

Annex 1.1

PROJECT BRIEF

Project ID and title	23455	Afghanistan Community Resilience and Livelihood Project
Sub Project Name	Construction of Sultan Mahmood Ghaznawi Plum Concrete Surface Streets with a Total Length of 900m in CDC #6 and #7 of District #9 of Herat City	
Sub Project ID	HRT/DIS#9/SP03	
Date	November 2024	

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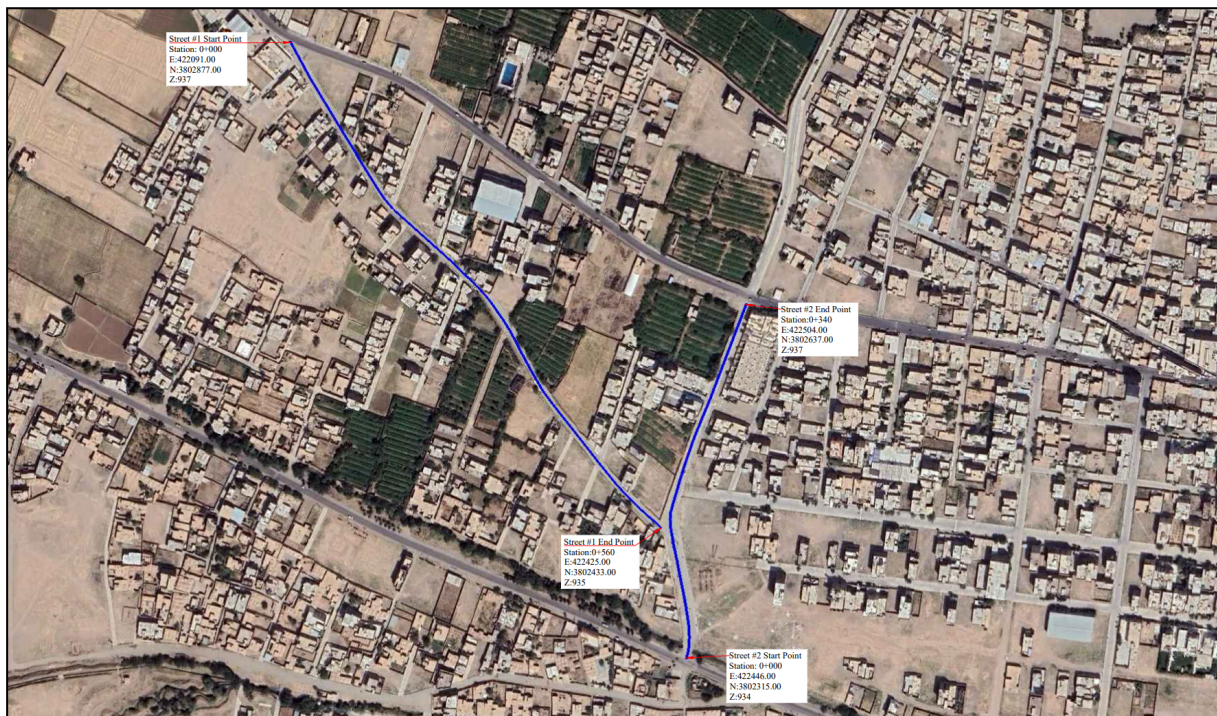
1 INTRODUCTION

This project was initiated by the UNOPS after consultation with the local community and developed through bottom up sub project planning which has resulted in the current Design. The basis of the design document has been prepared by the UNOPS in order to define the basic design requirements for all sub project works to be carried out within urban environments under component-2 of the project.

1.1 Contract Description and Scope of Work

Construction of Sultan Mahmood Ghaznawi Plum Concrete Surface Streets with a Total Length of 900m in CDC #6 and #7 of District #9 of Herat City. The project scope of work is Rehabilitation of overall two residential streets with a total length of 900m. The rehabilitation work will include: placement and construction of 17 cm thick plum concrete surface layer, placing and compaction of 20 cm thick sub base layer, subgrade preparation and compaction, construction of 323 linear metre of PCC drain, and furnishing and installation of 26 linear metre of steel grill.

The project scope doesn't include site remediation, the affected sites will be refurbished as stated above and the facilities will be handed over to the local community. Full description of the project works are available in the project documents.



Picture No.1: Site Plan, for Start & end Point coordinates refer to the location map in the drawing package.

1.2 Major Activities

The major activities included within the scope of works include:

- General Excavation
- Filling
- Subgrade preparation
- Sub Base Course
- Plum concrete work
- PCC Work
- Furnishing and installation of steel grill
- Carry out any additional labour intensive works as may be instructed by the UNOPS Representative on site utilising any labour not engaged on the scope of works described in the Design and quantified within the Bills of Quantities. Such additional works may include ditch cleaning, street cleaning, litter picking etc.

1.3 Project Information

- Contract ID: HRT/DIS#9/SP03
- Province: Herat
- District: 9
- Total length of streets: 900m
- Start point & end Point coordinates refer to the location map in the drawing package.

2 TECHNICAL DETAILS

The sub project scope is to construct four plum concrete surface streets along with side drains, the purpose of this sub project is to improve the existing street surface for the user.

The standard used in the design of the sub-project includes AASHTO Publications, and International Labour Organization (ILO) Construction guidelines. It should be noted that it is not the design of new streets, but we are only improving the existing infrastructure, hence some of the standard requirements may not be applicable in the design of these streets, for instance:

The Design speed for these sub-streets is considered from 30 - 40 Km/hr, whenever possible it will be considered in the design, however, since we are dealing with existing streets with no free space for more improvement, so for some of the streets it may not be applicable.

The sight distance recommendation would be considered in the design streets and road, whenever possible, however, since we are dealing with existing streets with no free space for more improvement, we may not be able to apply and/or consider these recommendations.

Herat province is located in a moderate seismic risk zone, as per the USGS Open-File Report 2007-1137 Preliminary Earthquake Hazard Map for Afghanistan, the Peak Ground Acceleration for Herat province is 0.28g based on 2% probability of exceedance in 50 years.

2.1 PAVEMENT DESIGN

According to the community-based asking information and site observation, around 250 light vehicles are passing from the streets on a daily basis. The pavement design calculation for the plum concrete surface has been performed for the streets, based on which the thickness of the pavement layer has been selected, for more information refer to the plum concrete pavement design report in the design package.

It should be noted that in both streets there are existing sub-base layers of a minimum 30cm thickness, which is in good condition, and only needs preparation. Only Street-1 from 0+000 to 0+260, in order to raise the level of the street a 10cm thick layer of sub-base is required.

2.2 DRAINAGE

During the project scoping, the Project team has assessed the site in order to assume the runoff/discharge for the designing of side drains.

Overall the proposed streets don't have serious problems from a drainage point of view, as most of the proposed streets' length has existing lined drains. Street-1 from 0+000 to 0+015, from 0+025 to 0+033 have existing lined drain of size 40cm x 40cm on the left, & from 0+260 to 0+560 have existing lined drain on the right side only, and from 0+015 to 0+025, & from 0+033 to 0+260 the street have existing lined drains of size 40cm x 40cm on both sides, the existing condition of the drains are good and are fully functional. Street-2 from 0+000 to 0+120 has existing lined drain of size 40cm x 40cm on the left side, and existing covered RCC canal of size 2m x 1.2m on the right side, and from 0+120 to 0+340 there is only the existing RCC canal on the right side only.

According to the information from the local community no flooding occurs during the rainy season in the area.

taking into account the non-occurrence of flood, consultation of the local community, small and limited catchment area due to built upness and flatness of the area, existing drain sizes, a rectangular section of drain of size 40cm x 40cm has been considered on the right or left side of Street-1 in locations where no drain exists at that side.

Considering the non-occurrence of flood, small and limited catchment area due to built upness and flatness of the area, existence of agricultural lands around the area, sizes of existing drains at the streets, consultation of local communities, and based on our own engineering judgement, experience, and information gathered at the walk around survey, it is our understanding that the proposed and existing drain sizes are enough large to accommodate the expected discharge of the streets.

2.3 STEEL GRILL

The steel grating is to be installed on the top of drains of tertiary streets and roads, expected to experience light traffic, and is considered as a non-engineering structure in terms of the structural calculation since the structure is supposed to be built as a localise and the span of the structure is only 30-50cm. Please note that similar steel grating has been used around the City in other projects, which are functioning quite well. The details are attached with the drawing package.

3 SUB-PROJECT SURVEY INFORMATION

3.1 SITE INITIAL SURVEY

The UNOPS site team has done the initial survey from the site. The project consists of Rehabilitation of two residential streets, located in flat terrain with a relief of around 0.5 - 1%. The maximum & minimum altitude along the proposed streets alignment are respectively: 937m & 935m along Street-1, and 937m & 934m along Street-2.

The land on which the project is implemented belongs to the public, and it has been confirmed with local communities and local authorities. There are private houses on both sides of the proposed streets, but there are no private infrastructures (e.g. irregular stores, street selling, etc.) in the streets to be refurbished and/or removed.

According to community information from the local community, there are underground utilities (water supply pipes) at a depth of 80 - 100 cm below existing ground level, which is not expected to be disturbed by the construction. There are some electrical poles adjacent to the boundary walls which don't obstruct the construction and don't need any relocation.

The project sites are located within congested residential areas in the cities, therefore the existence of unexploded ordnance (UXO) and landmines issues are not considered to pose a risk for the projects, however for complete information about the landmines and UXO refer to section 1123 of Technical Specification.

The existing site shown in the below pictures:



Picture No.2 : Existing site, (Street-1, 0+135)

3.2 CLIMATE STUDY

The climate of Herat in summer is hot, reaching up to 40°C. The winter season is very cold and it will snow and rain during winter. The temperature gets as cold as -9°C. The working season is from February to November.

Herat experiences some seasonal variation in monthly rainfall. The rainy period of the year lasts for 5.2 months, from November 27 to May 1, with a sliding 31-day rainfall of at least 0.5 inches. The month with the most rain in Herat is February, with an average rainfall of 1.3 inches. The rainless period of the year lasts for 6.9 months, from May 1 to November 27. The month with the least rain in Herat is August, with an average rainfall of 0.0 inches. The average rainfall intensity for Herat province is 0.9 inch per month. the below table shows the average monthly rainfall intensity for the Herat province:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall	0.8"	1.3"	1.3"	0.8"	0.3"	0.0"	0.0"	0.0"	0.0"	0.2"	0.4"	0.6"

Table No.1: Monthly Average rainfall data for Herat

The snowy period of the year lasts for 3.5 months, from November 29 to March 12, with a sliding 31-day snowfall of at least 1.0 inches. The month with the most snow in Herāt is January, with an average snowfall of 2.5 inches.

The snowless period of the year lasts for 8.5 months, from March 12 to November 29. The least snow falls around July 22, with an average total accumulation of 0.0 inches. The below table presents the average snowfall data for Herat province.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Snowfall	2.5"	2.3"	0.8"	0.0"	0.0"	0.0"	0.0"	0.0"	0.0"	0.0"	0.6"	1.8"

Table No.2: Monthly Average snowfall data for Herat

The source for the weather data is www.weatherspark.com.

3.3 TRAFFIC ASSESSMENT

According to the local community the streets have a traffic of around 250 light vehicles such as, Sedans, SUVs, Vans, Pickup per day along the proposed streets' alignment.

3.4 TEMPORARY WORKS

As the nature of the project is labour intensive, and the sizes of the project are small, hence no significant temporary works which need design are expected. During the concreting the residents could access their houses through other interconnected streets, and it is agreed with the community that they will park their vehicles in parking areas during the course of the construction, without any charging and claims. The access to houses will be guaranteed through use of metal plates.

4 MATERIAL INFORMATION

This information has been compiled based on visual visits and also through interviews with local authorities and their interventions in the area. The area where the project is implemented is flat. The area where the project is implemented has existing well graded subbase material with a minimum thickness of 30 cm.



Picture No.3: Existing surface of street, Street-2 (0+300)

5 ACCESSIBILITY TO THE PROJECT SITE

There is no crucial access limitation to the project site during construction. The construction material like cement, aggregate base course, sub base course, stone and equipment like PPEs, shovels, etc, and other machinery are available at some distances from the project site. The proposed materials are available in the site as follow:

- The required construction material and tools are available nearby the project site at Herat city.

6 HAND OVER OF SITE

The project site shall be handed over in full to the contractor after issuing of Notice to Proceed (NTP).

7 RISK ASSESSMENT

ER 1: Effect of failure on direct population served– 2 Points

The sub project scope is construction of plum concrete surface streets, the number of traffic is around 250 vehicles/day.

No impact and/or affecting less than 250 vehicles or 500 users/day	1 Point
Minor impact and/or affecting 250-2500 vehicles/day or 501- 5,000 users/day	2 Points
Moderate impact and/or affecting 2500-5000 vehicles/day or 5,001-10,000 users/day	3 Points
Severe impact and/or affecting more than 5000 vehicles/day or 10,000 users/day	4 Points

ER 2: Complexity of design 2a: Complexity with Design Traffic – 1 Point

The sub project is construction of the plum concrete surface streets for the urban area with no complexity involved in terms of structure and geometric designing of the sub project.

Simple Design (Single lane road paved or unpaved)	1 point
Average Design (Double lane road paved or unpaved primary or secondary roads with simple intersections)	2 points
Complex Design (Multi lane paved primary roads with substantial intersections)	3 points
Very Complex (Multi lane paved highway standard)	4 points

ER3: Element 2b: Complexity of Terrain - 1 Point

The project is located in flat terrain.

Simple Design (Flat terrain with sweeping curves)	1 point
Average Design (Flat or undulating with medium radius curves)	2 points
Complex Design (Undulating to hilly with medium ascent/descent slopes and tight radius curves)	3 points
Very Complex (Mountainous with steep ascent/descent and sharp radius curves)	4 points

ER 4: Social Impact Assessment - 1 Point

Since the project works is the construction of plum concrete surface streets, therefore there would be positive impact on the local population, no displacement, ethnic impact and negative social impact involved in the sub project.

Positive, little or no impact on local population, no threat to ethnic minorities or cultural aspects, historic or archaeological features	1 point
Some displacement, loss of livelihood and impact on future employment, disproportionate ethnic impact, gender equality impact	2 points
Moderate negative social impact, loss of livelihood, displacement and other negative factors, some loss of cultural heritage	3 points
Substantial to severe negative social impact, loss of livelihood for substantial population, loss of cultural heritage, displacement of substantial population	4 points

ER 5: Environmental Impact Assessment - 2 Points

Construction of the plum concrete surface streets will leave a positive impact on the area specially during winter and spring season.

Minor impact, acceptable risk to ecosystems	2 points
Moderate impact with moderate risk to ecosystems	3 points
Substantial to severe negative environmental impact	4 points

ER 6: Natural Phenomena - 2 Points

The project site is located in a moderate level seismic-risk area.

Minimal natural phenomena and/or comprehensive relevant design codes in place; low-level seismic risk zone	1 point
Moderate natural phenomena and/or some relevant design codes in place; moderate-level seismic risk zone	2 points
Some natural hazards acting together and/or very limited relevant design codes; moderate to severe level seismic risk zone	3 points
Severe natural hazards acting together and/or no design codes in place; severe level seismic risk zone	4 points

ER 7: Estimated total construction cost - 1 Point *

The total estimated construction cost is less than US\$ 500,000.

Up to US\$500,000	1 point
From US\$500,001 to US\$2,500,000	2 points
From US\$2,500,001 to \$5,000,000	3 points
More than US\$5,000,001	4 points

Total Number of Points – 10 Points

Classification of Risk Level

Project classification – **Low Risk**

Since the nature of the project is cash for work (CFW), therefore the type of the design and construction is so simple, the new infrastructure project is supposed to be design or constructed with no significant issues of the design complexity, environmental, and no natural vulnerability have been involved in this sub project, base on the assessment the sub project has been classified as Low Risk.