Appendix 1

to the Bidding documents

**INFORMATION ON THE NECESSARY TECHNICAL, QUALITATIVE AND QUANTITATIVE CHARACTERISTICS OF THE SUBJECT OF PURCHASE, INCLUDING THE NECESSARY TECHNICAL SPECIFICATION**

**TECHNICAL, QUALITATIVE AND QUANTITATIVE CHARACTERISTICS OF THE SUBJECT OF PURCHASE**

**The works includes**

Construction works:

- the first launch complex «Reconstruction of the Sheghini international checkpoint for road». Departure from Ukraine section;

- the second launch complex «Reconstruction of the Sheghini international checkpoint for road». Entry Ukraine.

As part of the construction works, it is planned to install video surveillance systems (VSS), license plate readers (LPR), access control (AC), structured cable network (SCN), weighing systems (including commissioning works), automatic security alarm system (ASAS), automatic installation of security perimeter alarm system (AISPAS).

The scope of work and the list of the main construction structures, products and materials and equipment are indicated in the attached technical specification. A diagram of the master plan and a diagram of utility networks are also attached.

The estimated construction period is 26 months.

At any time during the execution of the works, the scope of construction works may be changed by the Customer in the interests of the implementation of the project, including in the case of the need to perform additional works that are not taken into account by the project, but are necessary for putting the facility into operation, improving the subject of the order (purchase) and inseparably related to the subject of the order (purchase). The additional volume of work is performed within the contractual price at the expense of funds to cover the risks included in the contractual price, after adjusting the project by making changes to the contract.

**The first launch complex**

Technical and economic indicators for construction.

Table 1

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Position | Name | Measure unit | Number | Notes |
| 1 | The area of the plot within the improvement | hectars | 2,8803 |  |
| 2 | - building area  including designed | hectars  hectars | 0,4941  0,4467 |  |
| 3 | - paving area: | hectars | 1,4387 |  |
| 4 | - landscaping area | hectars | 1,2498 |  |

Technical and economic indicators for buildings and structures

Table 2

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No on the general plan | Name | Number of levels | number | Building area, m2 | Total area, m2 | Usable area, m2 | General area of premises, m2 | The construction volume, m3 |
| 1 | Service building with public toilets on the way out of Ukraine | 1 | 1 | 511,66 | 456,65 | 421,97 | 421,97 | 2034,90 |
| 3 | Box of in-depth inspection of vehicles with a warehouse for delayed cargo | 1 | 1 | 398,88 | 371,20 | 344,16 | 344,16 | 1939,18 |
| 4.1 | Canopy above passport and customs control zones for departure from Ukraine | - | 1 | 1065,27 | - | - | - | 1231,65 |
| 4.2 | Canopy above passport and customs control zones for departure from Ukraine | - | 1 | 1523,22 | - | - | - | 1745,10 |
| 7 | Inventory of detained and confiscated goods | 1 | 1 | 233,38 | 200,67 | 177,76 | 177,76 | 990,14 |
| 9.1 | Passport and customs control pavilion | 1 | 1 | 19,62 | 12,36 | 12,00 | 12,00 | 46,66 |
| 9.6 | Passport and customs control pavilion | 1 | 1 | 19,14 | 12,36 | 12,00 | 12,00 | 46,66 |
| 9.7 | Passport and customs control pavilion | 1 | 1 | 19,14 | 12,36 | 12,00 | 12,00 | 46,66 |
| 9.8 | Passport and customs control pavilion | 1 | 1 | 19,14 | 12,36 | 12,00 | 12,00 | 46,66 |
| 9.9 | Passport and customs control pavilion | 1 | 1 | 19,14 | 12,36 | 12,00 | 12,00 | 46,66 |
| 9.10 | Passport and customs control pavilion | 1 | 1 | 19,14 | 12,36 | 12,00 | 12,00 | 46,66 |
| 9.11 | Passport and customs control pavilion | 1 | 1 | 19,14 | 12,36 | 12,00 | 12,00 | 46,66 |
| 10 | Checkpoint pavilion | 1 | 1 | 9,79 | 6,00 | 6,00 | 6,00 | 25,28 |
| 11 | Checkpoint pavilion | 1 | 1 | 19,62 | 12,36 | 12,00 | 12,00 | 46,66 |
| 14.1 | Separator of petroleum products | - | 1 | 4,52 | - | - | - | 7,68 |
| 15 | Fire tank | - | 2 | 48 | - | - | - | 108,00 |
| 16 | Treatment facilities for household waste | - | 1 | 90,43 | - | - | - | 328,26 |
| 17 | Taxation of economic and domestic wastes | - | 1 | 1,54 | - | - | - | 4,46 |
| 18 | Fire pump station | - | 1 | 4,52 | - | - | - | 9,94 |
| 19 | Transformer substation | 1 | 1 | 134,04 | 113,48 | 102,12 | 102,12 | 622,93 |
| 27 | Weighing complex for dynamic weighing of trucks on departure from Ukraine | - | 1 | 11,93 | - | - | - | 13,12 |
| 28 | Pavilion of the weight complex on departure from Ukraine | 1 | 1 | 10,25 | 6,00 | 6,00 | 6,00 | 25,28 |
| 31 | Aviaries for two service dogs | 1 | 1 | 15,00 | 14,09 | 13,90 | 13,90 | 34,50 |
| 36 | Diesel generator | - | 1 | 7,00 | - | - | - | - |
| Total | |  | 4190,51 | 1266,97 | 1167,91 | 1167,91 | 9601,70 |  |

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## The second launch complex

Technical and economic indicators for construction

Table 3

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Position | Name | Measure unit | Number | Notes |
| 1 | The area of the plot within the improvement | hectars | 1,8281 |  |
| 2 | - building area,  incl. designed | hectars hectars | 0,5102  0,4967 |  |
| 3 | - paving area: | hectars | 1,1194 |  |
| 4 | - landscaping area | hectars | 0,4918 |  |

Technical and economic indicators for buildings and structures

Table 4

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No on the general plan | Name | Number of levels | number | Building area, m2 | Total area, m2 | Usable area, m2 | General area of premises, m2 | The construction volume, m3 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
| 2 | Service building at the entrance to Ukraine | 2 | 1 | 1140,93 | 4735,00 | 1327,30 | 1393,20 | 12765,0 |
| 5.1 | Canopy over passport and customs control zones for entry into Ukraine | 1 | 1 | 1297,67 | - | - | - | 1567,40 |
| 5.2 | Canopy over passport and customs control zones for entry into Ukraine | 1 | 1 | 1859,69 | - | - | - | 2107,69 |
| 6 | Box of in-depth inspection of vehicles with a warehouse for delayed cargo | 1 | 1 | 398,88 | 371,20 | 344,16 | 344,16 | 1939,18 |
| 8 | Pavilion of passport control and customs dispatcher | 1 | 1 | 18,18 | 12,36 | 12,00 | 12,00 | 46,66 |
| 9.2 | Passport and customs control pavilion | 1 | 1 | 19,14 | 12,36 | 12,00 | 12,00 | 46,66 |
| 9.3 | Passport and customs control pavilion | 1 | 1 | 19,14 | 12,36 | 12,00 | 12,00 | 46,66 |
| 9.4 | Passport and customs control pavilion | 1 | 1 | 19,14 | 12,36 | 12,00 | 12,00 | 46,66 |
| 9.5 | Passport and customs control pavilion | 1 | 1 | 18,66 | 12,36 | 12,00 | 12,00 | 46,66 |
| 9.12 | Passport and customs control pavilion | 1 | 1 | 18,66 | 12,36 | 12,00 | 12,00 | 46,66 |
| 9.13 | Passport and customs control pavilion | 1 | 1 | 18,66 | 12,36 | 12,00 | 12,00 | 46,66 |
| 9.14 | Passport and customs control pavilion | 1 | 1 | 18,66 | 12,36 | 12,00 | 12,00 | 46,66 |
| 12 | Weighing complex for dynamic weighing of trucks at the entrance to Ukraine | - | 1 | 11,93 | - | - | - | 13,12 |
| 13 | The weight complex pavilion at the entrance to Ukraine | 1 | 1 | 9,31 | 6,00 | 6,00 | 6,00 | 25,28 |
| 14.2 | Separator of petroleum products | - | 1 | 4,52 | - | - | - | 7,68 |
| 29 | Public toilets at the entrance to Ukraine | 1 | 1 | 94,29 | 78,66 | 70,34 | 70,34 | 343,18 |
| Total | |  |  | 4967,46 | 5289,74 | 1844,00 | 1909,70 | 19141,81 |

**NEED FOR BASIC CONSTRUCTION MACHINES AND EQUIPMENT**

Table 5

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| No | Name | Mark | Number | Technical characteristics |
| **1st launch complex** | | | | |
|  | Excavator loader | JСB4CX | 2 | power 96.0 hp, volume bucket 0.6 m3 |
|  | The backhoe loader is equipped with a hydraulic hammer | JСB4CX | 1 | power 96.0 hp, |
|  | The crawler excavator is equipped with a hydraulic hammer | Doosan dx 255 | 1 | power 129 kW |
|  | Crawler excavator | JCB JS220LC | 1 | capacity bucket 1.0 m3 |
|  | Road rink | ДУ-85 | 1 | Weight 13.0 tons |
|  | Road rink | XCMG XS263 | 1 | Weight 25.0 tons |
|  | Bulldozer | Cat D4 | 1 | power 95 kW (128 hp) |
|  | Road concrete paver | GOMACO GP4 | 1 |  |
|  | Texturizer | T/C-600 | 1 |  |
|  | Seam cutterfor concrete |  | 1 |  |
|  | Car crane | КТА-25 | 1 | carrying capacity 25.0 t |
|  | A mobile crane on a special chassis | GROVE GMK 2035 | 1 | carrying capacity 35.0 t |
|  | Concrete pump | PUTZMEISTER M 36-4 | 1 | production 40.0 m3/hour |
|  | Forklift | MANITOU MT-X 1840 | 2 | carrying capacity 4.0 t |
|  | Watering and washing machine |  | 1 |  |
|  | Dump truck | TATRA 815 | 3 | power 210.0 hp, engine capacity 23.0 tons |
|  | on-board vehicles | ZIL 130 | 2 | power 146.0 hp, engine capacity 6.0 tons |
|  |  | KamAZ 65117-6010-23 | 2 | power: 300.0 hp, engine capacity: 14.5 tons |
|  | Mobile compress. station | PKS-5 | 2 | product 5.0 m3/min |
|  | Electric welding machine | Paton ПСІ-250S DC | 2 | power 11.0 kW |
|  | Angle grinder | Makita GA 9020RF 2200w | 5 | power 2.2 kW |
|  | Perforator | Makita HR2810 | 6 | power 0.8 kW |
|  | Construction mixer | Makita М6600 | 3 | power 0.8 kW |
|  | Dissolving mixer | SBP-120 | 2 | power 1.5 kW |
|  | Vibrating plate | OSCAR KMR-100 | 1 | power 3.5 hp weight 80.0 kg |
|  | Vibrator | ИВ–117А | 2 | power 1.0 kW |
|  | Fecal pump | WQD 15-15-1.5 | 4 | power 1.5 kW |
|  | Welding machine for polyethylene pipes | WIDOS 4900 | 2 |  |
|  | Tacheometer | TOPCON GPT 3007 LN | 1 |  |
|  | Needle filter installation |  | 2 |  |
| **2nd launch complex** | | | | |
|  | Excavator loader | JSB4CX | 1 | power 96.0 hp, volume bucket 0.6 m3 |
|  | Wheeled excavator | ATLAS 150 W | 1 | capacity bucket 0.6 m3 |
|  | Mini excavator | JCB 8030 ZTS | 1 | capacity bucket 0.11 m3 |
|  | The crawler excavator is equipped with a hydraulic hammer | Doosan dx 255 | 1 | power 129 kW |
|  | Road rink | ДУ-85 | 1 | Weight 13.0 tons |
|  | Road rink | XCMG XS263 | 1 | Weight 25.0 tons |
|  | Bulldozer | Cat D4 | 1 | power 95 kW (128 hp) |
|  | Road concrete paver | GOMACO GP4 | 1 |  |
|  | Texturizer | T/C-600 | 1 |  |
|  | Seam cutter for concrete |  | 1 |  |
|  | Car crane | КТА-25 | 1 | carrying capacity 25.0 t |
|  | Concrete pump | PUTZMEISTER M 36-4 | 1 | production 40.0 m3/hour |
|  | A mobile crane on a special chassis | GROVE GMK 2035 | 1 | carrying capacity 35.0 t |
|  | Forklift | MANITOU MT-X 1840 | 1 | carrying capacity 4.0 t |
|  | Watering and washing machine |  | 1 |  |
|  | Dump truck | TATRA 815 | 2 | power 210.0 hp, engine capacity 23.0 tons |
|  | on-board vehicles | ZIL 130 | 1 | power 146.0 hp, engine capacity 6.0 tons |
|  |  | KamAZ 65117-6010-23 | 2 | power: 300.0 hp, engine capacity: 14.5 tons |
|  | Mobile compress. station | ПКС-5 | 1 | product 5.0 m3/min |
|  | Electric welding machine | Патон ПСІ-250S DC | 1 | power 11.0 kW |
|  | Angle grinder | Makita GA 9020RF 2200w | 4 | power 2.2 kW |
|  | Needle filter installation |  | 1 |  |
|  | Perforator | Makita HR2810 | 5 | power 0.8 kW |
|  | Construction mixer | Makita М6600 | 3 | power 0.8 kW |
|  | Dissolving mixer | СБП-120 | 2 | power 1.5 kW |
|  | Vibrating plate | OSCAR KMR-100 | 1 | power 3.5 hp weight 80.0 kg |
|  | Vibrator | IB–117А | 1 | power 1.0 kW |
|  | Fecal pump | WQD 15-15-1.5 | 2 | power 1.5 kW |
|  | Welding machine for polyethylene pipes | WIDOS 4900 | 2 |  |
|  | Tacheometer | TOPCON GPT 3007 LN | 1 |  |

**ORGANIZATIONAL AND TECHNOLOGICAL SCHEME OF CONSTRUCTION**

Technological sequence of construction of the 1st launch complex

Table 6

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No | Works name | 1 year | | | | | | | | | | | | | | | | | | | | | | | 2 year |
| І quarter | | | | | ІІ quarter. | | | | | | ІІІ quarter. | | | | | | ІV quarter. | | | | | | І quarter |
| 1 month | | 2 month | 3 month | | 4 month | | 5 month | | 6 month | | 7 month | | 8 month | | 9 month | | 10 month | | 11 month | | 12 month | | 13 month |
| 1 | 2 | 3 | | 4 | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | | 11 | | 12 | | 13 | | 14 | | 15 |
| **І** | **Preparatory works** |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 1 | Preparation of the construction area. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| 2 | Electrical solutions Dismantling Pavilion No. 8; 9.1 - 9.14; 10; 11; 13; 28 according to the general plan (First-Second launch complex) |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 3 | Video control systems and computer networks. Removal and rearrangement of communication cables on the territory of the complex |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| **ІІ** | **Objects of the main purpose** |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 4 | Service building with public toilets on the way out of Ukraine No. 1 according to the general plan. (The first launch complex). |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 5 | Box of in-depth inspection on departure from Ukraine No. 3 according to the general plan. (The first launch complex) |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 6 | Canopy over the passport and customs control zones at the exit from Ukraine No. 4.1 according to the general plan. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 7 | Canopy over the passport and customs control zones at the exit from Ukraine No. 4.2 according to the general plan. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 8 | Passport and customs control pavilion No. 9.1 according to the general plan. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 9 | Passport and customs control pavilion No. 9.6 according to the general plan. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| 10 | Passport and customs control pavilion No. 9.7 according to the general plan. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| 11 | Passport and customs control pavilion No. 9.8 according to the general plan. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| 12 | Passport and customs control pavilion No. 9.9 according to the general plan |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 13 | Passport and customs control pavilion No. 9.10 according to the general plan |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | Passport and customs control pavilion No. 9.11 according to the general plan |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 14 |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 15 | Fire protection systems of Pavilions No. 9.1; 9.6 - 9.11; No. 10; No. 11; No. 28 according to general plan. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 16 | Checkpoint No. 10 pavilion according to the general plan. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 17 | Checkpoint No. 11 pavilion according to the general plan. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 18 | Weighing complex for dynamic weighing of trucks on departure from Ukraine No. 27 according to the general plan. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 19 | Pavilion of the weight complex on departure from Ukraine No. 28 according to the general plan. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| **ІІІ** | **Objects of auxiliary and service purpose** |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 20 | Aviaries for two service dogs No. 31 according to the general plan |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 21 | Storage of detained and confiscated goods No. 7 according to the general plan. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| **ІV** | **Energy objects** |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 22 | Transformer substation No. 19 according to the general plan |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 23 | External automation networks |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 24 | External power supply |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
|  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 25 | Diesel generator No. 36 according to the general plan |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| **V** | **Objects of transport and communication** |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 26 | Video control systems and computer networks |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| **VІ** | **External networks and structures of water supply, drainage, heat supply and gas supply** |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 27 | Separator of petroleum products No. 14.1 according to the general plan |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| 28 | Fire tank No. 15 according to the general plan |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| 29 | Wastewater treatment facilities No. 16 according to the master plan |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| 30 | sewage pumping station for domestic sewage No. 17 according to the general plan |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| 31 | Fire pump station No. 18 according to the general plan |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| 32 | sewage pumping station of storm drains No. 30 according to the general plan |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| 33 | Water pipe B-1 |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| 34 | Water pipe В-2 |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| 35 | External networks of household sewage -K-1-. Self-flowing |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| 36 | External storm sewer networks -K-2-. Self-flowing |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| 37 | External pressure domestic sewage networks -Kn-1 |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| 38 | External networks of pressurized storm sewers -Kn-2 |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| 39 | Gasification of the object |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| **VІІ** | **Landscaping and greening of the territory** |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
| 40 | Vertical planning of the territory. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| 41 | Retaining wall PS-1 No. 34 according to the general plan |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| 42 | Fencing of the territory |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| 43 | Paving the territory. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| 44 | Landscaping of the territory |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| 45 | Organization of traffic |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| 46 | Other works and expenses |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |
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| Work schedule | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | 118 (workers), 22 (engineering and technical personnel, employees, security) | | | | | | | | | | | | | | | | | | | | | | |
| Standard labor productivity of construction and installation works per one worker per month is 162.4 thousand UAH. | | |  | | |  | |  | |  | |  | |  | |  | |  | |  | |  | |  | |
|  | | | Work schedule: 118+22 = 140 people. | | | | | | | | | | | | | | | | | | | | | | |

Technological sequence of construction of the 2nd launch complex

Table 7

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| No | Works name | 1 year | | | | | | | | | | | | | | | | | | | | | | 2 year | |
| І quarter | | | | | ІІ quarter | | | | | | IІІ quarter. | | | | | | ІV quarter. | | | | | І quarter | |
| 1 month | | 2 month | 3 month | | 4 month | | 5 month | | 6 month | | 7 month | | 8 month | | 9 month | | 10 month | | 11 month | | 12 month | 13 month | |
| 1 | 2 | 3 | | 4 | 5 | | 6 | | 7 | | 8 | | 9 | | 10 | | 11 | | 12 | | 13 | | 14 | 15 | |
| **І** | **Preparatory works** |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
| 1 | Preparation of the construction area. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| **ІІ** | **Objects of the main purpose** |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
| 2 | Service building at the entrance to Ukraine No. 2 according to the general plan. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 3 | Canopy over passport and customs control zones for entry into Ukraine  No. 5.1 according to the general plan. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 4 | Canopy over the passport and customs control zones for entry into Ukraine No. 5.2 according to the general plan. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 5 | Box of in-depth examination at the entrance to Ukraine No. 6 according to the general plan |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 6 | Pavilion of passport control and customs dispatcher No. 8 according to the general plan. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 7 | Passport and customs control pavilion No. 9.2 according to the general plan |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 8 | Passport and customs control pavilion No. 9.3 according to the general plan |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 9 | Passport and customs control pavilion No. 9.4 according to the general plan. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 10 | Passport and customs control pavilion No. 9.5 according to the general plan. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 11 | Passport and customs control pavilion No. 9.12 according to the general plan |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 12 | Passport and customs control pavilion No. 9.13 according to the general plan. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 13 | Passport and customs control pavilion No. 9.14 according to the general plan |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 14 | Fire protection systems of Pavilions No. 8; 9.2 - 9.5; 9.12 - 9.14; No. 13 according to the general plan. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 15 | Weighing complex No. 12 according to the general plan for dynamic weighing of trucks for departure from Ukraine. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 16 | Pavilion of the weighing complex at the entrance to Ukraine No. 13 according to the general plan |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| **ІІІ** | **Objects of auxiliary and service purpose** |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
| 17 | Public toilets at the entrance to Ukraine No 29 according to the general plan |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| **ІV** | **Energy objects** |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
| 18 | External automation networks |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 19 | External power supply |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| **V** | **Objects of transport and communication** |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
| 20 | Video control systems and computer networks |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| **VІ** | **External networks and structures of water supply, drainage, heat and gas supply** |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
| 21 | Separator of petroleum products No. 14.2 according to the general plan. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 22 | Water pipe B-1 |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 23 | Water pipe B-2 |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 24 | External networks of household sewage -K-1-. Self-flowing |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 25 | External networks of household sewage -K-2-. Self-flowing |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| **VІІ** | **Landscaping and greening of the territory** |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
| 26 | Vertical planning of the territory. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 27 | Retaining wall PS-3 No. 38 according to the general plan |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 28 | Fencing of the territory |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 29 | Paving the territory. |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 30 | Landscaping of the territory |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 31 | Organization of traffic |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| 32 | Other works and expenses |  | |  |  | |  | |  | |  | |  | |  | |  | |  | |  | |  |  | |
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| Work schedule | | | | | | | | | | | | | | | | | | | | | | | | | | |
|  | | | 122 (workers), 22 (engineering and technical personnel, employees, security) | | | | | | | | | | | | | | | | | | | | | | | |
| Standard labor productivity of construction and installation works per one worker per month is 135,27 thousand UAH. | | |  | | |  | |  | |  | |  | |  | |  | |  | |  | |  | | |  | |
|  | | | Work schedule: 122+22 = 144 people. | | | | | | | | | | | | | | | | | | | | | | | |