

# Masoud Village Pipe Schem Project



## Legend

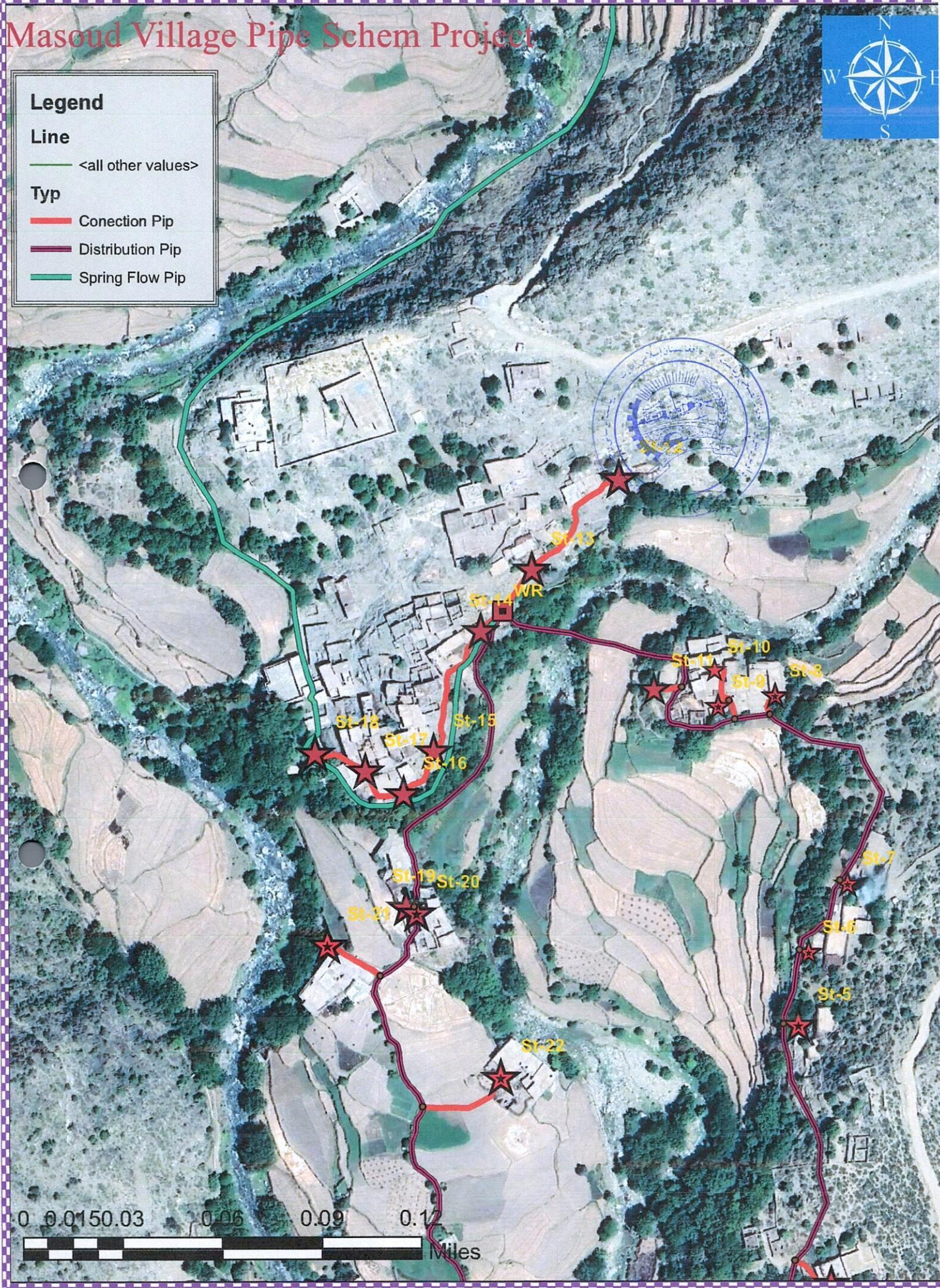
### Line

— <all other values>

### Typ

- Conection Pip
- Distribution Pip
- Spring Flow Pip

0 0.0150.03 0.06 0.09 0.12 Miles



# Masoud Village Pipe Schem Project



## Legend

### Line

<all other values>

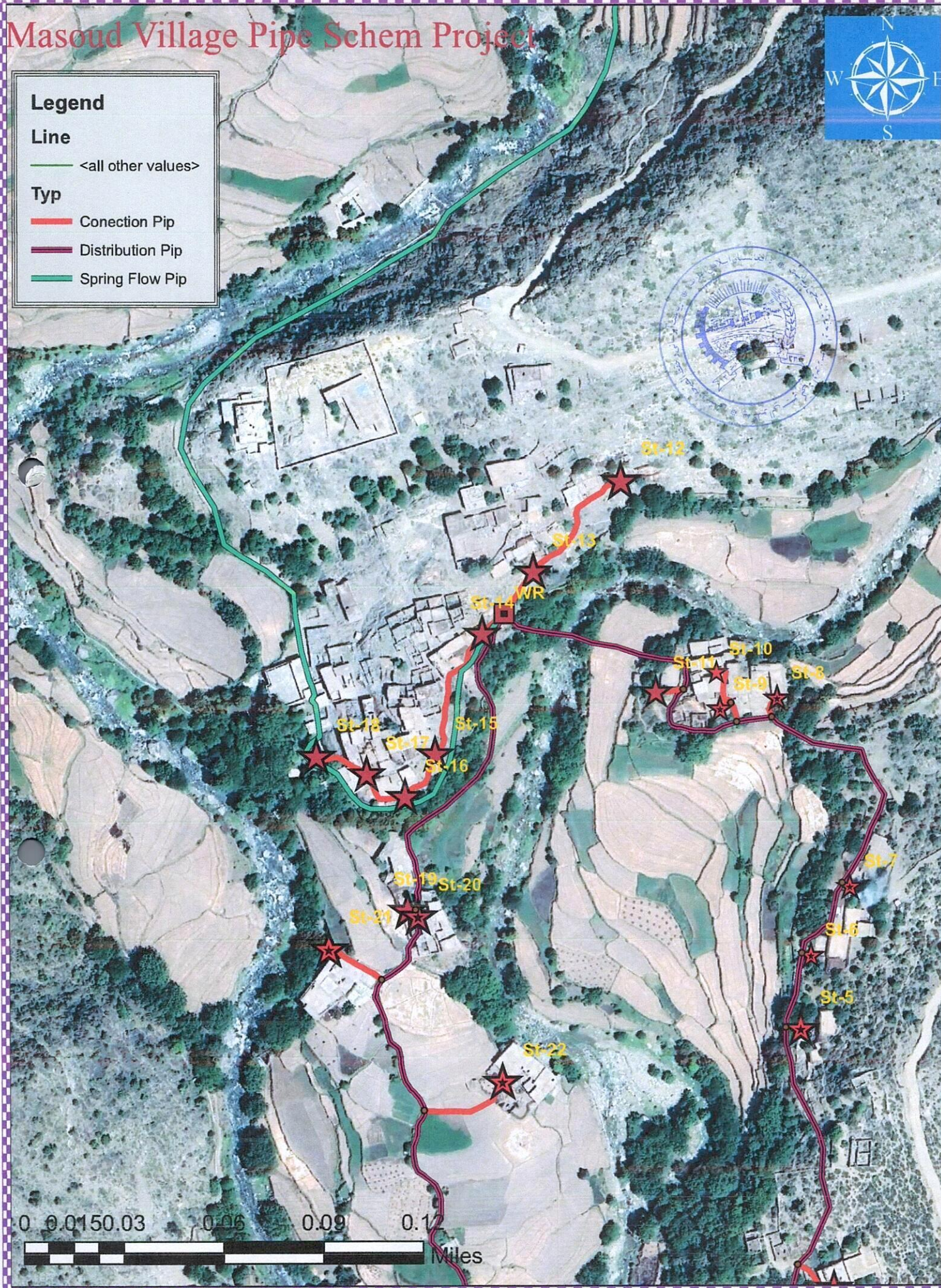
### Typ

Conection Pip

Distribution Pip

Spring Flow Pip

0 0.0150.03 0.06 0.09 0.12 Miles





# **Society Educational Awareness, Research Consultancy, and Health Organization (SEARCHO)**

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## **TECHNICAL SPECIFICATION STANDARD FORMAT FOR WATER SUPPLY Rehabilitation of Gravity Pipe Scheme Masawad Village, Nurgal District of Kunar Province**

### **1. PURPOSE**

The document is intended to highlight the WASH interventions, Society Educational Awareness, Research Consultancy, and Health Organization (SEARCHO) is planning to implement through the funding of AHF Afghanistan. The project deliverables are to improve access to water and hygiene promotion in Masawad Village Nurgal District of Kunar Province. The WASH interventions will reach 1050 (150\*7) persons with improved WASH coverage.

The details are provided as below:

### **2. DESCRIPTION OF THE ACTIVITIES:**

This is a brief description of the scope of work. The technical specifications required will be described below. The designs are in the Appendix.

- Construction of 25 m<sup>3</sup> Stone Water Reservoir along with installation of 1 Gate valve box.
- construction of 26 stand top according to the attached Drawing and design
- Stone Masonry Spring Protection Structure according to the attached specification
- Installation and construction of water distribution Pipe network as per the agreed drawing and design provided.

### **3.LOCATION AND ACCESSIBILITY:**

The Rehabilitation of Gravity water supply network system site is located in Masawad Nurgal district of Kunar province. (SEARCHO) team, in collaboration with the Nurgal district- Masawad Rehabilitation of Gravity Pipe Scheme Village WASH committee, will mark the exact locations of the water supply network system site. (SEARCHO) will successfully hand over the site works to the contractor to initiate the agreed scope of works defined for construction work Borehole through a joint (SEARCHO) (program and support) teams and community field visit.

### **4.MOBILIZATION**

The work shall consist of mobilizing equipment, supplies, and securing bonds and permits necessary to do the work as stated in the contract and/or agreement and demobilization of excess materials and equipment from the worksite.

## **5 REVISION AND MONITORING**

SEARCHO will undertake on-the-spot checks and monitoring of the progress and quality of the work. The contractor must inform SEARCHO of the project's milestones so that together with the contractor, (SEARCHO) conducts the monitoring of the above-mentioned activities. The contractor will always collaborate with the (SEARCHO) engineer to be guided by the technical specification, and the scope of work to be carried out.

## **6. PRE-AMBLE TO THE SPECIFICATION**

This specification covers the minimum standards of workmanship and materials required by the Contract. All works shall be carried out with the approval of the (SEARCHO) WASH Engineer. Any civil works or materials that do not meet this specification's requirements shall be repaired or demolished and re-instated at the Contractor's expense. The Contractor shall be liable for any delays to the project caused by construction or demolishing defective work.

Any items of work not described in this specification but forming part of the works shall meet the minimum standards of workmanship and materials. The civil works or materials need to be approved by the (SEARCHO) WASH Engineer. Where there is a conflict between local standards and this specification, this specification shall take precedence.

This document forms part of the Contract and should be read in conjunction with the other Contract Documents:

- Contract Agreement
- Conditions of Contract
- Bid Form
- Contract Drawings
- Other documents referred to any of the contract documents.
- Work plan and construction tracker

## **7. MINIMUM STANDARDS FOR WORKMANSHIP AND MATERIALS**

### **Quality of Materials:**

The qualities of all construction materials are to be following the State Standards. The (SEARCHO) WASH Engineer shall check the quality of all materials delivered to the site and put his findings on the Engineers Site Note Book on the site once time a week. Any materials, that do not meet the minimum standards, shall be rejected. Such materials shall be removed from the site and replaced at the contractor's expense with materials of the required quality.

### **Quantity of Materials**

The (SEARCHO) WASH Engineer shall check that the required quantity of materials has been delivered to the site according to the BoQ and put the inputs in the project site note book and used in the works. The

(SEARCHO) WASH Engineer will not certify payment for any materials, which have been specified in the Contract but have not been used in the works for whatever reason.

### **Quality of Workmanship:**

The (SEARCHO) WASH Engineer shall be responsible for checking that the quality of workmanship by the Contractor is of an acceptable standard according to this specification. The (SEARCHO) WASH Engineer will reject any works, which have not been executed to the required standard. The Contractor shall redo any rejected works at his own expense and no time delays to the overall scheme.

### **Sand:**

Sand shall be clean and free from contaminants such as oil, silt, soil, wood, metal, or vegetable matter. Very fine or smooth Sand shall not be used. Coarse Sand (used for concrete) shall have a maximum size of 5mm. Medium Sand (used for mortar) shall have a maximum size of 2mm. Fine Sand (used for plaster) Shall have a maximum size of 1mm

### **Aggregate:**

The coarse aggregate used for concrete mix shall be angular crushed rock varying from 5mm to 20mm for Grade 1 Concrete. It shall be clean and free from contaminants such as oil, silt, soil, wood, metal, or vegetation's. If this type of aggregate is not available, the CONTRACTOR/SUPPLIER must seek the (SEARCHO) WASH Engineer's approval in the Journal book on which other types to use.

### **Cement:**

Cement (Portland 400 or 500) shall be delivered to the site in prime powder form and sealed bags. It shall be kept clean and dry until usage. Partially used bags of cement shall be stored in a dry place until required. Any partially used bags, which have become damp, shall be rejected. The Contractor will store the empty bags for the (SEARCHO) WASH Engineer's count and dispose of them by the Contractor.

### **Bricks:**

Shall be obtained from an approved source and of uniform color, size (7\*11\*22) cm, and shape. Bricks shall have smooth rectangular faces with sharp straight, right-angle edges. Maximum absorption shall not be more than 20% of its dry weight on immersion in water for 24 hours. Minimum crushing strength shall be 75 kg/cm<sup>2</sup>.

### **Water:**

Water used for concrete mix, mortar, plaster, and other construction materials shall be potable, clean, and free from organic material. If none is available on site, the Contractor shall transport suitable water to the site.

### **Excavation:**

Excavations shall be clean and free of water. The (SEARCHO) WASH Engineer shall inspect all excavations before work proceeds. The Contractor's site engineer shall give the (SEARCHO) WASH Engineer 5 days' notice of the inspection date.

Excavations are dangerous and liable to collapse, particularly in wet weather or waterlogged ground. The Contractor shall take all necessary precautions to ensure that all excavations are adequately protected to prevent accidental or unauthorized entry. Excavations depth must be according to drawing and design; dept. shall not be entered unless they are shored up with wooden or another temporary bracing. The Contractor shall be responsible for safety, and be liable for any accidents, which may occur.

**Concrete:**

Except otherwise specified, all plain and reinforced concrete works and concrete in general (either hand or machine mix at site) will meet the applicable standards & specifications.

**Concrete design mix:**

The materials used in concrete shall be proportionate by weight following the standard cement/sand/aggregate mix ratios as follows:

- For reinforced concrete mix - 1:1:2 mix ratio only for footing and columns
- For reinforced concrete mix - 1:1.5:3 mix ratio for beams, slab, and peaks.
- For plain/mass concrete mix - 1:1.5:3 mix ratio
- For plain concrete (Spring box and Protection wall, ground Reservoir, Stand Taps) mix - 1:2:4 mix ratio
- For reinforced concrete (ground Reservoir, Stand Taps) mix - 1:1:2 mix ratio
- For brick masonry mortar mix- 1:5 Mix ratios
- For plastering mortar mix- 1: 4 Mix ratios
- For stone masonry mortar mix- 1:4 Mix ratios
- For Pointing mortar mix- 1:4 Mix ratios

The aggregates mix, cement, and water content ratio shall be selected to obtain the best results for compressive strength, density, water tightness & durability, workability, and finish quality. The concrete mix must be such that the design is compatible with the minimum water content ratio to give each grade adequate concrete workability.

The grades of concrete for the various works shall be as noted on the drawings and as below:

**C25:** all reinforced concrete (foundations, slabs, etc.)

- Characteristics compressive strength at 28days: 250kg/cm
- Minimum cement content: 280 kg/m
- Max free water content ratio: 0.40
- Max nominal size of aggregates: 25mm

After placement, the concrete shall be vibrated by mechanical means. The vibration method is to be approved by the WASH Site Engineer/works personnel before the operation. The vibrated and consolidated concrete is finished by toweling or floating the surface to a smooth and flat finish.

Following placement, vibration, and finishing work to the concrete and after the initial set has occurred not to damage the surface of the concrete, appropriate measures, approved by the site Engineer/Works personnel are to be implemented to cure the concrete for a minimum period of 14 days.

Where concrete previously placed as part of the works is to be butted, jointed, or raised with the addition of further concrete, except in the case where the initial concrete is blinding concrete, the first concrete surface must be suitably prepared by the scrabbling, i.e., removing the laitance (fine concrete surfacing) before placement of the other concrete. The method is to be approved by the Site Engineer/Works personnel. After scrabbling, the concrete shall be a thoroughly wetted and thin layer of 1:2 cement: sand mortar applied before pouring the new concrete.

Steel reinforcement shall be positioned with a clearance or 40mm to the face of the concrete unless otherwise directed by the (SEARCHO) WASH Engineer/Works personnel or shown in the Contract drawings.

Formwork for the concrete shall be to the approval of the (SEARCHO) WASH Engineer and shall not allow grout loss from the concrete mix.

Prior to the concrete placement, the formwork is to be inspected and all harmful materials removed to the approval of the (SEARCHO) WASH Engineer/Works personnel.

The Contractor's Site engineer must undertake no mixing or placement of concrete without prior permission by the (SEARCHO) WASH Engineer.

### **Reinforcement:**

Steel reinforcement shall be the correct diameter, as shown on the drawings. The bars shall be clean and free from rust. They shall be securely fixed with wire before placing the concrete. The minimum cover to reinforcement shall be 25mm.

### **Framework:**

The exact dimensions and positions shall be as per the issued execution drawing. All formworks shall be designed and built to maintain rigidity throughout the concrete placement, ramming, vibration, and setting to the required shape, position, level, and specified class of finish. All joints shall be sufficiently tight to prevent leakage of concrete.

Before concreting commences, the formwork shall be thoroughly cleaned and freed from all sawdust, tie wire, shavings, earth, dirt, and other debris. Release agents should be applied and compatible with the class of finish; care must be taken not to contaminate the reinforcement.

Striking of formwork shall be done without damage to the concrete, including removal without shock to prevent impact load on the partially hardened concrete. For columns, walls, and other parts not supporting, the weight of the concrete may be removed as soon as the concrete has hardened sufficiently to resist possible damage due to removal operations. For suspended slabs or supporting formworks, at least 14 days of hardening are required before striking forms.

### **Placing Concrete:**

Once mixed, concrete shall be used immediately. Any concrete, which had been allowed to achieve its initial set, shall not be placed. Concrete shall be placed in layers with a *maximum thickness of 250mm*. Each layer shall be thoroughly compacted with a wooden (or any other) rammer. When placing on old or set concrete, the surface of the old concrete shall be thoroughly cleaned and wetted with water. If the surface is smooth, it must be chipped to form a suitable key. Old concrete shall be painted with liquid cement prior to placing new concrete.

### **Curing Concrete:**

Sufficient water is required for concrete to harden through hydration. The concrete must be kept moist or "cured" to ensure that it does not dry out. Poorly cured concrete will shrink or crack, and not achieve its full strength. Concrete shall be cured by covering in plastic sheets.

Spraying with water, covering with wet Sand, or other methods proposed by the Contractor site engineer and approved by the (SEARCHO) Wash Engineer. The Contractor shall ensure that all concrete is adequately cured. Curing shall start as soon as the concrete has been poured and shall continue until curing is complete *after 28 days*.

### **Concrete Finishing:**

Concrete shall be finished to a smooth uniform surface and finished using a metal or wooden float. The surface texture shall be flat and smooth with no irregularities or air bubbles. When formwork is removed, the face of the concrete shall be flat and smooth. If there are signs of voids, air bubbles, or inadequate compaction, the concrete shall be removed, disposed of, and re-laid with a fresh mix.

### **Stone Masonry:**

Stone must be granite, and Stone shall be of uniform size and shape and the specified dimensions. The Contractor may substitute alternative-sized Stone with the prior approval of the (SEARCHO) WASH Engineer and at no additional expense.

Walls shall be straight, perpendicular, and dimensionally correct, constructed as shown on the drawings (if they are included). The lines of mortar shall be horizontal with no excess mortar staining the faces of the walls. The faces of walls shall be regular and even, with no irregular stone

### **Mortar:**

Mortar for stone and brick masonry shall be mixed in the proportion 1 cement: 4 Medium Sand by volume. Sufficient water shall be added to achieve the desired workability. The surfaces of the stones must be smooth and have a medium size; the mortar shall be placed on all horizontal and vertical faces between the Stone, with no gaps. Each Stone shall be placed to the correct line and level and shall be level in all directions. Any gaps shall be filled with additional mortar rammed in with a small wooden rammer. The outside faces of stone walls shall be pointed. No excess mortar shall be allowed to stain the faces of the Stone.

### **Brick masonry in Cement Mortar:**

The bricks shall be first-class, regular in shape, size, and color, free from flaws, cracks, and lumps, minimum crushing strength of 75kg/cm<sup>2</sup>. Maximum absorption shall not be more than 20% of its dry weight on immersion in water for 24 hours. The Sand used shall be medium coarse, clean, sharp, and free from clay, mica, and other organic matter. The cement used shall satisfy the requirement of common standards; the Mortar is designated in the specified proportion of cement and Sand. The materials are weighed or measured and mixed on a watertight platform after allowing the bulk age of Sand. Bricks before laying shall be thoroughly soaked in water, and the brickwork shall be kept wet for at least 10 days.

### **Plumbing work:**

The contractor shall ensure that all pipes and fittings comply with the requirements of (SEARCHO) design and drawing and except those of a minor nature shall be carried out by a designated person, the service shall not run through individual premises, beside this, plumbing installation shall be arranged to avoid water contamination, water quality deterioration, water leakage and to ensure proper environmental consideration during installation of pipe network materials. The plumbing equipment is required to be certified by the (SEARCHO) Wash engineer.

### **Plaster and Pointing:**

Plaster and pointing for internal walls and external rendering shall be mixed in the proportion 1 cement: 4 Fine Sand by volume for both Pointing & Plastering. Sufficient water shall be added to achieve the desired workability.

The walls shall be wetted before applying the plaster and pointing. The plaster shall be 10mm to 20mm thick and pointing according to the stone construction state and shall have a uniform flat finish free of irregularities and blemishes. The finish shall be clean and precise at corners and between walls and ceilings in a straight line. Untidy or poorly finished plaster shall be rejected.

When the plaster is still damp, the wall shall be floated to a smooth finish with a wet steel float.

### **Painting:**

For the external sides shall be used, weather sheet paint 75% and for inner side shall be used plastic color 75% two times, and for stone, masonry shall be used oil paint two times with coordination of (SEARCHO) Wash engineer.

### **Drainage System:**

Used and surface rain runoff water: All water from the Facility must be collected and channeled through the drainage channel into soak away pits. The water drained from the high risk shall be channeled to the high-risk soak away pit, while the water drained from the low risk shall be channeled to the low-risk soak away pit.

All water from the Facility, including water from hand washing basins and surface rainwater, must be collected and channeled through man-holes into a soak-away pit as per site need.

### **Pipe Network Construction and Installation:**

- Different sizes of PE 100 High-Quality pipes of Afghanistan or equal (Iran, Pakistani) are to be considered for the network as per the agreed drawing provided.
- Cross drainage structure should be considering crossing the pipe against any possible obstacles.
- Stand taps are considered; for more details, please refer to design and BOQ.

**Note:** For additional details and information not listed above, please refer to design and BOQs.

### **Site Cleaning:**

After each completion of the work, the contractor must remove all remaining sand, gravels, and cuttings from the site. He/she must also remove all rubbish leftover from the workers.

## **8. WORK FOLLOW-UP**

To allow an adequate follow-up of work, the Contractor will maintain a construction log book at all sites in which all information related to the work will be reported. This book will allow the (SEARCHO) Engineer to know exactly the progress report of work as of his arrival on the construction site. The remarks and reserves of the Contractor and/or the person in charge of the program will be notified in the book of the building site. A copy of this field notebook will have to be given to (SEARCHO) at the end of the project and might be used as an intermediate or final report to the donor.

### **Safety:**

The contractor should provide sufficient safety measures for skilled and unskilled labors and other hired workers on the Project site, the contractor should provide all required PPEs (personal protection equipment's) to their workers and labors

## Total BoQ of Water Supply Network Gravity Pipe Scheme

Sr No:	Province Name:	Kunar				
	District Name:	Nur Gul				
	Village Name:	Masood Village				
	Date:	13/05/2024				
	Sub Project Title:	Repairing Gravity Pipe Scheme				
<b>Stone Masonry Spring Protection Structure</b>		<b>Unit</b>	<b>Quantity</b>	<b>Unit Cost USD</b>	<b>Total Cost USD</b>	<b>ReMarks</b>
A	Site preparation	M2	15	0.08	1.20	
1	Foundation & Spring Place Excavation	M3	20.00	2.5	50	
2	Stone Masonry with 35% Mortar( M:300,1 :4 ) Spring Box and a sMall Protaction Wall	M3	30.00	35	1050.0	
Stone should be crushed Mountain stone, sand and water is clean, ceMent should not be More than 3 Months old, the ceMent - sand proportion will be considered						
4	RCC ( M:250, 1:1:2 )	M3	2.00	250	500.0	
5	Shuttering (footing, coluMn, beaM, slab)	M2	10.00	12	118.0	
Before placing concrete shuttering is checked that it is well tied and no space between two planks						
6	PCC (M:150, 1:2:4)	M3	1.50	50	75.00	
Under PCC there will be a layer of sand, the ceMent is fresh, the sand is washed, the water is clean, the proportion of ceMent-sand is considered, at least 10 days curing						
7	Pointing with Mortar (M:400,1:3)	M2	20.00	2	22.00	
the proportion of ceMent - sand is a Must, ceMent is not older than 3 Months, sand and water is clean						
8	Sub Project sign board with instalation as per the coMplete satisfaction of the Wash Engineer	pcs	1	200	200	
9	Filling of Bolder stone in spring catchMent	M3	10.00	15	150.0	
<b>Sub Total Cost USD</b>					2166	
<b>Bill Of Quantity (BoQ) of 25 M3 reservoir Construction</b>						
1	Foundation excavation	M3	40	2.5	100	
2	Stone masonry with 35% mortar (M:250,1:5)	M3	68.00	35	2380	
the stone will be crushed not rive or round shape, the Mortar sand is well washed and the water is clean						
3	RCC (M:250,1:1:2)	M3	16	250.0	4000	
The cement is fresh, the sand and water is clean, mixer and vibrator should be used for mixing and placing concrete						
4	Shuttering	M2	38	12	139	
shuttering should be checked by field engineer that it is well tied, flat and no hole or space between two adjecent planks						
5	PCC ( floor ) M:150,1:2:4	M3	5	50	225	
Under the PCC a layer of sand is necessary, the ceMent is fresh, Mixer should be used for placing concrete, at least 10 days curing						
6	Pointing (M:400,1:3)	M2	33	2	66	
7	Plastering (inside and Outside)with cement Mortar( M:300,1:4)	M2	60	2	120	
the plaster of inside tow layers, one layer with pad low power should be used						
8	Filling with stone 15 cm of floor	M3	3	2	7	
Stone or gravel will be used for this filling						
9	Floor and wall insulation (bitumen)	M2	44	10	440	
The reservoir should be well insulated by bitumen						
10	Site clearance	M2	150	10.00	1500	

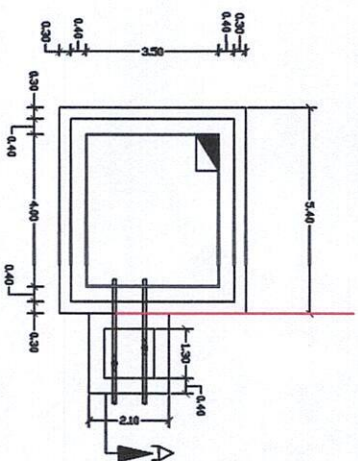


Pipes/Fittings GI (Galvanized Iron)					
<b>a. Pipe:</b>					
9	3" inch dia	M	18	25	450
<b>Air release pipe</b>					
10	3"/80 MM inch dia Air release pipe for (Ventilation) with Mesh, screen	Nose	1	25	25
<b>Fitting:</b>					
<b>Brass Gate Valve</b>					
12	90 MM / 3 inch dia	Nos	2	25	50
<b>Union</b>					
13	3 inch dia Union	Nos	3	25	75
<b>Nipple</b>					
13	3 inch dia Nipple	Nos	4	25	100
<b>Equal tee</b>					
15	3"inchdia Equal tee	Nos	1	25	25
<b>Elbow</b>					
16	3 inch dia Elbow	Nos	3	50	150
<b>Strainer</b>					
17	3" inch dia Brass strainer	Nos	1	23	23
<b>Manhole Cover</b>					
18	GI Cover 60 x 60 cM for spring Manhole	Nos	2	20	40
19	3/4 "Ladders / steps	LaMpsuM	1	300	300
20	Clorine کلورین	Kg	0.5	0.1	0.025
21	Holdtite /Insulation foaM for GI pipe covering	Kg	1.0	20	20
22	Painting Plastic Wheather Sheet	M2	220	3	550
<b>Sub Total Cost USD</b>					10786
<b>D Pipes/Fittings GI High Quality</b>					
1	75 MM,50MM,40MM,32MM,25MM..... Pipe Dia GI high Quality (karachi) and all Fittings tooles	M	1000	2.0	2000.0
2	Excavation according to the Map	M3	120	1.8	216.0
3	Back Filling of NetWork by Fine Sand	M3	40	1.8	72.0
4	Riparing of the old Pipe	Lms	1	350.0	350.0
5	Back Filling of NetWork by Soil	M3	120	1.8	216.0
<b>Sub Total Cost USD</b>					2854.0
<b>E Repairing of 26 Stand Taps</b>					
1	Site preparation	M2	52.00	0.50	26
2	Foundation excavation of STP	M3	11.00	2.50	28
3	RCC (M:250, 1:1:2)	M3	6.00	180.00	1080
Mixer and vibrator should be used for concrete placing, possibly washed crushed aggregate is used, water is drinkable water, fresh Portland or Charat ceMent is used, at least 15 days curing					
4	Shuttering of Stp	M2	30.0	2	60
5	PCC ( floor, PaveMent) M:150, 1:2:4	M3	5.2	50	260
Under PCC there will be a layer of sand, the ceMent is fresh, the sand is washed, the water is clean, the proportion of ceMent-sand is considered, at least 10 days curing					
6	Plastering in side and out side with ceMent Mortar M300(1:4)	M2	40.0	2	80
7	Earth Work (Filling with gravel)	M3	14.0	12	166
8	GI and PE Pipe and Fitting of 26 Stp (CoMplet according to the Drawing )	LuMs	26.0	40	1040
Completoles of STP (,Pipe 0.5',8 Brass Bib cock 3/,Reducer 0.5 x3/4' , Nipple 0.5 ,Elbow 0.5' ,PE feMale adapter 20 x0.5'.....) as per drwaing of water Stand Tap					
9	Site clearance	M2	52	0.50	26
<b>Sub Total Cost USD</b>					2766
<b>Total Sub Project Cost USD</b>					18572

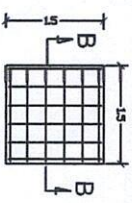


## 25 M3 Water Reservoir

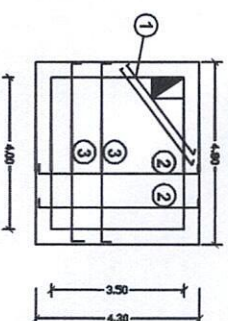
Water Reservoir plan,  $V=25\text{m}^3$



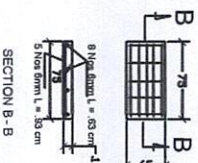
### Steel detail of valve box slab



### Steel detail of slab



### Steel detail of manhole slab

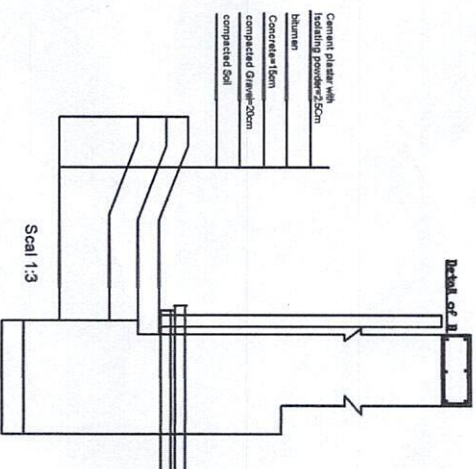


### Detail of ring beam



### Steel bar schedule for reservoir slab

Bar No.	Bar dia (mm)	Num of bar	Length (m)	Total length (m)	Weight (kg/m)	Total weight (kg)	Total weight + 5% (kg)
1	12	2	2.96	5.92	.88	5.2	5.46
2	12	63	5.36	166.16	.88	146.22	153.53
3	12	57	5.62	123.64	.88	108.8	114.24

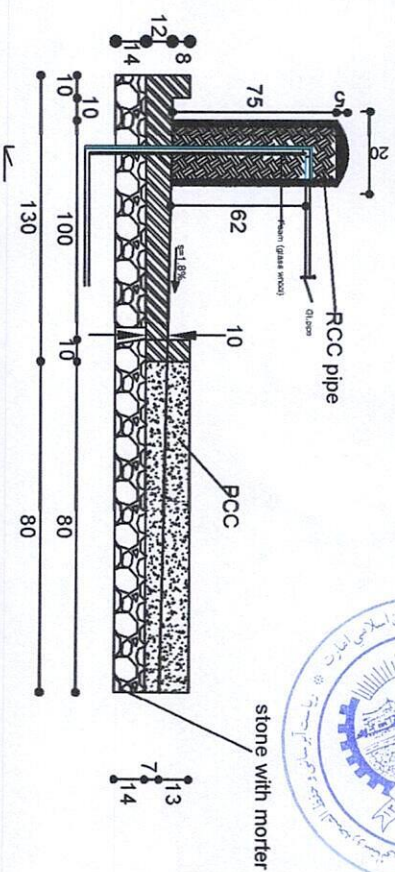
**Deutscher**

Drawn by:	Said Gawhar Shah Sadat	Society Educational Awareness, Research Consultancy, and Health Organization (SEARCHO)	Scale	No Scale	<div>01</div> <div>01</div>	Province	Kuamr	Project name: AHF / WASH Project 25 cum Water Reservoir
Designed by:	Almudhin Zammy		Date	June ,2024		District	Margol	
Checked by:	Sayed Hussain Nemat		Drawing No.	Sheet No.		Village	Masood	
Approv by:	Sharafat Saif							

# Repairing of Stand Tap design

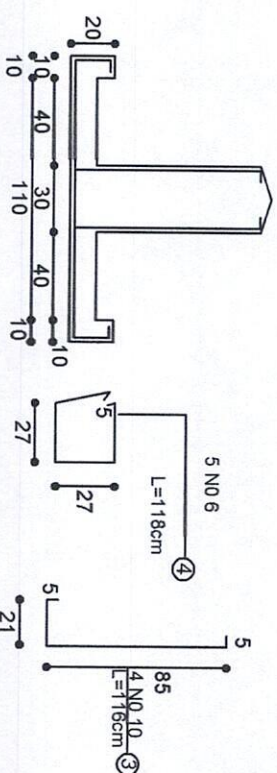


Stand Tap Section A - A

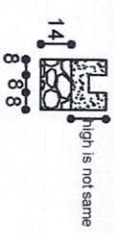


Reinforcement Details

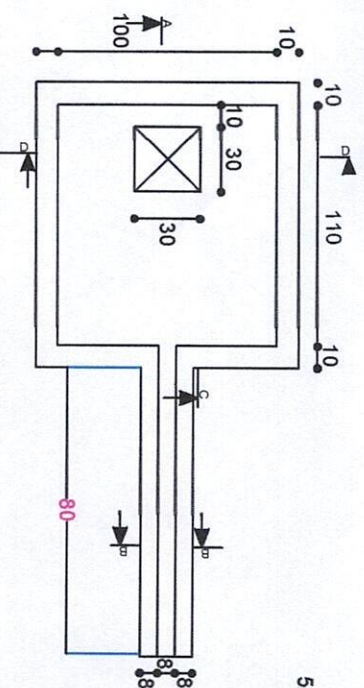
Section D - D (with outstone)



Slab steel bar)

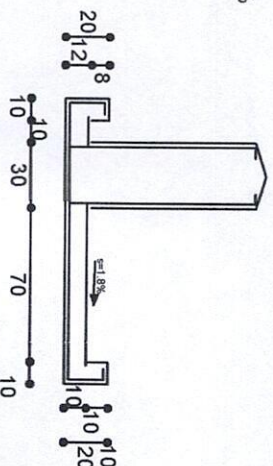


Stand Tap Plan

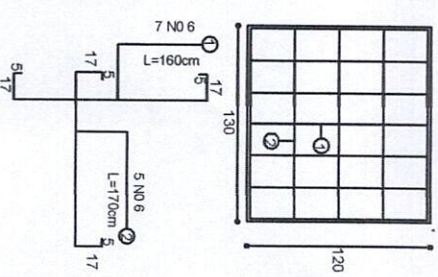


$$5/270=0.0186=1.86\%$$

Section D - D (with outstone)



salab steel



Surveyed By  
Drowned By  
Designed By  
Checked By

Eng S.gawhar Shah Sadat  
Eng S.gawhar Shah Sadat  
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Society Educational Awareness, Research Consultancy

and Health Organization

(SEARCHO)

Scale

AS SHOWN

Province

Kunar

Project name:  
Water, Sanitation & Hygiene Intervention in Nurgul  
District of Kunar Province

Date

June 2024

District

Nurgul

Drawing Title: Stand tap

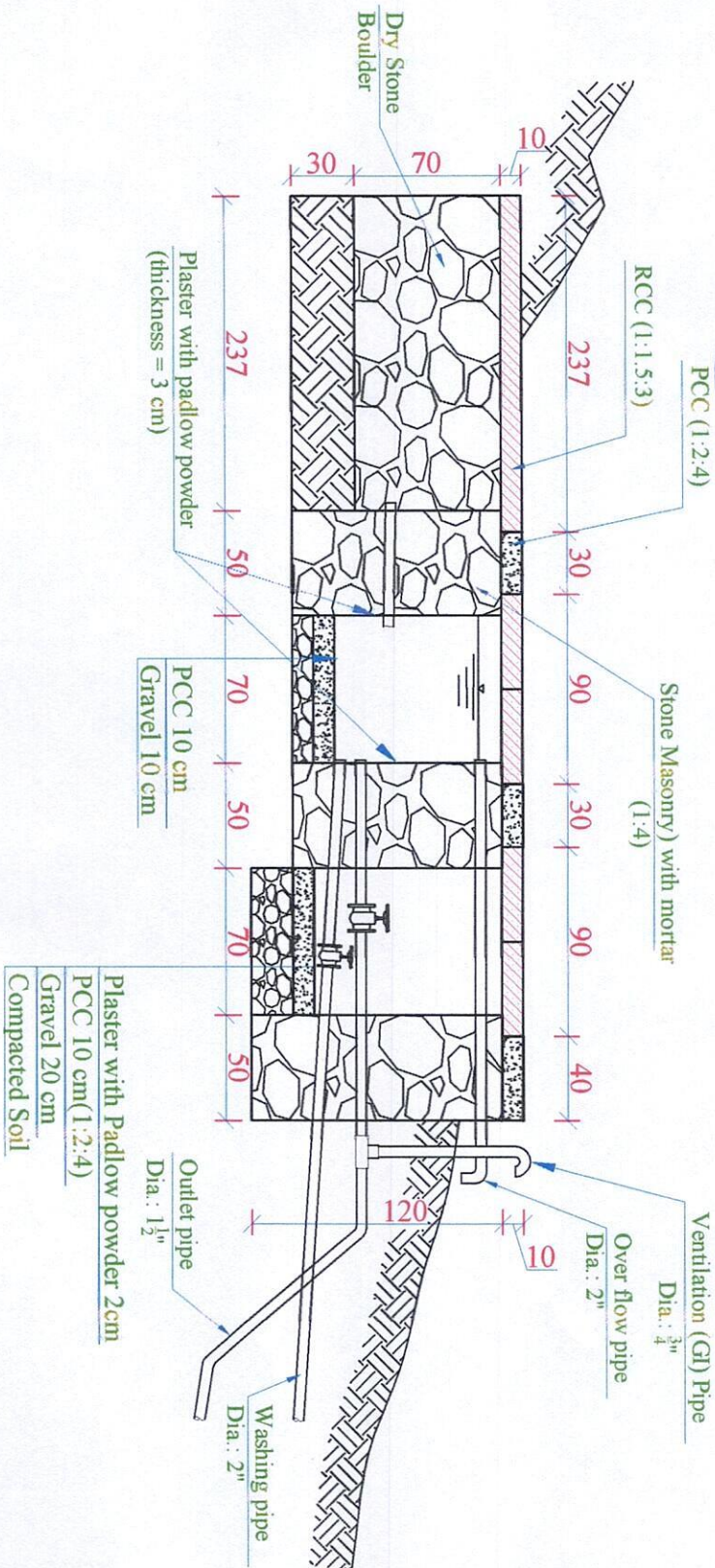
Drawing No.

01

Village

Massod

# Section A - A

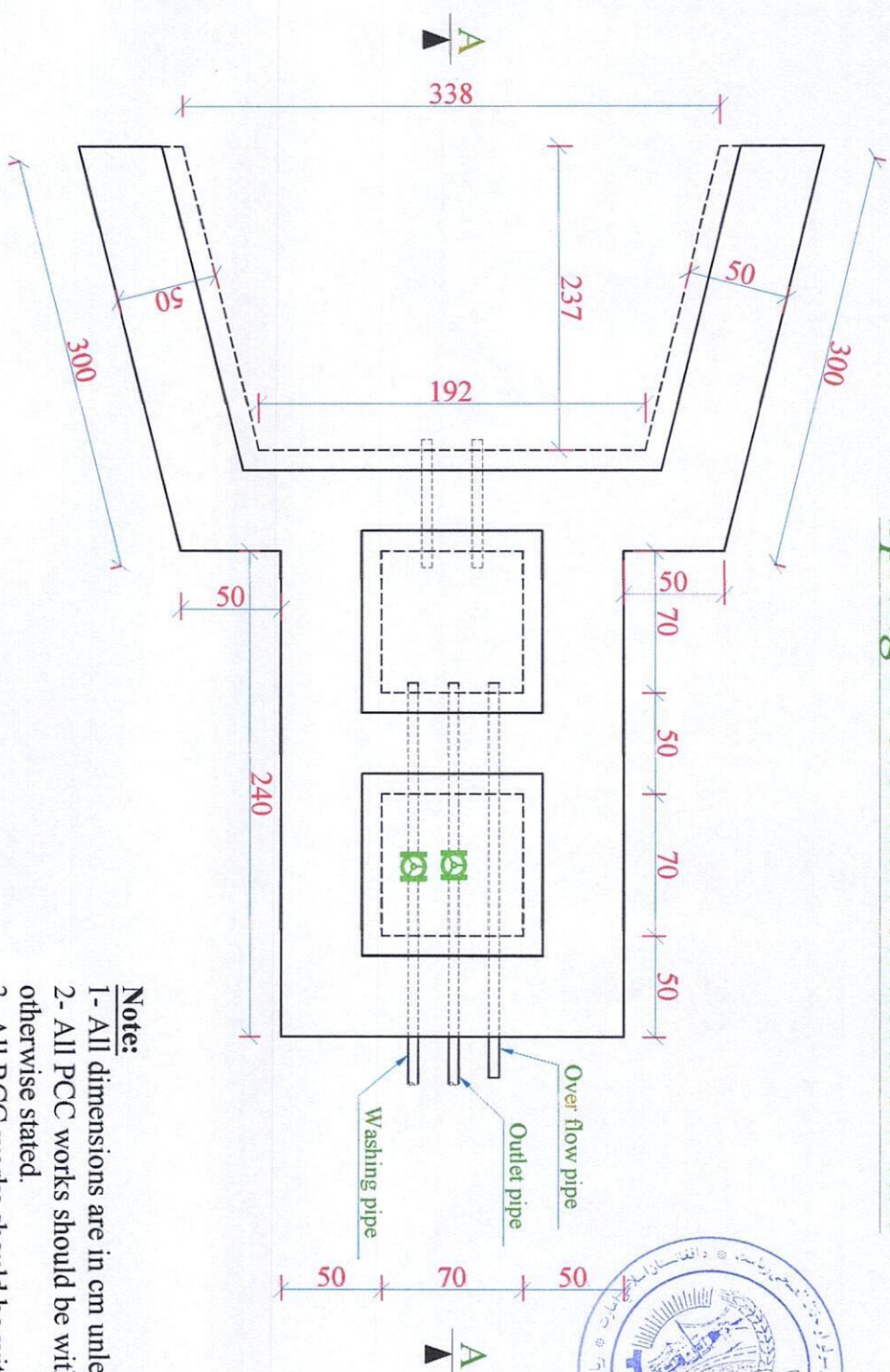


**Note:**  
The inside of sedimentation and gate valve box should be plastered with cement-sand mortar and padlow powder.



Drawn By	Eng S. Jawahar Shah Soodat	Checked By	Eng Sayed Hussain Najat	Society Educational Awareness, Research Consultancy, and Health Organization (SEARCHO)	Province	Kunar	Sheet NO	02
Designed By	Eng Arwudin Zaman	Reviewed By	Eng Sayed Hussain Najat		District	Nurgai	DATE	June-2024
		Approved By	Shahat Safi			Masood	Project Name	Water, Sanitation, and Hygiene Intervention in Nurgai District of Kunar Province

# Spring Protection Structure Plan



## Note:

- 1- All dimensions are in cm unless otherwise stated.
- 2- All PCC works should be with 1:2:4 mortar unless otherwise stated.
- 3- All RCC works should be with 1:1.5:3 mortar unless otherwise stated.
- 4- Stone masonry must be worked with 1:4 mortar unless otherwise stated.
- 5- Curing must be continued upto 28 days.
- 6- Clear and Clean water must be used every where.



Surveyed By	Eng. S. Qasim Shah Sadek	Checked By	Eng. Sayed Hussain Najeet
Drawn By	Eng. S. Qasim Shah Sadek	Reviewed By	Eng. Sayed Hussain Najeet
Designed By	Eng. Amruth Zameer	Approved By	Shaharfat Sarif

Society Educational Awareness, Research Consultancy,  
and Health Organization (SEARCHO)

Province	Kunar	Sheet NO	01
District	Nurgul	DATE	June-2024
Massoud	Project Name	Water, Sanitation, and Hygiene Intervention in Nurgul District of Kunar Province	