Bid Addendum Report

Chharka Tangsong Rural Municipality

Chharka Tangsong Rural Municipality
Dolpa
Chharka, Dolpa
Karnali Province
Nepal

Addendum No: 2

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Invitation No: CTSRM/DOLPA/NCB/WORKS/05/2081/082

Dated On: 25-02-2025 10:00

Chapter: Bid Data Sheet

Sl. No.	Relevant Clause No / Name	Existing Clause	Modified Clause
1	ITB 16.1	[[[]]]	[[[[]]]]
2	ITB 16.1	[[[[]]]]	[[[[[]]]]]

Chapter: Bill of Quantities

1 Provisional Sum

Procument Item Details

SL. No	Item Description	Unit	Quantity	Unit Rate(in NPR)	Amount(in NPR)
1	Providing and installing information Board made of plain sheet with MS- Black square tube frame and support of size 1.5m*1.2m and hard paper color photograph of various site activities as per instruction of engineer	P.S	1	20500	20500
2	Insurance for the loss of damage to works, plant, material, equipment, property and personnel injury or death and third party as per condition of contract (SS/SP-100).	P.S	1	45890	45890
3	Carry out nesecsary lab tests and field test as per requirement and instructed by site engineer	P.S	1	26000	26000
4	Carry out nesecsary as Built Drawing as per requirement and instructed by site engineer	P.S	1	34157	34157

2 Construction work

2.1 River Training Work

2.1.1 Civil Work

Procument Item Details

SL. No	Item Description	Unit	Quantity	Bidder's Rate(NPR)	Bidder's Rate (in words)	Total Amount(NPR)
1	Earthwork Excavation in Cutting.I Roadway Excavation in All types of Soil by manual means road way excavation in all types soil as per drawing and technical specification, including removal of stumps and other deleterious matter, with all lift and lead as per drawing and instruction of the enggineer specification	Cu.m	198.6			
2	Providing suitable material and Back filling behind the gabion box by locally aviliable materils including compaction,tempering as per Drawing and specification. 30% of Excavtion Quantity	Cu.m	59.58			

Procument Item Details						
SL. No	Item Description	Unit	Quantity	Bidder's Rate(NPR)	Bidder's Rate (in words)	Total Amount(NPR)
3	Gabion Structure for Retaining Earth providing & Laying Gabion Structure for retaining earth with diaphragms including rolling,cutting weaving, placing laying side and diaphragms with binding wire & filling boulder all complete as per drawing and technical Specification. Mesh Wire - 10swg (0.0615 kg/m), Selvage wire 8swg (0.1057 kg/m), binding Wire12swg (0.0409 kg/m) Hexagonal Mesh type 100mm*120mm box Size (2*1*1) M	Cu.m	420.0			
4	Gabion Structure for Retaining Earth providing & Laying Gabion Structure for retaining earth with diaphragms including rolling,cutting weaving, placing laying side and diaphragms with binding wire & filling boulder all complete as per drawing and technical Specification. Mesh Wire - 10swg (0.0615 kg/m), Selvage wire 8swg (0.1057 kg/m), binding Wire12swg (0.0409 kg/m) Hexagonal Mesh type 100mm*120mm box Size (1.5*1*1) M	Cu.m	300.0			
5	Gabion Structure for Retaining Earth providing & Laying Gabion Structure for retaining earth with diaphragms including rolling,cutting weaving, placing laying side and diaphragms with binding wire & filling boulder all complete as per drawing and technical Specification. Mesh Wire - 10swg (0.0615 kg/m), Selvage wire 8swg (0.1057 kg/m), binding Wire12swg (0.0409 kg/m) Hexagonal Mesh type 100mm*120mm box Size (1*1*1) M	Cu.m	132.0			
6	Providing and laying of a geotextile filter between pitching and embankment slopes as per Drawing and Technical Specifications.	Sq.m	65.0			
7	Providing and laying of stone masonary works in cement mortar 1:4 in foundation complete as per drawing and technical specification (Coursed Random Rubble Stone Masonary)	Cu.m	6.0			
8	Providing and laying of PCC works in 1:2:4 in foundation complete as per drawing and technical specification	Cu.m	0.6			

Procument Item Details						
SL. No	Item Description	Unit	Quantity	Bidder's Rate(NPR)	Bidder's Rate (in words)	Total Amount(NPR)
9	steel work for truss bridge per Drawing and Technical specification, including all lift and lead as per Drawing and instruction of the Engineer.	kg	1725.15			
10	Two Coat Enamel Painting Over truss Bridge per Drawing and Technical specification, including all lift and lead as per Drawing and instruction of the Engineer.	Sq.m	58.5			

Chapter: Special Conditions of Contract (SCC)

Sl. No.	Relevant Clause No / Name	Existing Clause	Modified Clause
1	GCC 53.1 (PACONSTANT)	1	

Specification of River Training in Gabion work and wooden Bridge work

1.Earthwork excavation of soil

The excavated materials shall be classified under the following categories. The decision of the Engineer in respect of the classification of excavated materials shall be the final and binding upon the Contractor.

S.N	Specification Item	Description
1	**Scope of Work**	Excavation for river training, embankment protection, and gabion retaining structures in all types of soil (ordinary soil, gravel, clay, mixed soil, boulder-mixed soil, etc.).
2	**Method of Excavation**	Manual or mechanical excavation using excavators, backhoe loaders, or other suitable equipment.
3	**Excavation Depth & Width**	As per depth is 0.6mand width 3.1m below the ground level ,ensuring proper alignment and slope for gabion foundations
4	**Side Slopes & Stability**	Recommended slopes: **1:1 to 1.5:1** based on soil type. Proper benching or shoring to prevent collapse in loose or soft soil.
5	**Dewatering Requirements**	water is encountered, proper pumping or diversion to ensure dry working conditions.
6	**Disposal of Excavated Material**	Suitable material to be used for backfilling. Unusable material to be disposed of safely away from the water channel.
7	**Foundation Preparation**	the excavated base should be leveled, compacted, and free from loose soil before placing gabions.
8	**Protection Against Scouring**	Additional filter layers (geo-fabric, sand/gravel) to be placed as to prevent soil erosion
9	**Measurement of Excavation**	Measured in **cubic meters (m^3)** as per the design section and site execution.
10	**Tolerance Limits**	±50 mm in depth and width to maintain accuracy.
11	**Compaction of Excavated Base**	Proper compaction of the foundation bed with mechanical compactors or hand rammers as per site conditions.
12	**Environmental Considerations**	Excavation work to be planned to minimize siltation and disturbance to river flow. Proper sediment control measures to be adopted.
13	**Safety Measures**	• Prop barricading and signage. • Use of PPEs (helmets, gloves, boots, life jackets in case of water work). • Ensuring safe access for workers and machinery.
14	**Approval & Inspection**	Engineer-in-charge to inspect and approve excavation before placing gabions or other protection measures.

2.River training in Gabion work

In gabion work, the size of the individual units (gabion baskets or boxes) typically refers to the dimensions of the baskets used in the construction. Gabions are wire mesh containers filled with stones or other materials and are used for erosion control, retaining walls, and other structural applications. Here is a table summarizing the specifications of the gabion work for the sizes 2m*1m*1m,1.5m*1m*1 and 1m*1m*1m

Specification	**2m x 1m x 1m**	**1.5m x 1m x 1m**	**1m x 1m x 1m**
Dimensions (L x W x H)	2meters x 1 meter x 1 meter	1.5 meters x 1 meter x 1 meter	1meters x 1 meter x 1 meter
Volume	2 cubic meters ($2m^3$)	1.5 cubic meters ($1.5m^3$)	1cubic meters ($1m^3$)
Materials	Heavy Galvanized Steel / PVC-coated	Heavy Galvanized Steel / PVC-coated	Heavy Galvanized Steel / PVC-coated
Wire Diameter	4mm - 6mm	4mm - 6mm	4mm - 6mm
Tolerance	±5% tolerance in dimensions	±5% tolerance in dimensions	±5% tolerance in dimensions
Mesh Size	100mm x 120mm	100mm x 120mm	100mm x 120mm
Stone Size (approx.)	100mm - 300mm	100mm - 300mm	100mm - 300mm
Lacing/Binding	Spiral binders, hog rings, or wires	Spiral binders, hog rings, or wires	Spiral binders, hog rings, or wires

3. Coursed Random Rubble Stone Masonry in1:4 Ratio

S.N	Specification Item	Description
1	**Scope of Work**	construction of **Coursed Random Rubble (CRR) Masonry** using **1:4 cement-sand mortar**, commonly used for abutment of wooden bridge.
2	**Materials Used**	**Stone:** Hard, durable, properly shaped, and free from defects. -**Cement:** PPC as per IS standards. - **Sand:** Clean, well-graded, free from clay or silt impurities.
3	**Stone Preparation**	Stones to be **dressed** (roughly squared) and **soaked** in water before use to enhance bonding.
4	**Mortar Mixing Ratio**	**1:4 ratio** (Cement: Sand) with proper water content for workability.
5	**Laying of Stones**	Stones laid in **courses**, maintaining horizontal joints. - **Larger stones at corners and edges (quoins).** - **Through stones at intervals of 900 mm** in both horizontal and vertical directions.
6	**Joint Thickness**	Mortar joints not exceeding **10-15 mm** to ensure strength and uniformity.
7	**Curing Requirements**	Continuous curing for **at least 7 days** after construction to prevent shrinkage cracks.
8	**Scaffolding & Supports**	roper scaffolding for higher walls and temporary supports if needed.
9	**finishing & Pointing**	for required, joints to be **flush pointed or recessed** for aesthetic and structural integrity.
10	**Measurement of Work**	measured in **cubic meters (m^3)** based on actual execution.
11	**Tolerance Limits**	±10 mm in alignment and plumb.
12	**Environmental Considerations**	Excavation work to be planned to minimize siltation and disturbance to river flow. Proper sediment control measures to be adopted.
13	**Safety Measures**	Proper barricading and signage. - Use of PPEs (helmets, gloves, boots, life jackets in case of water work). - Ensuring safe access for workers and machinery.
14	**Approval & Inspection**	Engineer-in-charge to check **stone quality, bonding, and mortar mix** before proceeding to the next course.

4. Plain Cement Concrete (PCC) Work (1:2:4) Ratio

S.N	Specification Item	Description
1	**Scope of Work**	PCC work for abutment of wooden bridge using **1:2:4 mix (Cement: Sand: Coarse Aggregate)**.
2	**Materials Used**	**Cement:** PPC as per IS standards. -**Sand:** Clean, coarse, well-graded river sand. - **Coarse Aggregate:** 20 mm downsize, well-graded, and free from impurities.
4	**Mortar Mixing Ratio**	**1:2:4 ratio (by volume) with required water to achieve proper workability.**
5	**Mixing Method**	**Machine mixing** preferred for uniformity. Hand mixing allowed with additional **10% cement**.
6	**Placing & Compaction**	Concrete placed within **30 minutes** of mixing and compacted using **vibrators/hand tamping**.
7	**Thickness of PCC Layer**	**100 mm or 10cm**
9	**Curing Requirements**	Continuous curing for **at least 7 days** using water ponding or wet hessian cloth.
10	**Measurement of Work**	measured in **cubic meters (m^3)** based on actual execution.
11	**Tolerance Limits**	**±5 mm in level and thickness.**
12	**Finishing**	**smooth leveling using wooden trowel or steel trowel based on requirements.**
13	**Safety Measures**	Proper barricading and signage. - Use of PPEs (helmets, gloves, boots, life jackets in case of water work). - Ensuring safe access for workers and machinery.
14	**Approval & Inspection**	Engineer-in-charge to check **mix proportions, compaction, and curing** before approval.

5. wooden bridge

S.N	Component	Specification
1	**Longitudinal Main Beam**	Primary load-carrying member - Hardwood timber (lekali dhupi, or similar durable wood) - Cross-section: **200mm x 300mm** - Length: **5m** with proper end anchoring. - Treated for termite and moisture resistance
2	**Longitudinal Side Support Beam**	Secondary support beams - Hardwood timber **150mm x 250mm** - Fixed alongside main beams for extra lateral support
3	**Railing Support (Horizontal)**	Wooden railings for safety - Timber section: **100mm x 100mm** - Bolts: M10 (10mm dia.), length 100mm to 150mm, galvanized steel
4	**Vertical Post (Railing)**	Vertical timber posts spaced at **120mm** intervals - Timber section: **100mm x 100mm** - **M12 (12mm dia.), length 150mm to 200mm bolts**
5	**Vertical Railing**	• Wooden slats or cables for added safety • Spacing: Max 150mm apart for child safety. Fixed with nails or bolts • Bolts: **M10 to M12 (10-12mm dia.), length 100mm to 150mm**, galvanized steel.
6	**Planking (Decking)**	Hardwood timber planks for bridge deck - Thickness: **75mm** - Width: **200mm to 250mm** - Laid with a **5-10mm gap** between planks for drainage - Fixed with **galvanized nails or bolts (M10 dia., length 100-150mm)**
7	**Painting of wooden bridge color**	Primary and rustic brown color
8	**Safety Measures**	Proper barricading and signage. - Use of PPEs (helmets, gloves, boots, life jackets in case of water work). - Ensuring safe access for workers and machinery.
9	**Approval & Inspection**	Engineer-in-charge to check **mix proportions, compaction, and curing** before approval.

Specification of River Training in Gabion work and Steel Truss Bridge work

1.Earthwork excavation of soil

The excavated materials shall be classified under the following categories. The decision of the Engineer in respect of the classification of excavated materials shall be the final and binding upon the Contractor.

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5	**Dewatering Requirements**	water is encountered, proper pumping or diversion to ensure dry working conditions.
6	**Disposal of Excavated Material**	Suitable material to be used for backfilling. Unusable material to be disposed of safely away from the water channel.
7	**Foundation Preparation**	the excavated base should be leveled, compacted, and free from loose soil before placing gabions.
8	**Protection Against Scouring**	Additional filter layers (geo-fabric, sand/gravel) to be placed as to prevent soil erosion
9	**Measurement of Excavation**	Measured in **cubic meters (m^3)** as per the design section and site execution.
10	**Tolerance Limits**	±50 mm in depth and width to maintain accuracy.
11	**Compaction of Excavated Base**	Proper compaction of the foundation bed with mechanical compactors or hand rammers as per site conditions.
12	**Environmental Considerations**	Excavation work to be planned to minimize siltation and disturbance to river flow. Proper sediment control measures to be adopted.
13	**Safety Measures**	• Prop barricading and signage. • Use of PPEs (helmets, gloves, boots, life jackets in case of water work). • Ensuring safe access for workers and machinery.
14	**Approval & Inspection**	Engineer-in-charge to inspect and approve excavation before placing gabions or other protection measures.

2.River training in Gabion work

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Wire Diameter	4mm - 6mm	4mm - 6mm	4mm - 6mm
Tolerance	±5% tolerance in dimensions	±5% tolerance in dimensions	±5% tolerance in dimensions
Mesh Size	100mm x 120mm	100mm x 120mm	100mm x 120mm
Stone Size (approx.)	100mm - 300mm	100mm - 300mm	100mm - 300mm
Lacing/Binding	Spiral binders, hog rings, or wires	Spiral binders, hog rings, or wires	Spiral binders, hog rings, or wires

3. Coursed Random Rubble Stone Masonry in1:4 Ratio

S.N	Specification Item	Description
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2	**Materials Used**	**Stone:** Hard, durable, properly shaped, and free from defects. -**Cement:** PPC as per IS standards. - **Sand:** Clean, well-graded, free from clay or silt impurities.
3	**Stone Preparation**	Stones to be **dressed** (roughly squared) and **soaked** in water before use to enhance bonding.
4	**Mortar Mixing Ratio**	**1:4 ratio** (Cement: Sand) with proper water content for workability.
5	**Laying of Stones**	Stones laid in **courses**, maintaining horizontal joints. - **Larger stones at corners and edges (quoins).** - **Through stones at intervals of 900 mm** in both horizontal and vertical directions.
6	**Joint Thickness**	Mortar joints not exceeding **10-15 mm** to ensure strength and uniformity.
7	**Curing Requirements**	Continuous curing for **at least 7 days** after construction to prevent shrinkage cracks.
8	**Scaffolding & Supports**	roper scaffolding for higher walls and temporary supports if needed.
9	**finishing & Pointing**	for required, joints to be **flush pointed or recessed** for aesthetic and structural integrity.
10	**Measurement of Work**	measured in **cubic meters (m^3)** based on actual execution.
11	**Tolerance Limits**	±10 mm in alignment and plumb.
12	**Environmental Considerations**	Excavation work to be planned to minimize siltation and disturbance to river flow. Proper sediment control measures to be adopted.
13	**Safety Measures**	Proper barricading and signage. - Use of PPEs (helmets, gloves, boots, life jackets in case of water work). - Ensuring safe access for workers and machinery.
14	**Approval & Inspection**	Engineer-in-charge to check **stone quality, bonding, and mortar mix** before proceeding to the next course.

4. Plain Cement Concrete (PCC) Work (1:2:4) Ratio

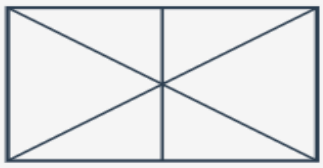
S.N	Specification Item	Description
1	**Scope of Work**	PCC work for abutment of wooden bridge using **1:2:4 mix (Cement: Sand: Coarse Aggregate)**.
2	**Materials Used**	**Cement:** PPC as per IS standards. -**Sand:** Clean, coarse, well-graded river sand. - **Coarse Aggregate:** 20 mm downsize, well-graded, and free from impurities.
4	**Mortar Mixing Ratio**	**1:2:4 ratio (by volume) with required water to achieve proper workability.**
5	**Mixing Method**	**Machine mixing** preferred for uniformity. Hand mixing allowed with additional **10% cement**.
6	**Placing & Compaction**	Concrete placed within **30 minutes** of mixing and compacted using **vibrators/hand tamping**.
7	**Thickness of PCC Layer**	**100 mm or 10cm**
9	**Curing Requirements**	Continuous curing for **at least 7 days** using water ponding or wet hessian cloth.
10	**Measurement of Work**	measured in **cubic meters (m^3)** based on actual execution.
11	**Tolerance Limits**	**±5 mm in level and thickness.**
12	**Finishing**	**smooth leveling using wooden trowel or steel trowel based on requirements.**
13	**Safety Measures**	Proper barricading and signage. - Use of PPEs (helmets, gloves, boots, life jackets in case of water work). - Ensuring safe access for workers and machinery.
14	**Approval & Inspection**	Engineer-in-charge to check **mix proportions, compaction, and curing** before approval.

5. Steel Truss Bridge

S.N	Component	Specification
1	Main Truss Structure	• Type: Warren truss configuration with parallel chords • Steel grade: ASTM A709 Grade 50 (345 MPa yield strength) • Span length: 6.5m between supports • Truss height: 3m at center • Truss spacing: 2 m center to center • Corrosion protection: Hot-dip galvanized with additional epoxy coating
2	Primary Chord Members	• Top and bottom chord members • Steel hollow structural sections (HSS): 300mm x 300mm x 16mm • Material: ASTM A500 Grade C steel • Connection method: High-strength bolted connections with splice plates • Bracing: Diagonal cross-bracing at 3m intervals
3	Diagonal/Vertical Members	• Steel HSS: 200mm x 200mm x 10mm • Material: ASTM A500 Grade B steel • Connection method: Gusset plate connections with M24 high-strength bolts • Gusset plate thickness: 20mm
4	Cross Beams/Floor Beams	• I-beam section: W460 x 82 • Spacing: 3m on center • Material: ASTM A992 steel • Connection: Bolted to main truss with M20 bolts and connection plates • Stiffeners: 10mm thick at support points

5	**Stringers**	• I-beam section: W310 x 39 • Spacing: 1.5m on center • Material: ASTM A992 steel • Connection: Bolted to floor beams with M16 bolts • End treatment: Sealed with end plates to prevent moisture ingress •
6	**Brick Deck**	• Type: Orthotropic steel deck • Deck plate thickness: 12mm with trapezoidal stiffeners • Wearing surface: 50mm polymer modified asphalt concrete • Drainage: 2% cross slope with scuppers at 6m intervals • Waterproofing: High-performance membrane beneath wearing surface
7	**Railings and Barriers**	• Type: Combination pedestrian/vehicle barrier • Height: 1.4m total height • Material: Galvanized steel posts at 2.5m intervals • Post dimensions: 150mm x 150mm x 10mm • Horizontal rail elements: 100mm x 50mm tubular sections • Pedestrian mesh: Galvanized steel with 100mm maximum openings
8	**Bridge Bearings**	• Type: Elastomeric bearings with PTFE sliding surface at expansion end • Fixed bearings: Reinforced elastomeric pads 500mm x 400mm x 100mm • Expansion bearings: PTFE sliding bearings with ±150mm movement capacity • Anchor bolts: M36 x 500mm in length, galvanized steel
9	**Expansion Joints**	• Type: Modular expansion joint system • Movement capacity: 200mm total • Watertight design with drainage system

		• Noise-reducing features: Rhomboid pattern plates • Installation: Factory pre-set for temperature at installation
10	**Painting of steel truss bridge color**	Primary and rustic silver color
11	**Safety Measures**	Proper barricading and signage. - Use of PPEs (helmets, gloves, boots, life jackets in case of water work). - Ensuring safe access for workers and machinery.
12	**Approval & Inspection**	Engineer-in-charge to check **mix proportions, compaction, and curing** before approval.



Standard Panel
1188.36 kg

Special Panel 1
103.394 kg

Special Panel 2
97.194 kg

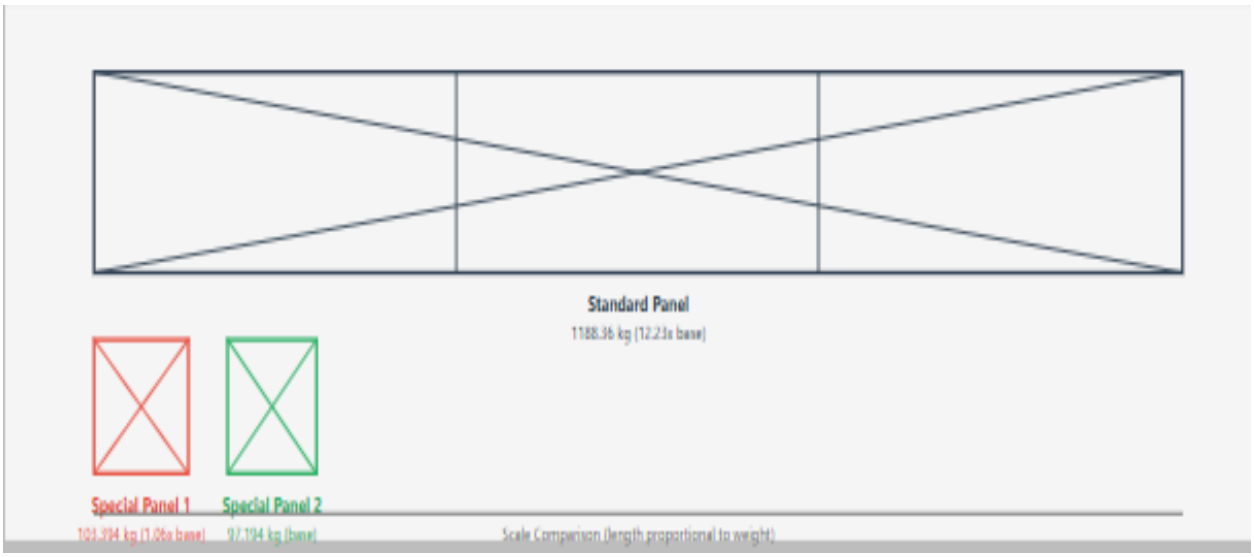
Panel Weight Calculations

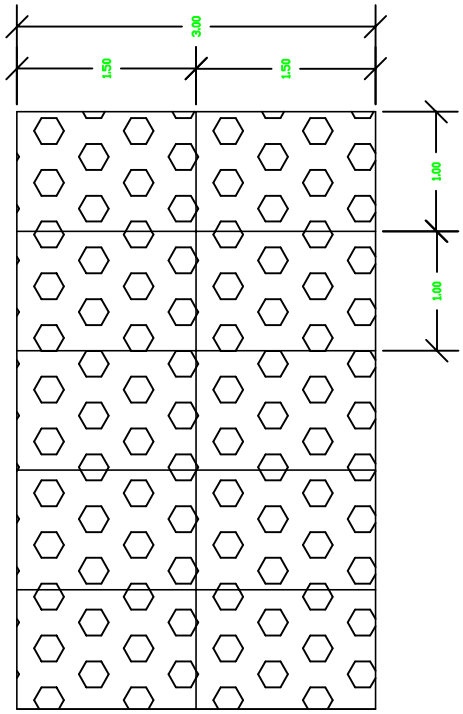
Standard Panel:
1188.36 kg × 0.309 = 367.20 kg → 367.20 kg

Special Panel 1:
103.394 kg × 0.309 = 31.95 kg → 31.95 kg

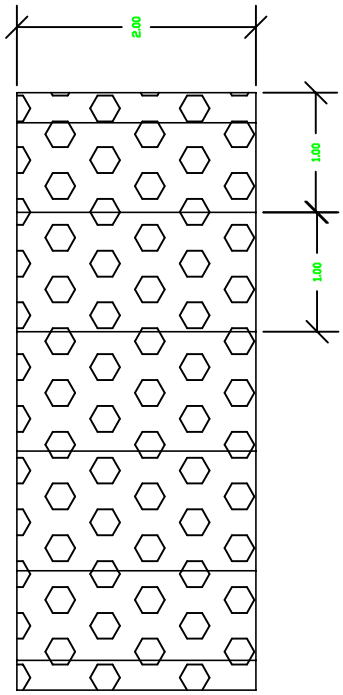
Special Panel 2:
97.194 kg × 0.309 = 30.03 kg → 30.03 kg

Weight × 0.309 = Adjusted Weight


Standard Panel
1188.36 kg (12.23x base)
Special Panel 1
103.594 kg (1.08x base)
Special Panel 2
97.194 kg (base)
Scale Comparison (length proportional to weight)

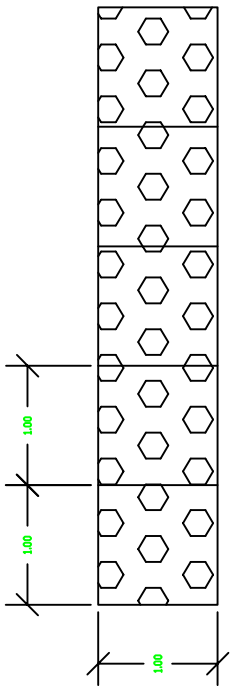


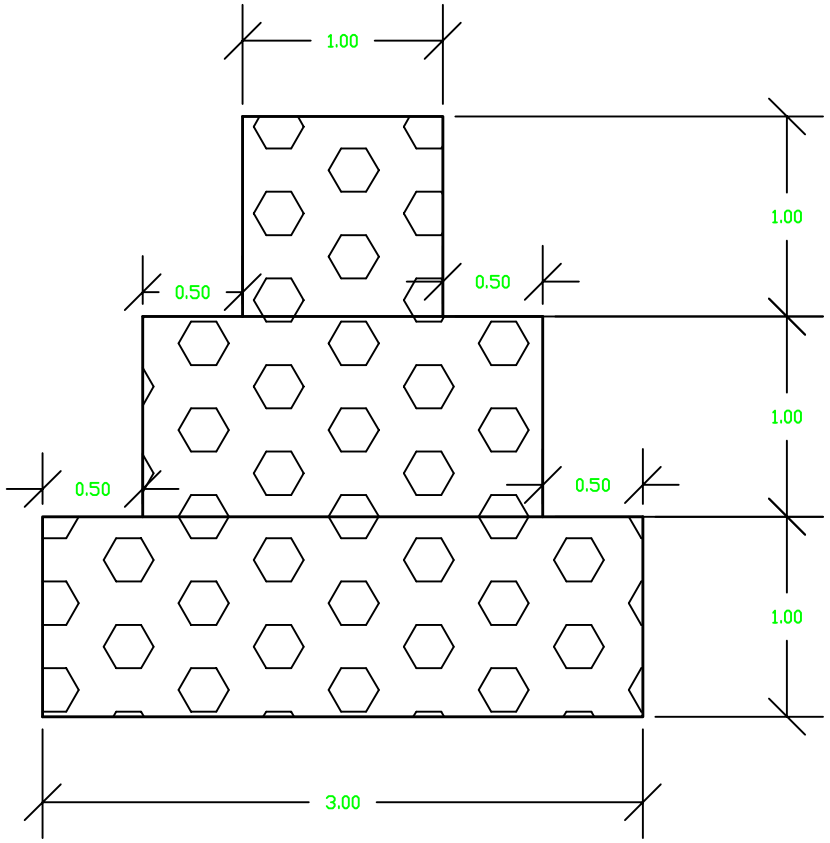
TOP Veiw First Layer



TOP Veiw
2nd Layer

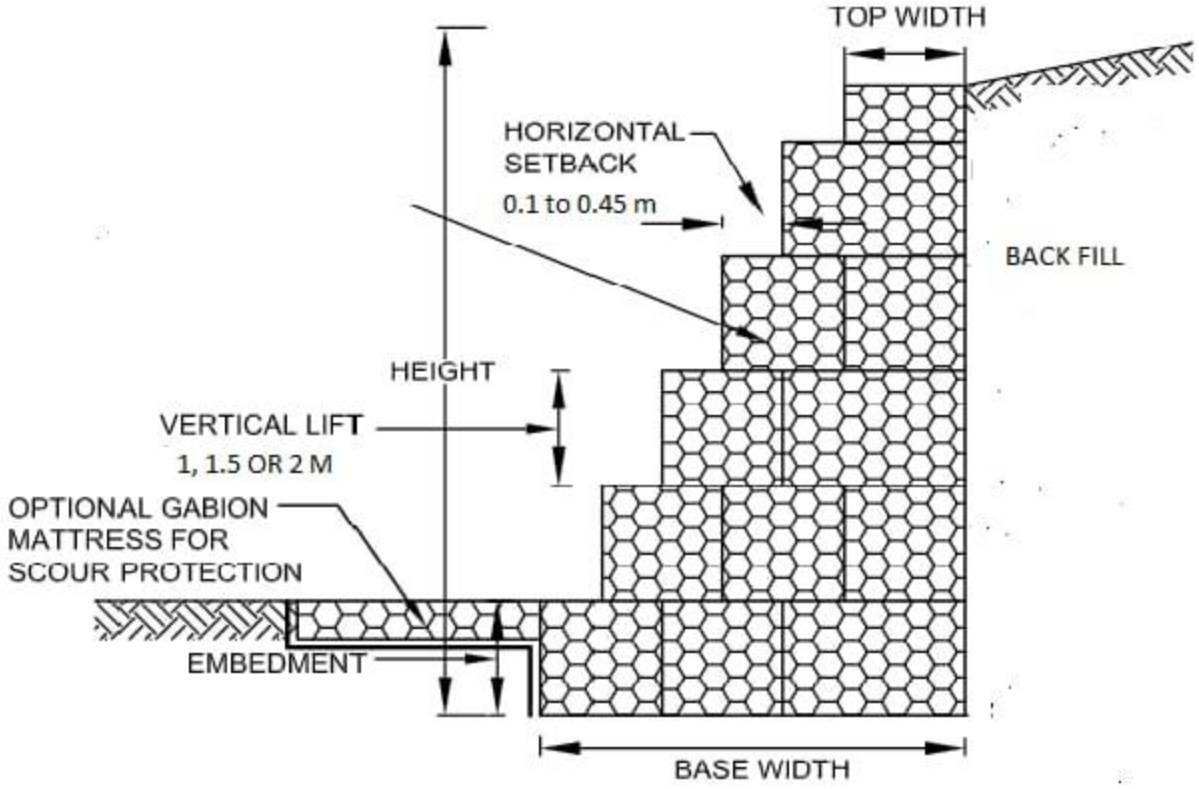
TOP Veiw

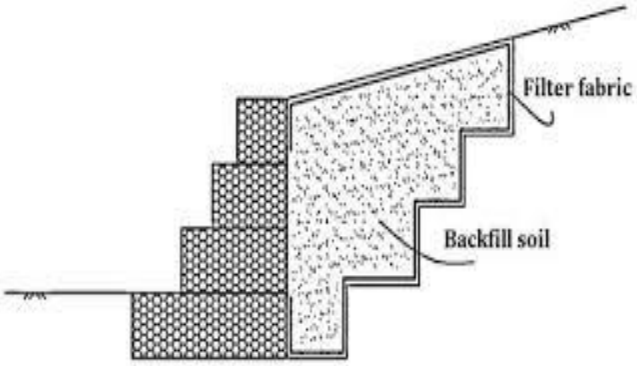


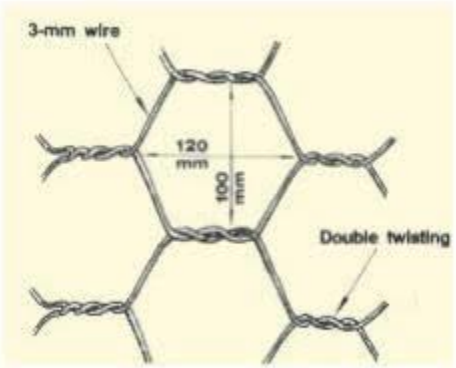


ALL Diamesnsion in (M)

X-Section Of Gabion Box along River Bank


TOP WIDTH
HORIZONTAL
SETBACK
0.1 to 0.45 m
BACK FILL
HEIGHT
VERTICAL LIFT
1, 1.5 OR 2 M
OPTIONAL GABION
MATTRESS FOR
SCOUR PROTECTION
EMBEDMENT
BASE WIDTH


Filter fabric
Backfill soil


3-mm wire
120 mm
100 mm
Double twisting