

Annex 1.1

PROJECT BRIEF

Project ID and title	23455	Afghanistan Community Resilience and Livelihood Project
Sub Project Name	Construction of Pashtone Mena Plum Concrete Surface Streets (L = 710m), Gozar #5, District #6, Ghazni City	
Sub Project ID	GZN/DIS#6/SP01	
Date	October 2024	

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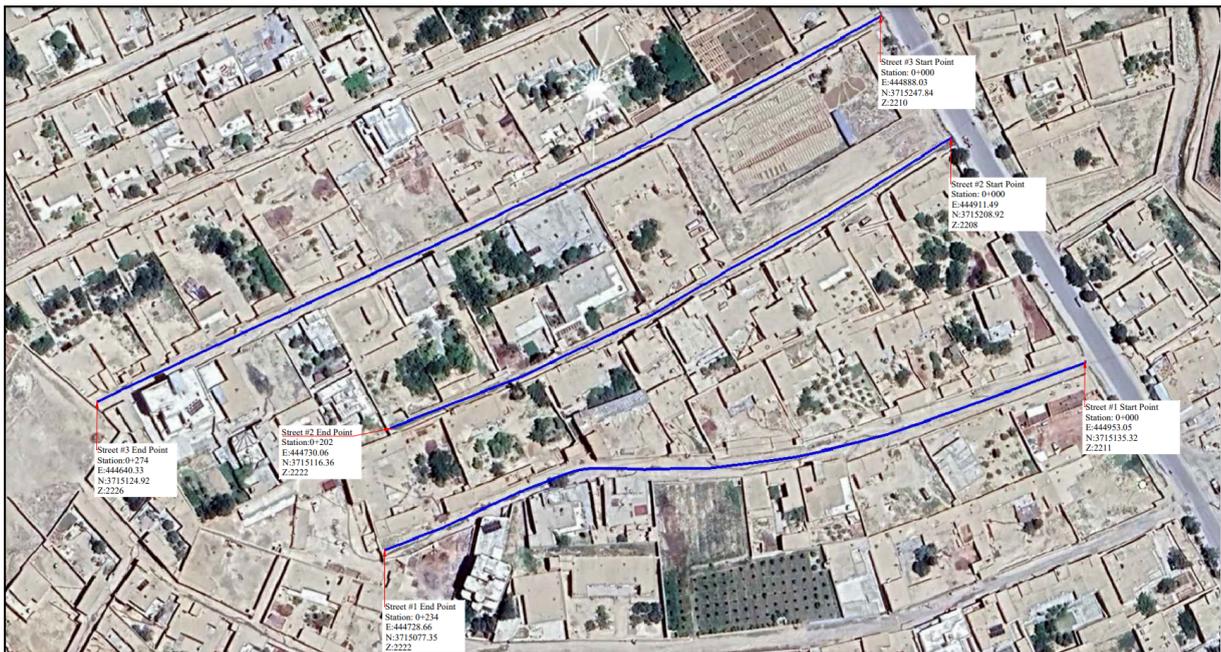
1 INTRODUCTION

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 Pashtone Mena Plum Concrete Surface Streets (L = 710m), Gozar #5, District #6, Ghazni City. The project scope of work is Rehabilitation of three residential streets with a total length of 710m. Considering the width of the streets, the rehabilitation work will include: placement and construction of 15 - 17 cm thick plum concrete surface layer, placing and compaction of 15 - 20 cm thick sub base layer, subgrade preparation and compaction, construction of 710 linear metre of PCC drain, construction of three precast RCC slab culverts of size 0.6m x 0.6m with stone masonry abutments, two of them with a total length of 4.45m and the other one with a total length of 3.55m, and furnishing and installation of 30m 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

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
- RCC Work
- Stone Masonry 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: GZN/DIS#6/SP01
- Province: Ghazni
- District: 6
- Total length of streets: 710m
- Start point & end Point coordinates refer to the location map in the drawing package.

2 TECHNICAL DETAILS

The sub project scope is to construct three 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.

Ghazni province is located in a low seismic risk zone, the Peak Ground Acceleration for Ghazni province is 0.167g.

2.1 PAVEMENT DESIGN

According to the community-based asking information and site observation, around 150 light vehicles are passing from the streets on a daily basis, the pavement design calculation has been performed for the street 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.

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 street doesn't have a functional drainage system, as most of the proposed streets' length doesn't have any drain at all, only at some portions it has existing unlined earthen drain the size of which is not consistent and varies from 10 - 25 cm in width and around 10 - 15 cm in depth.

According to the local community no flooding occurs during the rainy season in the area, however, due to lack of a proper functional drainage system for the full length of the street, water ponds on the street surface in portions with no drain, resulting in inconvenience to the pedestrians and passing vehicles.

Considering the non-occurrence of flood, small and limited catchment area due to built upness of the area, enough longitudinal slopes, size of existing drain, consultation of the local community, two sizes of rectangular sections of drain has been proposed for the streets as described below:

For Street-1 & Street-3 which are relatively larger in size a drain size of 40cm x 40cm has been considered, and for Street-2 which is relatively moderate in size, a drain size of 30cm x 40cm has been considered.

Considering the non-occurrence of flood, small and limited catchment area due to built upness of the area, enough longitudinal slopes, size of existing drains, 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 sizes are enough large to accommodate the expected discharges of the street.

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.

2.4 DESIGN OF CULVERTS

The project scope of work also includes construction of three precast RCC slab culverts of size 0.6m x 0.6m with stone masonry abutment, the design calculations for the culverts has been performed and is provided as Appendix-1, Structural Calculations with this project brief report.

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 three residential streets, located in rolling terrain with a relief of around 2 - 7%. The maximum & minimum altitude along the proposed streets alignment are respectively: 2222 m & 2211 m along Street-1, 2222m & 2208m along Street-2, and 2226m & 2210m along Street-3.

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 no private infrastructures (e.g. irregular stores, street selling, etc.) in the streets to be refurbished and/or removed.

According to information from the local community, there are no underground utilities along the project site, however there are some electrical poles adjacent to the boundary walls, which are not considered as obstruction 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, Left side pic (Street-2, 0+000), Right side pic (Street-1, 0+115)

3.2 CLIMATE STUDY

In Ghazni, the summers are hot, dry, and clear and the winters are very cold, snowy, and mostly clear. Over the course of the year, the temperature typically varies from -5°C to 33°C and is rarely below -11°C or above 36°C. The climate does not force stoppage of normal construction works throughout the year, still we might have a winter break for a couple of weeks in January which is negligible. The snow doesn't fall during the winter season at the project site.

Ghazni experiences some seasonal variation in monthly rainfall. The rainy period of the year lasts for 8.8 months, from February 7 to November 2, with a sliding 31-day rainfall of at least 13 millimetres. The month with the most rain in Ghazni is April, with an average rainfall of 41 millimetres.

The rainless period of the year lasts for 3.2 months, from November 2 to February 7. The month with the least rain in Ghazni is December, with an average rainfall of 4 millimetres. the below table shows the average monthly rainfall intensity for the Ghazni province:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Rainfall	4.8mm	17.1mm	40.7mm	41.1mm	23.6mm	19.7mm	28.6mm	32.6mm	21.1mm	14.8mm	9.4mm	4.0mm

Table No.1: Monthly average rainfall data for Ghazni province

The snowy period of the year lasts for 3.9 months, from November 27 to March 22, with a sliding 31-day snowfall of at least 25 millimetres. The month with the most snow in Ghazni is February, with an average snowfall of 139 millimetres.

The snowless period of the year lasts for 8.1 months, from March 22 to November 27. The least snow falls around July 21, with an average total accumulation of 0 millimetres. The below table shows the average monthly snowfall data for the Ghazni province:

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Snowfall	106.8mm	<u>138.6mm</u>	38.2mm	2.4mm	<u>0.0mm</u>	<u>0.0mm</u>	<u>0.0mm</u>	<u>0.0mm</u>	<u>0.0mm</u>	0.5mm	12.9mm	42.7mm

Table No.2: Monthly average snowfall data for Ghazni province

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 150 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 proposed to be implemented is a flat area. As per visual inspection, the street material consists of moist, light brown, medium dense silty clayey sand with traces of gravel.



Picture No.3: Existing surface of the street (Street-3, 0+265)

5 ACCESSIBILITY TO THE PROJECT SITE

There is no limitation of the access to the project site, both skilled and unskilled labour are available in the project site. All kinds of construction materials, tools, and equipment are available at the vicinity of the project site at Ghazni 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– 1 Point

The sub project scope is construction of three plum concrete surface streets, the number of traffic is around 150 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 three 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 - 2 Points

The project is located in rolling 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 is the construction of three 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 - 1 Point

The project site is located in a low-level seismic risk zone.

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 – 9 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.