |         |
| FLETE A OBRA                                                             | PZA    | 0.000141      | \$10,000.00 | \$ 1.41  | 100.9115      | 116.6990      | 1.1564        | \$ 11,564.00 | \$1.63  |         |
| Primer Shop E20-AJ08 Sherwin Williams                                    | lto    | 0.008000      | \$82.74     | \$ 0.66  | 100.2022      | 110.6692      | 1.1045        | \$ 91.39     | \$0.73  |         |
| Insumos de Montaje (soldadura 7018, gases)                               | kg     | 0.538460      | \$0.77      | \$ 0.41  | 1.0000        | 1.0000        | 1.0000        | \$ 0.77      | \$0.41  |         |
| PINTURA ALQUIDALICA SHERWIN WILLIAMS                                     | lto    | 0.006750      | \$168.00    | \$ 1.13  | 100.2022      | 110.6692      | 1.1045        | \$ 185.56    | \$1.25  |         |
| SUBTOTAL                                                                 |        |               |             | \$32.50  |               |               |               |              |         | \$34.18 |
| MANO DE OBRA                                                             |        |               |             |          |               |               |               |              |         |         |
| Cuadrilla de Montaje (1 Montador + 2 Soldadores + 2 Ayudante)            | jor    | 0.001180      | \$ 2,546.06 | \$ 3.00  | 378.39        | 401.09        | 1.0600        | \$ 2,698.82  | \$3.18  |         |
| SUBTOTAL                                                                 |        |               |             | \$3.00   |               |               |               |              |         | \$3.18  |
| EQUIPO                                                                   |        |               |             |          |               |               |               |              |         |         |
| SOLDADORA DIESEL MARCA:LINCOLN MODELO: RANGER 305-D                      | HR     | 0.000980      | \$ 203.24   | \$ 0.20  | 203.2400      | 207.3800      | 1.0204        | \$ 207.39    | \$0.20  |         |
| GENERADOR LUZ DIESEL MARCA: INGERSOLL-RAND MODELO: M-45 CAPACIDAD: 45 KW | HR     | 0.005000      | \$ 291.95   | \$ 1.46  | 291.95        | 289.0700      | 0.9901        | \$ 289.06    | \$1.45  |         |
| GRUA HIDRAULICA MARCA: GROVE MODELO: GXR-40 CAPACIDAD: 40 TON            | hora   | 0.000500      | \$ 1,677.57 | \$ 0.84  | 1677.57       | 1808.3900     | 1.0780        | \$ 1,808.42  | \$0.90  |         |
| SUBTOTAL                                                                 |        |               |             | \$2.50   |               |               |               |              |         | \$2.55  |
| HERRAMIENTA MENOR                                                        | (%)mo  | 0.03          | \$3.00      | \$0.09   | 378.39        | 401.09        | 1.0600        | \$ 3.18      | \$0.10  |         |
| LIMPIEZA GRUESA Y FINA                                                   | (%)mo  | 0.03          | \$3.00      | \$0.09   | 378.39        | 401.09        | 1.0600        | \$ 3.18      | \$0.10  |         |
|                                                                          |        |               |             |          |               |               |               |              |         |         |
|                                                                          |        | COSTO DIRECTO |             | \$38.17  |               |               |               |              |         | \$40.11 |



CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**

REG. COMERCIAL

**ANÁLISIS DE COSTOS AUXILIARES**

CONCEPTO: MORTERO CEMENTO-ARENA 1:4

**ACTUALIZACION AJUSTE DE COSTOS**

UNIDAD M3  
 FECHA COTIZACION 26 DE NOV DE 2019

|                                                          |        |               |            |             | 2020          |               |               |             |            |
|----------------------------------------------------------|--------|---------------|------------|-------------|---------------|---------------|---------------|-------------|------------|
|                                                          |        |               |            |             | ABRIL         |               |               |             |            |
|                                                          | UNIDAD | CANTIDAD      | COSTO      | IMPORTE     | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT   | IMPORTE    |
| MATERIALES                                               |        |               |            |             |               |               |               |             |            |
| ARENA                                                    | M3     | 1.200000      | \$230.00   | \$ 276.00   | 100.8498      | 102.0963      | 1.0124        | \$ 232.85   | \$279.42   |
| CEMENTO GRIS GCC U HOLCIM APASCO                         | TON    | 0.430000      | \$3,208.00 | \$ 1,379.44 | 99.1128       | 103.3972      | 1.0432        | \$ 3,346.59 | \$1,439.03 |
| AGUA                                                     | M3     | 0.330000      | \$80.00    | \$ 26.40    | 100.5830      | 103.6816      | 1.0308        | \$ 82.46    | \$27.21    |
| SUBTOTAL                                                 |        |               |            | \$1,681.83  |               |               |               |             | \$1,745.66 |
| MANO DE OBRA                                             |        |               |            |             |               |               |               |             |            |
| PEON EN GENERAL                                          | jor    | 0.300000      | \$ 331.06  | \$ 99.32    | 378.39        | 401.09        | 1.0600        | \$ 350.92   | \$105.29   |
| SUBTOTAL                                                 |        |               |            | \$99.32     |               |               |               |             | \$105.29   |
| EQUIPO                                                   |        |               |            |             |               |               |               |             |            |
| REVOLVEDORA MARCA: JOPER MODELO: R-100 CAPACIDAD: 1 SACO | HR     | 0.400000      | \$ 107.09  | \$ 42.84    | 107.0900      | 108.4200      | 1.0124        | \$ 108.42   | \$43.36    |
|                                                          |        |               | SUBTOTAL   | \$42.84     |               |               |               |             | \$43.36    |
| HERRAMIENTA MENOR                                        | (%)mo  | 0.03          | \$99.32    | \$2.98      | 378.39        | 401.09        | 1.0600        | \$ 105.28   | \$3.16     |
| LIMPIEZA GRUESA Y FINA                                   | (%)mo  | 0.03          | \$99.32    | \$2.98      | 378.39        | 401.09        | 1.0600        | \$ 105.28   | \$3.16     |
|                                                          |        | COSTO DIRECTO |            | \$1,829.96  |               |               |               |             |            |
|                                                          |        |               |            |             | \$1,900.63    |               |               |             |            |

FACTOR DE ACTUALIZACION

1.0386

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
CONSTRUYENDO EL FUTURO

### ANÁLISIS DE COSTOS AUXILIARES

CONCEPTO: CONCRETO Fc= 150 KG/CM2 HECHO EN OBRA

### ACTUALIZACION AJUSTE DE COSTOS

UNIDAD M3  
 FECHA COTIZACION 26 DE NOV DE 2019

|                                                          |        |               |            |             | 2020          |               |               |             |            |
|----------------------------------------------------------|--------|---------------|------------|-------------|---------------|---------------|---------------|-------------|------------|
|                                                          |        |               |            |             | ABRIL         |               |               |             |            |
|                                                          | UNIDAD | CANTIDAD      | COSTO      | IMPORTE     | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT   | IMPORTE    |
| MATERIALES                                               |        |               |            |             |               |               |               |             |            |
| ARENA                                                    | M3     | 0.550000      | \$230.00   | \$ 126.50   | 100.8498      | 102.0963      | 1.0124        | \$ 232.85   | \$128.07   |
| CEMENTO GRIS GCC U HOLCIM APASCO                         | TON    | 0.330000      | \$3,208.00 | \$ 1,058.64 | 99.1128       | 103.3972      | 1.0432        | \$ 3,346.59 | \$1,104.37 |
| AGUA                                                     | M3     | 0.330000      | \$80.00    | \$ 26.40    | 100.5830      | 103.6816      | 1.0308        | \$ 82.46    | \$27.21    |
| GRAVA 1"                                                 | M3     | 0.650000      | \$220.00   | \$ 143.00   | 100.6552      | 102.5488      | 1.0188        | \$ 224.14   | \$145.69   |
| SUBTOTAL                                                 |        |               |            | \$1,354.53  |               |               |               |             | \$1,405.34 |
| MANO DE OBRA                                             |        |               |            |             |               |               |               |             |            |
| PEON EN GENERAL                                          | jor    | 0.330000      | \$ 331.06  | \$ 109.25   | 378.39        | 401.09        | 1.0600        | \$ 350.92   | \$115.80   |
| SUBTOTAL                                                 |        |               |            | \$109.25    |               |               |               |             | \$115.80   |
| EQUIPO                                                   |        |               |            |             |               |               |               |             |            |
| REVOLVEDORA MARCA: JOPER MODELO: R-100 CAPACIDAD: 1 SACO | HR     | 0.550000      | \$ 107.09  | \$ 58.90    | 107.09        | 108.42        | 1.0124        | \$ 108.42   | \$59.63    |
| SUBTOTAL                                                 |        |               |            | \$58.90     |               |               |               |             | \$59.63    |
| HERRAMIENTA MENOR                                        | (%)mo  | 0.03          | \$109.25   | \$3.28      | 378.39        | 401.09        | 1.0600        | \$ 115.80   | \$3.47     |
| LIMPIEZA GRUESA Y FINA                                   | (%)mo  | 0.03          | \$109.25   | \$3.28      | 378.39        | 401.09        | 1.0600        | \$ 115.80   | \$3.47     |
|                                                          |        | COSTO DIRECTO |            | \$1,529.25  |               |               |               |             | \$1,587.71 |

FACTOR DE ACTUALIZACION 1.0382

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CONSTRUCTORA PROURVIKA, S.A. DE C.V.  
 OBRA: CAMPUS DE INNOVACION Y TECNOLOGIAS PIDET/SPARK  
 CONCURSO No. PRODECH/PICHS/PIDET/SPARK  
 CONTRATO No. C.O.P.-080-2019-P



**PROURVIKA**  
 CONSTRUCTORA

### ANÁLISIS DE COSTOS AUXILIARES

CONCEPTO: CONCRETO Fc= 250 KG/CM2 HECHO EN OBRA

### ACTUALIZACION AJUSTE DE COSTOS

UNIDAD M3  
 FECHA COTIZACION 26 DE NOV DE 2019

|                                                                   |          |          |                      |               | 2020          |               |           |                        |
|-------------------------------------------------------------------|----------|----------|----------------------|---------------|---------------|---------------|-----------|------------------------|
|                                                                   |          |          |                      |               | ABRIL         |               |           |                        |
| UNIDAD                                                            | CANTIDAD | COSTO    | IMPORTE              | INDICE NOV 19 | INDICE ABR 20 | FACTOR AJUSTE | COSTO ACT | IMPORTE                |
| <b>MATERIALES</b>                                                 |          |          |                      |               |               |               |           |                        |
| ARENA                                                             | M3       | 0.550000 | \$230.00             | \$ 126.50     | 100.8498      | 102.0963      | 1.0124    | \$ 232.85 \$128.07     |
| CEMENTO GRIS GCC U HOLCIM APASCO                                  | TON      | 0.420000 | \$3,208.00           | \$ 1,347.36   | 99.1128       | 103.3972      | 1.0432    | \$ 3,346.59 \$1,405.57 |
| AGUA                                                              | M3       | 0.330000 | \$80.00              | \$ 26.40      | 100.5830      | 103.6816      | 1.0308    | \$ 82.46 \$27.21       |
| GRAVA 1"                                                          | M3       | 0.650000 | \$220.00             | \$ 143.00     | 100.6552      | 102.5488      | 1.0188    | \$ 224.14 \$145.69     |
|                                                                   |          |          | <b>SUBTOTAL</b>      |               |               |               |           | <b>\$1,706.54</b>      |
| <b>MANO DE OBRA</b>                                               |          |          |                      |               |               |               |           |                        |
| PEON EN GENERAL                                                   | jor      | 0.330000 | \$ 331.06            | \$ 109.25     | 378.39        | 401.09        | 1.0600    | \$ 350.92 \$115.80     |
|                                                                   |          |          | <b>SUBTOTAL</b>      |               |               |               |           | <b>\$115.80</b>        |
| <b>EQUIPO</b>                                                     |          |          |                      |               |               |               |           |                        |
| REVOLVEDORA<br>MARCA: JOPER<br>MODELO: R-100<br>CAPACIDAD: 1 SACO | HR       | 0.550000 | \$ 107.09            | \$ 58.90      | 107.09        | 108.42        | 1.0124    | \$ 108.42 \$59.63      |
|                                                                   |          |          | <b>SUBTOTAL</b>      |               |               |               |           | <b>\$59.63</b>         |
| HERRAMIENTA MENOR                                                 | (%)mo    | 0.03     | \$109.25             | \$3.28        | 378.39        | 401.09        | 1.0600    | \$ 115.80 \$3.47       |
| LIMPIEZA GRUESA Y FINA                                            | (%)mo    | 0.03     | \$109.25             | \$3.28        | 378.39        | 401.09        | 1.0600    | \$ 115.80 \$3.47       |
|                                                                   |          |          | <b>COSTO DIRECTO</b> |               |               |               |           | <b>\$1,888.91</b>      |

FACTOR DE ACTUALIZACION 1.0390

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