

National Highways & Infrastructure Development Corporation Limited

Project Name: Up-gradation to 2 lane with paved shoulders of Ngopa - Pawlrang section of NH-102B of Aizawl - Imphal Economic Corridor from Existing Chainage km 32.796 to km 72.030 [Design Chainage km 31.280 to km 68.170] (Package-II) in the State of Mizoram under Bharatmala Pariyojna on EPC mode.

Contract Package No.: NHIDCL/Mizoram/NH-102B/Package-II/2021-22

Tender Id: 2020_NHIDC_636231_1

Amendment No. 2

| Sl. No. | Reference/clause no./ Annexure | Existing Provision | Modified Provision (To be read as) |
|---------|--|---|------------------------------------|
| 1. | Footnote of Annexure-IV of Appendix-IA of RFP, Page no. 69 | In case of unauthorized sub-contractor proof of authorize sub-contracting has to be submitted | Deleted |
| 2. | Schedule-H of Technical Schedules, Pg no. 105 | Modified Schedule-H is enclosed as Annexure-I. | |



(R. S. Puri)

General Manager (Technical)

Schedule - H

(See Clauses 10.1 (iv) and 19.3)

Contract Price Weightages

1.1 The Contract Price for this Agreement is Rs. ****

1.2 Proportions of the Contract Price for different stages of Construction of the Project Highway shall be as specified below:

| Item | Weightage in % of CP | Stage for Payment | Percentage |
|--|-------------------------|---|------------|
| 1 | 2 | 3 | 4 |
| Road Works including Culverts, widening and repair of culverts | 65.00 | A- Widening and strengthening of existing road | |
| | | B.1-Reconstruction/New 2-Lane Realignment /Bypass (Flexible Pavement) | |
| | | (1) Earthwork up to top of the sub- grade | 17.50 |
| | | (2) Sub-base Course | 18.50 |
| | | (3) Non bituminous Base course | 12.00 |
| | | (4) Bituminous Base Course | 10.00 |
| | | (5) Wearing Coat | 17.50 |
| | | B.2-Reconstruction/New 8-Lane Realignment/ Bypass (Rigid Pavement) | |
| | | C.1-Reconstruction/ New Service Road (Flexible Pavement) | |
| | | C.2- Reconstruction/New Service Road (Rigid Pavement) | |
| | | D- Reconstruction & New Culverts on existing road, realignments, bypasses Culverts (length <6m) | 24.50 |
| Minor bridge | 0.20 | A.1-widening and repairing of Minor Bridges (length >6 m & <60m) | |
| | | Minor Bridges | [Nil] |
| | | A.2- New Minor bridges (length >6 m and <60m) | |
| | | (1) Foundation + Sub-Structure | 85.00 |
| | | (2) Super-structure (including bearings) | 13.50 |
| | | (3) Approaches | 1.50 |
| | | (4) Guide Bunds and River Training Works | [Nil] |
| | | B.1- Widening and repairs of underpasses/overpasses | |
| | | Underpasses/ Overpasses | [Nil] |
| | | B.2-New Underpasses/Overpasses | [Nil] |
| Major bridge | 3.80 | A.1- Widening and repairs of Major Bridges | |
| | | A.2-New Major Bridges | |
| | | (1) Foundation | 41.00 |
| | | (2) Sub-structure | 33.00 |
| | | (3) Super-structure (including bearings) | 21.00 |
| | | (4) Wearing Coat including expansion joints | 1.50 |

| Item | Weightage in % of CP | Stage for Payment | Percentage |
|---|-------------------------|--|------------|
| | | (5) Miscellaneous Items like handrails, crash barrier, road markings etc. | 1.00 |
| | | (6) Wing walls/return walls | [Nil] |
| | | (7) Guide Bunds, River Training works etc. | [Nil] |
| | | (8) Approaches (including Retaining walls, stone pitching and protection works) | 2.50 |
| | | B.1-Widening and repair of (a) ROB (b) RUB | |
| | | B.2-New ROB/RUB | |
| | | C.1- Widening and repair of Elevated Section/Flyovers/Grade Separators | |
| | | C.2- New Elevated Section/Flyovers/Grade Separators | |
| Other Works | 30.00 | (i) Toll Plaza | [Nil] |
| | | (ii) Road side drains | 18.50 |
| | | (iii) Road signs, markings, km stones, etc | 5.00 |
| | | (iv) Project facilities | |
| | | (a) Lay-byes | 1.00 |
| | | (b) Passenger Shelter | 0.50 |
| | | (v) Road side Plantation | [Nil] |
| | | (vi) Repair of Protection Works other than approaches to the bridges, elevated sections/ flyover/ grade separators and ROB/ RUBs | [Nil] |
| | | (vii) Safety & Traffic Management during const. | [Nil] |
| | | (viii) Breast Wall | 10.00 |
| | | (ix) Toe Wall | [Nil] |
| | | (x) Retaining Wall | 30.00 |
| | | (xi) Crash Barrier | 11.00 |
| | | (xii) Gabion wall | 9.50 |
| | | (xiii) Hydro Seeding | 5.00 |
| | | (xiv) Seeding and Mulching with Jute Net | 3.00 |
| | | (xv) Seeding and Mulching with Coir Net | 3.00 |
| | | (xvi) Balance Slope Protection work | 3.00 |
| | | (xv) Junction Improvement | 0.50 |
| Electrical Utilities and Public Heath Utilities (Water pipe lines and sewage lines) | 1.00 | (i) Estimate for Shifting and Re-Alignment of LT Lines. | 10.00 |
| | | (ii) Estimate for Shifting and Re-Alignment of 11KV Lines | 28.00 |
| | | (iii) Estimate for shifting and Re-Alignment 132kV lines | 36.00 |
| | | (iv) Installation of Gravity Main | 13.00 |
| | | (v) Distribution System | 6.00 |
| | | (vi) Providing Public Hydrant | 2.00 |
| | | (vii) Providing Public Standpost | 0.50 |
| | | (viii) Installation of Private House Connections damaged by widening | 2.00 |
| | | (ix) Drilling of Borehole (HPTW) | 2.00 |
| | | (x) Installation of T/Cluster | 0.50 |

1.3 Procedure of estimating the value of work done

1.3.1 Road works

Procedure for estimating the value of road work done shall be as follows:

Table 1.3.1

| Stage of Payment | Percentage weightage | Payment Procedure |
|---|----------------------|--|
| A- Widening & Strengthening of road | [Nil] | |
| B.1- Reconstruction/New 2-Lane Realignment/Bypass(Flexible Pavement) | | Unit of measurement is linear length. Payment shall be made on pro-rata basis on completion of a stage in a length of not less than 5% (five percent) of the total length. |
| (1) Earthwork up to top of the sub-grade | 30.00 | |
| (2) Sub-base Course | 15.00 | |
| (3) Non bituminous Base course | 9.00 | |
| (4) Bituminous Base course | 10.00 | |
| (5) Wearing Coat | 14.50 | |
| B.2- Reconstruction/New 8-Lane Realignment/Bypass (Rigid Pavement) | [Nil] | |
| C.1- Reconstruction/New Service Road/ Slip Road (Flexible Pavement) | [Nil] | |
| C.2- Reconstruction/New Service Road (Rigid Pavement) | [Nil] | |
| D-Reconstruction & New Culverts on existing road, realignments, bypasses | | Cost of each culvert shall be determined on pro-rata basis with respect to the total number of culverts. Payment shall be made on the completion of at least three culverts. |
| Culverts (length <6m) | 21.50 | |

@ For example, if the total length of bituminous work to be done is 100 km, the cost per km of bituminous work shall be determined as follows:

$$\text{Cost per km} = P \times \text{weightage for road work} \times \text{weightage for bituminous work} \times (1/L)$$

Where,

P = Contract Price

L = Total length in km

Similarly, the rates per km for other stages shall be worked out accordingly.

Note: The length affected due to law-and-order problems or litigation during execution due to which the Contractor is unable to execute the work, may be deducted from the total project length for payment purposes. The total length calculated here is only for payment purposes and will not affect and referred in other clauses of the Contract Agreement.

1.3.2 Minor Bridges and Underpasses/Overpasses:

Procedure for estimating the value of Minor bridge and

Underpasses/Overpasses shall be as stated in table 1.3.2:

Table 1.3.2

| Stage of Payment | Weightage | Payment Procedure |
|------------------|-----------|-------------------|
|------------------|-----------|-------------------|

| Stage of Payment | Weightage | Payment Procedure |
|--|-----------|--|
| 1 | 2 | 3 |
| A.1-Widening and repairs of Minor Bridges (length>6m&<60m) | Nil | |
| A.2- New Minor Bridges (length > 6m & < 60m) | | |
| (1) Foundation + Sub-Structure: On completion of the foundation work including foundations for wing and return walls, abutments, piers up to the abutment/pier cap. | 85.00 | Foundation + Sub-Structure: Cost of each minor bridge shall be determined on pro-rata basis with respect to the total linear length (m) of the minor bridges. Payment against foundation + Sub-Structure shall be made on pro-rata basis on completion of a stage i.e. Not less than 25% of the scope of foundation + Sub-Structure of each bridge subject to completion of atleast two foundations along with sub-structure upto abutment/pier cap level of each bridge. In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified. |
| (2) Super-structure: On completion of the super-structure in all respects including wearing coat, bearings, expansion joints, hand rails, crash barriers, road, signs & markings, tests on completion etc. complete in all respect. | 13.50 | Super-structure: Payment shall be made on pro-rata basis on completion of a stage i.e., completion of super-structure of atleast one span in all respects as specified in the column of "Stage of Payment" in this sub-clause. |
| (3) Approaches : On completion of approaches including Retaining walls, stone pitching, protection works complete in all and fit for use | 1.50 | Approaches: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of approaches in all respect as specified in the column of "Stage of Payment" in this sub-clause. |
| (4) Guide Bunds and River Training Works: On completion of Guide Bunds and river training works complete in all respects | [Nil] | |
| B.1- Widening and repairs of underpasses/overpasses | [Nil] | |
| B.2- New Underpasses/Overpasses | [Nil] | |

1.3.3 Major Bridge works, ROB/RUB and Structures: Not Applicable

Procedure for estimating the value of Major Bridge works, ROB/RUB and Structures shall be as stated in table 1.3.3:

Table 1.3.3

| Stage of Payment | Weightage | Payment Procedure |
|---|-----------|--|
| A.1- Widening and repairs of Major Bridges | | |
| A.2-New Major Bridges | | |
| (1) Foundation | 41.00 | Foundation: Cost of each Major Bridge shall be determined on pro-rata basis with respect to the total linear length (m) of the Major Bridge. Payment against foundation shall be made |

| Stage of Payment | Weightage | Payment Procedure |
|---|-----------|--|
| | | on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of foundation of the major Bridge subject to completion of atleast two foundations of major Bridge. In case where load testing is required for foundation, the trigger of first payment shall include load testing also where specified. |
| (2) Sub-structure | 33.00 | Sub-structure: Payment against sub- structure shall be made on pro-rata basis on completion of a stage i.e. not less than 25% of the scope of sub- structure of major bridge subject to completion of atleast two sub-structures of abutments/piers upto abutment/pier cap level of the major bridge. |
| (3) Super-structure (including bearings) | 21.00 | Super-structure: Payment shall be made on pro-rata basis on completion of a stage i.e. completion of super-structure including bearings of atleast one span in all respects as specified. |
| (4) Wearing Coat including expansion joints | 1.50 | Wearing Coat: Payment shall be made on completion of wearing coat including expansion joints complete in all respects as specified. |
| (5) Miscellaneous Items like handrails, crash barrier, road markings etc. | 1.00 | Miscellaneous: Payments shall be made on completion of all miscellaneous works like handrails, crash barriers, road markings etc. complete in all respects as specified. |
| (6) Wing walls/return walls | [Nil] | |
| (7) Guide bunds, River Training works etc. | [Nil] | |
| (8) Approaches (including Retaining walls, stone pitching and protection works) | 2.50 | Approaches: Payments shall be made on both approaches including stone pitching, protection works, etc. complete in all respects as specified. |
| B.1- Widening and repairs of (a)ROB (b)RUB | [Nil] | |
| B.2-New ROB/RUB | [Nil] | |
| C.1-Widening and repairs of Elevated Section/ Flyovers/Grade Separators | [Nil] | |
| C.2-New Elevated Section/ Flyovers/Grade Separators | [Nil] | |

Note: (1) In case of innovate Major Bridge projects like cable suspension/cable stayed/ Extra Dozed and exceptionally long span bridges, the schedule may be modified as per site requirements before bidding with due approval of Competent Authority.

(2) The Schedule for exclusive tunnel projects may be prepared as per site requirements before bidding with due approval of Competent Authority.

1.3.4 Other works.

Procedure for estimating the value of other works done shall be as stated in table 1.3.4.

Table 1.3.4

| Stage of Payment | Weightage | Payment Procedure |
|------------------|-----------|-------------------|
| 1 | 2 | 3 |
| (1) Toll Plaza | [Nil] | |

| Stage of Payment | Weightage | Payment Procedure |
|---|-----------|---|
| (2) Roadside drains | 18.50 | Unit of measurement is linear length. Payment shall be made on pro-rata basis on completion of a stage in a length of not less than 5% (five percent) of the total length. |
| (3) Road signs, markings, km stones, safety devices etc. | 5.00 | |
| (4) Project Facilities | | Payment shall be made on pro-rata basis for completed facilities. |
| (a) Lay-byes | 2.00 | |
| (b) Passenger Shelter | 1.00 | |
| (5) Road side Plantation including Horticulture in Wayside Amenities | [Nil] | |
| (6) Repair of Protection Works other than approaches to the bridges, elevated sections/flyover/grade separators and ROB/ RUBs | [Nil] | |
| (7) Safety and traffic management during construction | [Nil] | |
| (8) Protection Works | | Unit of measurement is linear length. Payment shall be made on pro-rata basis on completion of a stage in a length of not less than 5% (five percent) of the total length. |
| (a) Breast Wall | 9.00 | |
| (b) Toe Wall | [Nil] | |
| (c) Retaining Wall | 30.00 | |
| (c) Crash Barrier | 10.00 | |
| (d) Gabion Wall | 10.00 | Unit of measurement is Sqm. Payment shall be made on pro-rata basis on completion of a stage in an area of not less than 5% (five percent) of the total quantity. Payment shall be made on successful growth of grass of minimum 6 inches (and not on the plantation of grass). |
| (e) Hydro-seeding | 5.00 | |
| (f) Seeding and Mulching with Jute Net | 3.00 | |
| (g) Seeding and Mulching with Coir Net | 3.00 | |
| (h) Balance Slope Protection work | 3.00 | |
| (9) Junction Improvement | 0.50 | Payment shall be made on pro rata basis for completed facilities. |

1.3.4 Utility Shifting.

Procedure for estimating the value of Utility Shifting done shall be as stated in table 1.3.5.

Table 1.3.5

| Stage of Payment | Weightage | Payment Procedure |
|---|-----------|--|
| 1 | 2 | 3 |
| (i) Estimate for Shifting and Re-Alignment of LT Lines. | 10.00 | Unit of measurement is as per completed activities. Cost per activity shall be determined on pro-rata basis as per its weightage with reference to total cost. Payment shall be made for completed activity. |
| (ii) Estimate for Shifting and Re-Alignment of 11KV Lines | 28.00 | |
| (iii) Estimate for shifting and Re-Alignment 132kV lines | 36.00 | |
| (iv) Installation of Gravity Main | 13.00 | |
| (v) Distribution System | 6.00 | |

| Stage of Payment | Weightage | Payment Procedure |
|--|-----------|-------------------|
| (vi) Providing Public Hydrant | 2.00 | |
| (vii) Providing Public Standpost | 0.50 | |
| (viii) Installation of Private House Connections damaged by widening | 2.00 | |
| (ix) Drilling of Borehole (HPTW) | 2.00 | |
| (x) Installation of T/Cluster | 0.50 | |

2. Procedure for payment for Maintenance

2.1 The cost for maintenance shall be as stated in Clause 14.1.1.

2.2 Payment for Maintenance shall be made in quarterly installments in accordance with the provisions of Clause 19.7.