

Annex A: Scope of Work (SOW)

HCR/IRQER/2019/RFP-063 Extention of RCC Box culvert (1.9MX1.2M) inner dimensions in Qushtapa Refugee Camp, Erbil, Iraq.

- The objective of the project of extending the existing box culvert is to collect rainwater from the catchment area crossing the street and redirect the rainwater stream away from the main road and the camp. The work also includes releveled the road to the new design level. This project will prevent , damage and dissipate.
- Removing the existing asphalt road and grading +/- 20cm ground level for preparing the divert way approximately 200ml, 7m width with good watering and compaction (95% MDD), transporting debris to an appropriate location outside of the municipality.
- The contractor should cast on-site RC concrete or precast culvert box, with inner dimensions (1.9 width*1.2 height) m, slab & wall thickness 25cm.
- The work includes constructing of Trapezoidal -type open channel along the road for collecting and draining stormwater outside the camp and connecting it to the pits.
- In addition to the above activity, the work includes casting of a rigid pavement of 15 cm thickness of reinforced concrete.
- Supply of construction materials and labor are a part of the contract. Bidders are highly encouraged to use local from the camp and neighboring host communities.
- UNHCR engineers or a Third Party will inspect the quality of the work implemented by the contractor. The work must be within engineering specifications/standards and time limit.
- The daily works will be overseen by a UNHCR engineer or its third Party who will visit the site.
- Daily and Weekly reports by the Contractor will be submitted to the engineer for endorsement.
- Detailed description and specifications are determined in the BoQ and the drawings attached to the present RFP.
- The works foreseen are to be completed over three months from the signature of the contract.

Schedule of Requirement

No	Item/s to be Supplied	Description/ Specifications of Goods	Related Services	Contract Duration (Calendar days)
1	Extending box culvert (1.9*1.2)m inner dimensions in Qushtapa Refugee camp	As per BOQ	As per BOQ	90 days (Implementation) and 180 days defect liability period
	<ul style="list-style-type: none"> Further to the Schedule of Requirements in the preceding table, bidders are requested to take note that project will be implemented according to the provision of IRAQI General Technical Specifications (IGTS), Instructions of the supervisor Engineer, UNHCR General Conditions of Contracts for Civil Works and UNHCR General Conditions of for the Provision of Mixed Goods and Services. Other specific instructions are annexed in the Bill of Quantity (BoQ). Maintenance period (after completion and handing over of the project) will be 6 Months. 			



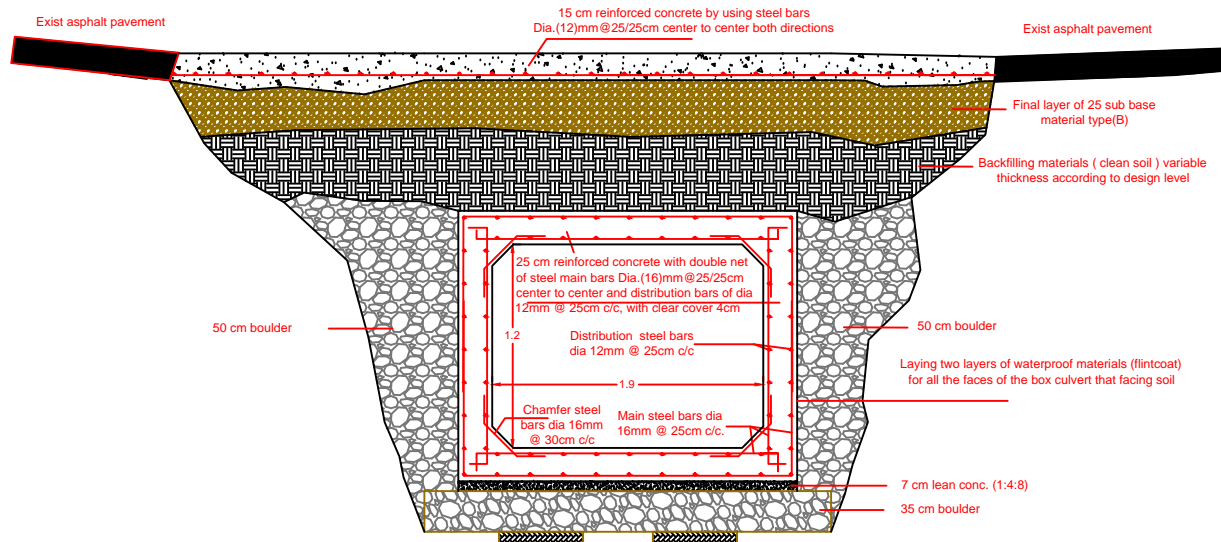
UNHCR_KURDS

Detail of Qushtapa box culvert



GENERAL NOTES :

Rev.	Date	Description
0	18/06/2019	As Per Kurds technical staff
1	20/06/2019	As Per Kurds & UNHCR technical staff
2	08/09/2019	As Per Kurds & UNHCR technical staff
3	11/09/2019	As Per Kurds & UNHCR technical staff



Structural drawing of box culvert

PROJECT:

Extension of box culvert Qushtapa - ERBIL

LOCATION :Qushtapa refugee camp_ Qushtapa _ Erbil

DRAWING TITLE

Proposed layout for box culvert (Case 1)

Designer	Drowned By:	
KURDS	Ibrahim Zuber	
Scale	Sheet No.	Rev.
1:100	1	3

Estimated Bill Of Quantities

HCR/IRQER/2019/RFP-063 Extension of Box Culvert (1.9*1.2)m inner dimensions in Qushtapa Refugee camp, Erbil, Iraq

No	Item descriptions	Unit	Qty.
A	Civil Works		
1	Site preparation: Providing equipment and required machines for removing the exist asphalt road and grading +/- 20cm ground level for preparing the divert way approximately 200ml, 7m width with good watering and compaction (95% MDD), transporting debris to location in Qushtapa District of the municipality. All the works should be carried out as per the instructions and satisfaction of the supervisor engineer.	LS	1
2	BASE Works (Crushed Gravel R7): Providing materials, equipment and required machines for spreading and laying a layer of crushed gravel (R7) maximum size of 2.5cm mixed with the filler/binder materials (stone dust) with compacted thickness of 7.5cm with watering for divert way .All the works should be carried out as per the instructions and satisfaction of the supervisor engineer. The contractor will be responsible to keep and maintain the divert way surface in good and acceptable shape.	M ²	1400
3	Excavation Works: Providing materials and required machines for excavating the trench average 2.0m deep and 3.5m width as per the design and site requirements. Excavation in all types of soils such as (concrete slabs, foundations, asphalt and even rock layers) and transporting debris to an appropriate location outside of municipality. The work includes grading and levelling of the foundation base with good watering and compaction to 95% MDD. All the works should be carried out as per the instructions and satisfaction of the supervisor engineer.	M ³	470
4	Boulder Works: Providing machinery, equipment's and material to spread bolder of (0.35)m thickness layer for the base and 0.5m thickness for two sides of the culvert with good compaction. All the works should be carried out as per the instructions and satisfaction of the supervisor engineer.	M ³	100
5	Lean Concrete Works: Provide Material and equipment to casting lean concrete (10)cm thickness with mix ratio of 1:4:8 and minimum cylinder strength (28 days) of 170kg/cm ² under the culvert bed. All the works should be carried out as per the instructions and satisfaction of supervisor engineer.	M ²	100
6	Reinforced Concrete(RCC) Works: Providing material and equipment to cast in situ 1:2:4 concrete for culvert box ,inner dimensions (1.9width*1.2 height)m slab & wall thickness 25cm with double net of steel bars (grade 60) ,16mm@25cm c/c as main bars & 12mm dia steel bars @25cm c/c as a distribution bars, also chamfer bars of dia 16cm @ 30 cm c/c .The desired minimum 28 days cyliner strength of 210 Kgs/cm ² needs to be ensured. The work is for culvert structure,	M ³	67

	the wings dimensions (3.6 length * 1.7 height) m, keys and attached water drop pit for the open channels. The work includes making 4m ² of movable concrete cover, using vibrator while casting and wooden formwork by using plywood sheets to get fairface surface, breaking ends of old culvert with two wings (if needed, extending steel bars and connecting them to new reinforced bars of new culvert with using rubber water stop sealant/coating for the joints. All the works should be conducted according to the instructions of supervisor engineer.		
7	Water Proofing (Flint Coat): Providing materials and manpower for laying two layers of waterproofing materials (flint coat) for exposed faces of the box culvert that facing soil, All the works should be conducted according to the instructions of supervisor engineer.	M ²	200
8	Manhole Works: Provide materials and manpower for raising wall by solid concrete block for the three exist manholes (1.6*1.6)m according to the design level, the work includes removing the covers and re-installing it after raising the wall with cement plastering both sides and extending 1.5m of corrugated pipe SN8, diameter 80cm. All the works should be conducted according to the instructions of supervisor engineer.	LS	1
9	Backfilling Works: Provide machinery, equipment's and material to backfilling with clean soil by layers each 25cm with good watering and compaction 95% MDD for the road, shoulders and box culvert as per the design and required levels of the main road. All the works should be carried out as per the instructions and satisfaction of the supervisor engineer.	M ³	3,100
10	Subbase Works Type(B): Provide machinery, equipment's and material to laying a layer of 25cm thick sub-base materials type (B) for the road & over box culvert with good watering and compaction 95%MDD as per the design and required levels of the main road. All the works should be carried out as per the instructions and satisfaction of the supervisor engineer.	M ²	2,100
11	Construction of Road side Surface Channel: Supply materials, equipment's, tools and labors for constructing Trapezoidal -type open channel along the road for collecting and draining storm water outside the camp and connecting to the pits . The work includes excavating for the channel, levelling, grading, watering and compaction of bed with 95% MDD. Laying layer of Sub Base material (10 cm) thick compacted to 95% MDD for the channel bed and Laying concrete (1:2:4) in the channel with min cylinder (28 days)strength of 210 Kg/cm ² and 12 cm thick with bottom width of 40 cm, top width of 80 cm and depth of 40 cm. All the works should be carried out as per the instructions and satisfaction of the supervisor engineer.	ML	50
12	Road Concrete Pavement: Provide material and equipment to casting rigid pavement of 15 cm thickness of reinforced concrete (1: 2: 4) having 28 days minimum cylinder strength 210kg/cm ² by using steel bars (grade 60) Dia.(12)mm@25cm c/c in both directions for the main road over box culvert .The work includes form work and using cutter for making joints every 3.5m with thickness not less than 6 cm. All the works should be carried out as per the instructions and satisfaction of the supervisor engineer.	M ³	158

SPECIFIC INSTRUCTIONS AND GUIDANCE

Further to the Schedule of Requirements in the preceding Table, bidders are requested to take note of the following additional requirements, conditions, and related services pertaining to the fulfillment of the requirements:

1- All the work items should be done according to IGTS that complies with ACI-Code 1995 applied according to the instructions of the UNHCR Supervision Engineer.
2- All materials must be NEW and good quality type as well as samples of materials should be provided UNHCR supervision engineers to get approval prior implementation.
3. All construction materials should be tested according to Construction Works Specification by NCCL (1981 edition).
4. Samples of materials must be provided to and approved by UNHCR Supervision Engineer prior to implementation.
5. It is the duty of the contractor to check the designs for accuracy and adequacy. It is the responsibility of the contractor to complete the work per specifications or may be at risk of being penalized for non-compliance.
6. The contractor shall provide all required manpower, transportation, construction related equipment, tools, machinery, etc. unless otherwise stated below.
7. In case of any difference between BOQ, designs and/or drawings; the instruction of UNHCR's Supervision Engineer will prevail/govern.
8. After all works are finished the site must be cleaned from all debris and waste materials must be removed to a dumping site designated by the municipality and disposed in an environmentally friendly manner. This is the sole responsibility of the contractor.
9. Contractor is expected to provide site office for their engineer team(s). Constructing or providing normal working space for Site Engineers, furniture and office equipment, including consumable materials, stationary and other needed supplies are at the expense of the Contractor. Office in temporary set up will be accepted.
10. The Contractor is responsible for fixing any damages or defects that may occur or arise during the implementation.
11. All imported materials should be accompanied with Certificate of Origin and Certification (CE, ROHS, FCC, BV, BSCI, ISO...etc. as applicable) to be provided, to ascertain that the materials are original and manufactured from an accepted factory. The UNHCR supervision Engineer can ask Lab test to certify quality of materials.