



OPERATIONAL GUIDELINES

COMMUNITY RANCHING OF MITHUN

Prepared By Technical Section FOCUS Mizoram

OPERATIONAL GUIDELINES FOR COMMUNITY RANCHING OF MITHUN

INTRODUCTION

There was a 20.38% growth in the mithun population in Mizoram 3957 in 2019 from 3287 in 2012. The project would support mithun owners in 20 villages in two districts viz., Champhai – 15 villages and Serchhip – 5 villages. This will involve demarcation and fencing of forest grazing areas (about 100 Kms), and water supplies in these grazing areas, establishment of 20 community Mithun shelters and animal handling facilities/equipment. The use of mineral blocks would also be demonstrated during the first two years of the project. About four poor farmers will be supported by providing one Mithu calf in each Mithun village. This intervention will be implemented by the society/community people/association and AHVD will be the facilitator and supervisor.

INSTITUTIONAL ARRANGEMENTS

1. At district level the project would be supervised by District Animal Husbandry and Veterinary Officers of the concerned district.
2. At village level Community Animal Health Worker (CAHW) of the concerned village would be the focal point and function as Lead Farmer.
3. Cluster/Village level Mithun Rearing Society would be end-implementing agency and end-user.
4. Potential land having contiguous area of at least 1500 ha within the existing Mithun breeding tract (covering Champhai and Serchhip district) would be identified for ranch development. The lands so identified should be free from agriculture crops and there must be written agreement/understanding with the rest of the villagers in the covered area. This must be supported by decision taken in the Gram Sabha clearly demarcating the land area for mithun farming. Land use system promoting integration of jhuming and mithun rearing would be encouraged.
5. Land ownership for the proposed mithun ranch should be transferred to mithun rearing society/association or department of Animal Husbandry & Veterinary (AHVD) for a period of atleast 15 years.

SELECTION OF SITE FOR RANCH DEVELOPMENT:

- a. Availability and accessibility of land
- b. Distance from the village
- c. Availability of natural water source
- d. Contour of the land
- e. Acceptance of surrounding villages and agricultural farmers
- f. Existing grazing ground and its extent of development would be taken into consideration while making selection of site for ranch development.

FORMATION OF FARMERS INTEREST GROUPS:

- a) Existing Mithun farmers would be formed into group comprising a minimum of 20 members for each ranch and registered under Societies Registration act.
- b) The department of Animal Husbandry & Veterinary (AHVD) would facilitate members of the society for availing loan from banks and assistance from other institutions and convergence with other schemes.
- c) Existing Mithun Rearing Association of the Society would be taken onboard if they are willing to take part in the project.

- d) Farmers would be given training on modern, commercial scale mithun ranching. The state government department of Animal Husbandry and Veterinary has already signed MoU with ICAR-NRC on Mithun in the year 2019.
- e) The Farmer Interest Group/Society shall select a Management Committee comprising a Chairperson, a Vice Chairperson, a Secretary and a Treasurer. 50% of the management committee members shall be women.
- f) The Farmer Interest Group/Society shall authorize the Secretary and Treasurer to open a bank account and operate the bank account. All deposit and withdrawals to the bank account shall be authorized by the Chairperson.
- g) The Farmer Interest Group/Society shall elect a Procurement Committee comprising 5 members with at least 2 women members.
- h) The Farmer Interest group/Society shall elect a Bid Opening Committee comprising 5 members with at least 2 women members.
- i) The Farmer Interest group/Society shall elect Social Audit Committee comprising 5 members with at least 3 women members. This committee should not comprise of members from any other committee.
- j) The Management Committee shall collect initial contribution of Rs 2000 per member and shall open a bank account in the name of the Farmer Interest group/Society and deposit the amount.
- k) The Management committee to prepare a work plan and budget for community ranching of Mithun in consultation with CAHW and submit it to District Animal Husbandry Department. The work plan and budget shall clearly specify contribution from FOCUS (41%), Beneficiary contribution (35%) and CSS contribution (24%). The Management committee shall make arrangements with the members for collection of beneficiary contribution over the above the initial contribution made.
- l) FOCUS funds will be released in four installments to the bank account of the Farmer Interest group/ Society. Upon approval of the work plan and budget by DPMU/SPMU, 25 percent of funds to be financed by FOCUS will be released to the bank account of the Farmer Interest group/Society.
- m) Subsequent release of installments shall be based on the progress of work using the project funds, CSS funds and beneficiary contribution. This shall be based on the report submitted by the CAHW confirming utilization of funds released including FOCUS, beneficiary contribution, and CSS funds. This shall be verified by the Block/district level Animal Husbandry Officer and a report submitted to DPMU/SPMU for release of next installment. The Block/district level Animal Husbandry Officer shall submit a completion report within 30 days of releasing the final installment.

MODE OF FINANCING – FUND FLOW

- a. IFAD Loan: 41% of Project cost.
- b. Beneficiary contribution: 35% of the Project cost.
- c. CSS: 24% of the Project cost.

RANCH MANAGEMENT:

- a. Ranch development would be carried out by society under the supervision of concerned District Animal Husbandry & Veterinary Officer supported by FOCUS Project Team.
- b. Farmers and herdsman will be trained in the project and the technical backstopping would be provided by Animal Husbandry & Veterinary Department (AHVD) for a period of at least three years or when the ranch become self-sustain.

PROJECT BENEFITS:

- a. To develop a commercially & economically viable Mithun Farm.

- b. To make fattened mithun available for the districts of Champhai, and Serchhip for meat purpose.
- c. To promote Mithun rearing and increase per capita availability of animal protein and other meat products.
- d. This project will produce on average 159.35 MT (31.87 MT from each ranch) of meat every year and creation of livelihood to 400 families through commercial scale mithun ranching.
- e. Social benefits and economic upliftment of rural livelihood.

Project outcomes:

- a. Promote mithun rearing through community ranching and adopt land use system new to the state.
- b. Adopt semi-intensive farming system and scientific management thereby making mithun farming cost effective.
- c. Increase availability of mithun meat by 159.35 MT per year through engagement of 400 families (20 families/ranch).
- d. To supply and provide on average 83 number of adult mithun per year.

Project outputs:

The current mithun herd strength in the village will be used as opening stock. The number of calf born is estimated to be 90% of total female mated. Mortality rate is estimated to be 3% and the number of male and female calf born is estimated to be equal. From year 3 onwards 40% of the animals between 2-3 years old will be sold and the remainders will be kept for sale in the next year or to be kept for replacement breeder.

Category	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Cow	50	68	75	71	70	73
Heifer mated	20	10	2	6	11	16
Total female mated	70	78	77	77	81	88
Calf born	63	70	70	69	73	80
Male calf born	32	35	35	35	36	40
Female calf born	32	35	35	35	36	40
1-2 yrs male	25	30	33	33	33	34
1-2 yrs female	24	30	33	33	33	34
2-3 yrs male	10	24	29	32	32	32
2-3 yrs female	13	23	29	32	32	32
3-4 yrs male	5	4	10	12	13	13
3-4 yrs female	5	5	9	12	13	13
Heifer for mating	10	2	4	5	6	6
Stud for mating	0	2	4	5	6	6
Breeding bull	4	4	5	8	8	8
Total animals	229	272	305	319	329	347

Mortality (in number)

Category	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Cow	2	2	2	2	2	2
Heifer mated	1	0	0	0	0	1
Total female mated	2	2	2	2	2	2
Calf born	3	3	3	3	4	3
Male calf born	2	2	2	2	2	2
Female calf born	2	2	2	2	2	2
1-2 yrs male	1	1	1	1	1	1
1-2 yrs female	1	1	1	1	1	1
2-3 yrs male	0	1	1	1	1	0
2-3 yrs female	0	1	1	1	1	0
3-4 yrs male	0	0	0	0	0	0
3-4 yrs female	0	0	0	0	0	0
Heifer for mating	0	0	0	0	0	0
Stud for mating	0	0	0	0	0	0
Breeding bull	0	0	0	0	0	0
Total animals	5	6	6	6	6	5

Sales of mithun (in number)

Sales	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Barren cow	0	0	4	5	6	6
2 – 3 yrs Male	4	9	11	12	12	12
2 – 3 yrs Female	5	9	11	12	12	12
3 – 4 yrs Male	5	4	10	11	13	13
3 – 4 yrs Female	5	5	9	11	13	13
Bull	0	0	2	4	5	6
Total sales	19	27	47	55	61	62

**Barren cow -- Rs.60000/- ; 2-3 yrs male -- Rs45000/- ; 2-3 yrs female - Rs.40000/- ;
3-4 yrs male -- Rs. 70000/- ; 3-4 yrs female -- Rs. 60000/- ; Bull -- Rs. 90000/-*

Purchase of mithun (in number)

PURCHASE	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Young bull for stud	0	0	0	0	0	0
Heifer	0	0	0	0	0	0
TOTAL PURCHASE	0	0	0	0	0	0

**** Young bull for stud – Rs. 40000/- ; Heifer – Rs. 25000/-**

Annual Feed (concentrate) Cost (in Rupees)

PURCHASE	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Animal (in no.)	226	269	302	316	326	343
Unit cost(Rs./Kg)	24	24	24	24	24	24
Feed(Kg/animal/month)	4	4	4	4	4	4
Total feed requirement for 6 month (lean period)	5432	6459	7242	7575	7819	8238
Total Feed Cost (Rs.)	130357	155012	173799	181809	197645	197705

Annual Salt Cost (in Rupees)

YEAR	1	2	3	4	5	6
Animal (in no.)	226	269	302	316	326	343
Unit cost(Rs./Kg)	10	10	10	10	10	10
Salt req. (Kg/animal/month)	0.3	0.3	0.3	0.3	0.3	0.3
Total Salt requirement (Kg)	815	969	4086	1136	1173	1236
Total Salt Cost (Rs.)	8147	9688	10862	11363	11728	12357

Annual Mineral Block Cost (in Rupees)

YEAR	1	2	3	4	5	6
Animal (in no.)	226	269	302	316	326	343
Unit cost (Rs./Kg)	500	500	500	500	500	500
Mineral Block requirement (Kg/animal/Year)	1	1	1	1	1	1
Total requirement (Kg)	226	269	302	316	326	343
Total Cost (Rs.)	113158	134559	150868	157821	162886	171619

Economics of the Ranch (in Rupees)

INCOME	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Sale of Mithun	1006860	1369541	2581139	2327631	3505893	3547931
Sale of gunny bag	1038	1292	1448	1515	1564	1648
GROSS INCOME	1007898	1370866	2582588	3239146	3507457	3549578

EXPENDITURE	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Mithun Purchase	0	0	0	0	0	0
Feed Cost	130357	155012	173799	181809	197645	197705
Salt Cost	8147	9688	10862	11363	11728	12357
Mineral Block Cost	113158	134559	150868	157821	162886	171619
Total	251662	299259	335529	350993	372259	381681
	756236	1071607	2247059	2888153	3135198	3167897

PROJECT COST (For one village)

Sl no	Expenditure head/ Particulars	Amount (INR)
1	Actual project amount	
	a) Construction of Mithun Shelter House at Site 1	424652.54
	b) Construction of Inlet tank at Site 1	52923.39
	c) Construction of Inlet tank at Site 2	52923.39
	d) Construction of Inlet tank at Site 3	52923.39
	e) Construction of Inlet tank at Site 4	52923.39
	f) Construction of water trough at Site 1	28613.28
	g) Construction of water trough at Site 2	28613.28
	h) Construction of water trough at Site 3	28613.28
	i) Construction of water trough at Site 4	28613.28
	j) Construction of Mithun Travis at Site 1	17223.79
	k) Fencing of grazing area (5 Km)	652000.00
	Sub total	1420023.00
2	Cost Index at 5.46% on construction	41934.00
3	Loading, transport and Unloading	20000.00
4	Mineral block demonstration	11000.00
5	Pasture improvement	510000.00
	Supervision by AHVD – site visit, on field training	142000.00
	Sub total	724934.00
	TOTAL	2144957.00
6	IFAD Loan	8,89,373.75
7	Beneficiary contribution	745583.25
8	AHVD-CSS	510000.00
	TOTAL	2144957.00
Percentage contribution of financial cost (in terms of kind/case)		
I	FOCUS Cost	41 %
II	Villagers contribution	35 %
III	AHVD - CSS	24 %
	Total project cost	100.00

The Project Implementation Manual permits 20 numbers of Mithun Shelter and 80 numbers of Water Supply Facilities.

FENCING OF GRAZING AREAS FOR MITHUN**A. Specification of based wire**

- | | | |
|-----------------------------------|---|-------------------|
| i) Line wire diameter | - | 2.50 mm (± 0.08) |
| ii) Point wire diameter | - | 2.50 mm (±0.08) |
| iii) Mass of complete barbed wire | - | 13.6 g/m – 155g/m |
| iv) Distance between two barbs | - | 75mm (± 12) |

B. Assumption

- | | | |
|---|---|------------|
| i) Length of barbed wire per kg | = | 7 mts |
| ii) Price of barbed wire inclusive of all transport | = | Rs. 90/Kg |
| iii) Spacing of fencing posts | = | 1.8 m |
| iv) No of fencing line | = | 5 lines |
| v) Price of fencing post (Word/sapling) | = | Rs 60/post |

C. Estimate for one Kilometer (1000 mts)

Sl.No	Items of investment	Unit	Unit Cost	No of Unit	Amount
1	Barbed Wire	Kg	90.00	714.285	64,285.65
2	Fencing Post	No	566	60.00	33,960.00
3	Nails, etc	LS	LS	-	3754.35
4	Labour	M	70	400	28,400.00
	TOTAL				130400.00

The Project Implementation Manual permits 100 kms of fencing for Mithun grazing area.

Rate Chart: In case of Works likely to be procured by the community SoR rates published by Government of Mizoram will be adopted for making an estimate. In case of procurement of goods/services the community may compare the rates obtained in tender with SOR
Procurement Methods: Two types of procurement methods/procedures are used based on the estimated contract value and availability of suppliers/contractors (refer to Table 2 below). These procedures apply to all Procurement done using FOCUS projects funds by the Communities. The procurement of consulting services such as hiring engineer to prepare plan/estimate will be done at Fig/Society level in consultation with SPMU. All other consultancy such as third-party monitoring etc shall be procured by the SPMU.

Direct Purchase: Direct Purchase may be used when the total cost of the goods/works/services to be purchased is less than or equal to Rs. 10,000/- (Rupees ten thousand only). The Executive Body of the community-based organisation is only required to collect one quotation. If the total price(s) stated in the quotation is less than or equal to Rs. 10,000/- the FIG/Society may simply purchase the same if the rates per unit are less than or equal to the rates as depicted in the rate chart [Prepared by FIG/Society based on the market survey or rates issued by GoM or GoI. The only documentation necessary would be the one Invoice/Bill. The management committee of the FIG/Society should maintain a Receipt Register for keeping record of the goods received against various orders placed by them. A Social Audit Committee of the FIG/Society will make inspection of quality and quantity of all materials, goods and equipment procured and received by FIG/Society and also all civil works constructed. All goods received irrespective of the method of procurement including Single Source Procurement need to be entered in this Receipt Register. All entries in this Receipt Registers [Consumable and asset] should be in serial numbered and the serial number should be recorded on the Bill/Invoice against which payment for such purchase is being made/has been made. Community should not split the requirement to avoid competitive procedure.

Competitive Shopping: Competitive Shopping is used when the estimated total amount to be paid for the required goods/works/services is more than Rs 10,000/- and less than or equal Rs 10,00,000. The process is as follows:

1. The Community, with assistance from the Field officers of the Project, fills out an 'Invitation to Quote' (Procurement Form 1) with a detailed description and technical specifications of the goods/works/services required. The technical specifications must be sufficiently detailed that an interested bidder can clearly identify the type, quality, quantity, model, etc. of goods/works/services required, but not so specific as to eliminate competition. The 'Invitation to Quote' form must be signed by either the Head of the FIG/Society or the Head of the FIG/Society Procurement Committee before distribution.
2. The FIG/Society Procurement Committee distributes the 'Invitations to Quote' to three or more potential bidders and obtain receipts of delivery. All invitations must be distributed on the same day to allow sufficient time for the bidders to prepare their offers.

A minimum of one week must be allowed between the distribution of the Invitations to Quote and the deadline for submission of offers.

3. Bidders must present their offers in sealed envelopes in the format in Form 1 to the designated FIG/Society at the location specified or designated member of the procurement committee can collect the quotations from the bidders before the submission deadline specified in the Invitation to Quote. A minimum of five members of the community will form the Bid Opening Committee. (These members may or may not be from the FIG/Society Procurement Committee). The Bid Opening Committee holds a formal 'bid opening' meeting [A resolution]. The bid opening meeting is usually held within an hour after the bid submission deadline. The bid opening meeting should be "public" (where bidders who may choose to participate in the bid opening would be free to participate) for Procurement of all Goods, Services and works. To encourage social audit, two to five members from the community who are not members of the FIG/Society Procurement Committee shall also choose to attend the bid-opening meeting as observers. The Committee members open the envelopes of the offers received before the submission deadline. A member of the Committee reads out the name of each bidder and the total amount of each offer. Each member of the Committee signs (or puts a thumb-print) with the date on each page of each opened offer. One member of the Committee prepares a minute of the bid opening meeting. The minutes lists the persons who participated in the bid opening, the number of offers received before the submission deadline, the names of the bidders, the bid prices, the number and names of the bidders whose offers were returned unopened due to submission of the offers after the deadline for receipt of the bids as stated in the invitation to quote. The opened offers are then provided to a Bid Evaluation Committee.
4. The offers must be evaluated by a Bid Evaluation Committee comprising a minimum of 5 members. The committee shall be the same as the FIG/Society procurement Committee. The majority of the members must ideally belong to the FIG/Society itself. If none of the community members have the technical know-how required for the evaluation, one or one or two persons from the PEAs, who possesses the required know-how will also form part of the Committee.
5. The FIG/Society Bid Evaluation Form (Procurement Form 2) should be used for the evaluation of the offers. The price, delivery time, delivery place, compliance to the required technical specifications, warranty period (if any), and technical qualifications (expertise) and performance record of the bidders are aspects of offers that must be taken into consideration. The offer which is the lowest priced, technically complete offer from a qualified supplier/contractor is recommended for award of the contract by the Bid Evaluation Committee. In those cases where the contract is recommended to a bidder other than that with the lowest priced offer, a detailed justification must also be recorded by the Bid Evaluation Committee. The recommendations of bid evaluation committee are recorded in Form 2 and the form is signed by all members of the Bid Evaluation Committee. This forms the recommendation of the Bid Evaluation Committee to the Head of the FIG/Society.
6. On delivery of the ordered goods or completion of the ordered works/services, an inspection is made of the same by the Social Audit Committee [SAC] and the PEAs.
7. Steps for Procurement [Competitive Shopping Procedures]
 - Step-I Formation of a Purchase (Procurement) committee.
 - Step –II Approval of Sequence of activities and procurement need.
 - Step-III Invitation of Quotation(s) Step-IV Evaluation of Offers by procurement committee.
 - Step –V Issue of purchase order by the (Procurement) community.

Step-VI Inspection of Goods / materials by procurement committee and recommendation for payment.

Step –VII Social Audit/Accountability.

8. Training on Procurement Procedures Training on procurement procedures shall be imparted to the members of the community by the Project on procurement at regular interval. Project may take the assistance of Consultant/NGO in this regard. The procurement sub Committee members will surely be trained on financial and procurement issues thoroughly.
9. Social Disclosure To maintain community level transparency in procurement of Goods, Works, Services, the procurement committee will inform through a public notice board/newspaper [if required and deemed fit] to the community at every stage so that everyone is aware of the procurement and can offer their suggestions and give useful information. The notice Board shall establish in common places accessible to all members of the community. In the notice Board it should also be mentioned that any member of the community can give his/her suggestion within three days of display in the notice Board.

PROCUREMENT PROCEDURE

Inputs Required By community	Procurement By
a) Work component:-	
i. Construction of mithun shelter	Procurement by community
ii. Construction of water trough	Procurement by community
iii. Construction of water supply inlet tank	Procurement by community
iv. Fencing of grazing area	Procurement by community
v. Construction of travis	Procurement by community
b) Purchase of Goods:-	
i. Fencing materials, barbed wire, wooden poles etc	Procurement by community.
ii. Purchase of mineral mixtures	Procurement by SPMU
c) Purchase of material Equipment	
i. Travis	Procurement will be carried out by SPMU.
d) For hiring services to prepare plan estimate for any works.	Procurement will be carried out by SPMU
e) third party monitoring consultancy, training by individual consultant or Institutional ties-ups	Shall be procured by SPMU to assist the Community following the procedures laid down by the Procurement manual of the Project.

Community Procurement guidelines may supersede the operational guidelines including cost norms.

Procurement Form 1		
Procurement Process through Community Based organization		
FIG/Societys Name:		
Sr. No.	Detail	
	Name of Goods/Works	
	Date of Invitation Quotation	
	Name of Parties to whom Quotation notices are issued	
	Date and Name of Parties, submitted the Quotation	Date
		Date
		Date
		Date
		Date
	Date of Opening of Quotation	
	Date of Comparative Statement Prepared	
	Name of Procurement committee	1
		2
		3
		4
		6
		7
		8
		9
	Date of approval of quotation by committee	
	Name of the Contract Awarded party	
	Date of Work Order	
	Contract Amount	
	Time line	
	Date of completion	
	Certificate for received of goods as per specified procurement notice	
	Fixed Assets Registered Number	
Note: Attach Bid opening minutes & Work order for the relative procurement		
	Name & signature with stamp	Name & signature with stamp
	Secretary	President

Procurement Form 2							
COMPARATIVE STATEMENT							
Name of FIG/Society:							
Name of Work:							
Sr. No	Description of Services	Unit	Name of Party				
			Rate (Rs.)	Rate (Rs.)	Rate (Rs.)	Rate (Rs.)	Rate (Rs.)

..... Parties submitted their sealed quotations and the quotations were opened in presence of the Executive committee authorised by FIG/Society.

Name of Committee member:

- | | |
|-----|-----|
| 1) | 2) |
| 3) | 4) |
| 5) | 6) |
| 7) | 8) |
| 9) | 10) |
| 11) | 12) |
| 13) | 14) |

The committee evaluated on the basis of rates quoted by the above said parties excluding sales tax. (Taxes will be paid extra as applicable.)

The rate quoted by is the lowest rate.

..... is recommended for approval.

Signature by approval committee

Estimate for Pasture Improvement (5 Ha)

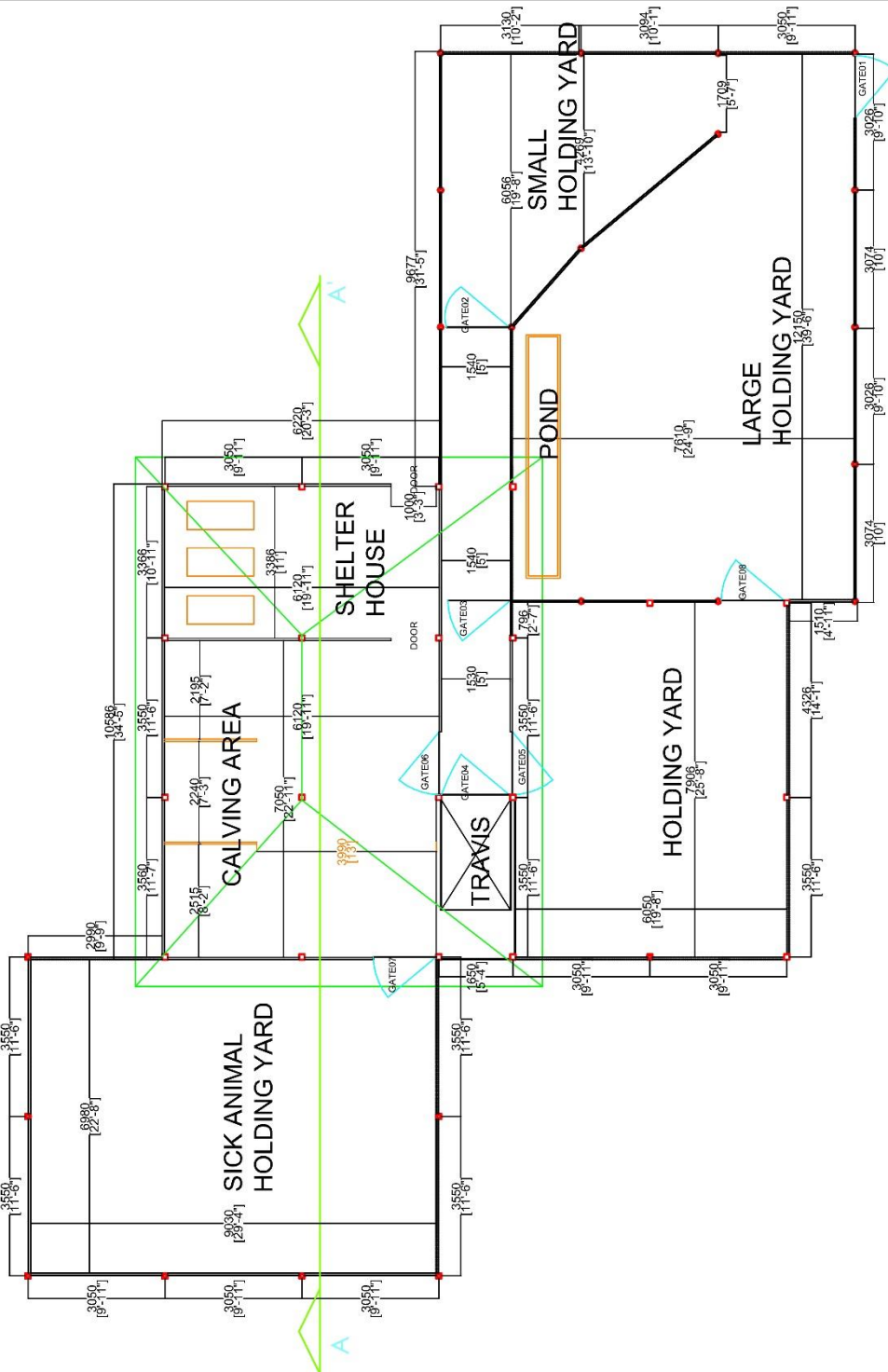
SI No	Item of Investment	Cost
A. NON-RECURRING EXPENDITURE		
1.	Demarcation of boundary, fencing (trench/brushwood/barbed wire)	50000.00
2.	Land development (5 hectares)	50000.00
3.	Farm shed – for equipment, seed, manure and office	75000.00
4.	Agriculture implements	25000.00
5.	Irrigation facilities- water tank, pumps, pipelines	175000.00
	Sub-total	375000.00
B. RECURRING EXPENDITURE		
i.	Wages of supervisory staff	20000.00
ii.	Seeds, fertiliser/manure, insecticide	20000.00
iii.	Cultivation charge	50000.00
iv.	Electricity/fuel charge	15000.00
v.	Maintenance of store/dead stock	15000.00
vi.	Miscellaneous and unforeseen expenses	15000.00
	Sub-total	135000.00
	Grand Total	510000.00

VII. DRAWING

**MITHUN SHELTER
&
DRINKING TROUGH
DRAWING FOR
FOCUS MODEL**



MITHUN SHELTER



MITHUN SHELTER PLAN

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED
2. NO CHANGE IN DRAWINGS OR DESIGN SHALL BE MADE WITHOUT THE PERMISSION OF THE ARCHITECT OR ENGINEER
3. ALL WORKS SHOULD BE CARRIED OUT AS STATED IN THE DRAWINGS

[Redacted]

PROJECT : MITHUN SHELTER & DRINKING TROUGH

LOCATION : FOCUS MODEL.

DRAWN BY : FOCUS MIZORAM

[Redacted]

[Redacted]

TITLE

PLAN OF MITHUN SHELTER HOUSE

[Redacted]





GENERAL NOTES:

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED
2. NO CHANGE IN DRAWINGS OR DESIGN SHALL BE MADE WITHOUT THE PERMISSION OF THE ARCHITECT OR ENGINEER
3. ALL WORKS SHOULD BE CARRIED OUT AS STATED IN THE DRAWINGS



PROJECT : MITHUN SHELTER & DRINKING TROUGH

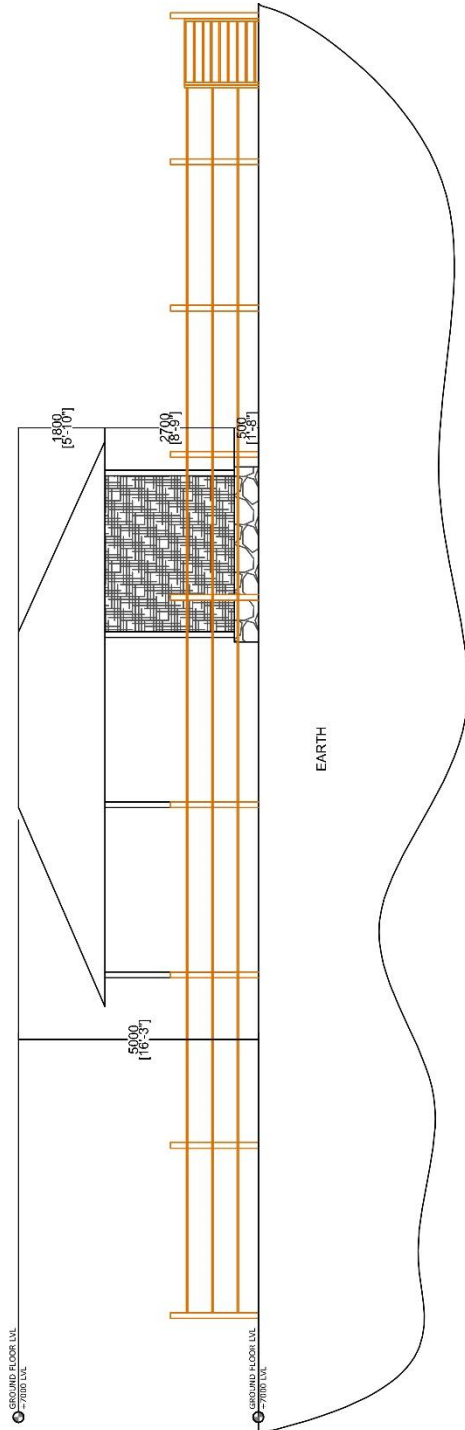
LOCATION : FOCUS MODEL

DRAWN BY : FOCUS MIZORAM



TITLE

**SIDE ELEVATION
OF MITHUN
SHELTER HOUSE**



MITHUN SHELTER SIDE ELEVATION



GENERAL NOTES:

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3. ALL WORKS SHOULD BE CARRIED OUT AS STATED IN THE DRAWINGS



PROJECT : MITHUN SHELTER & DRINKING TROUGH

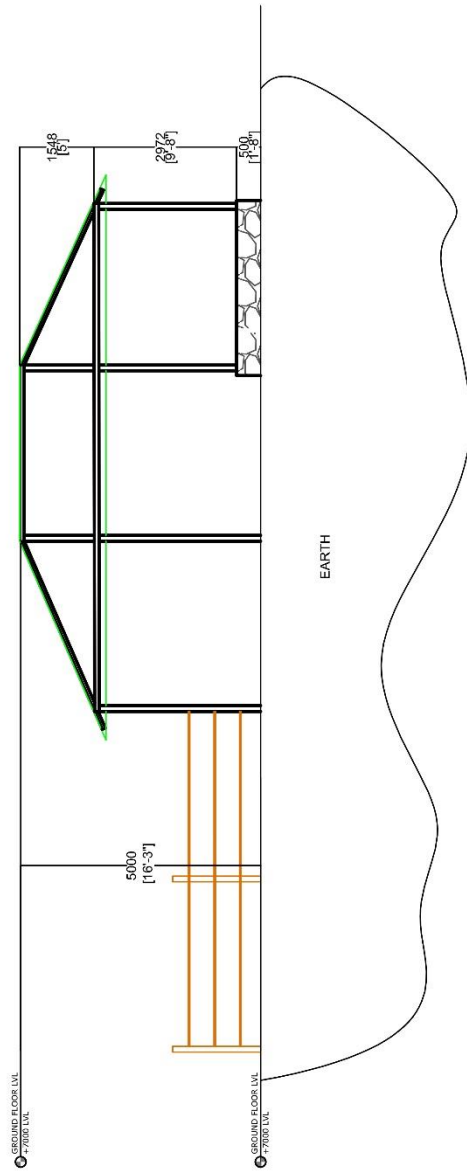
LOCATION : FOCUS MODEL

DRAWN BY : FOCUS MIZORAM

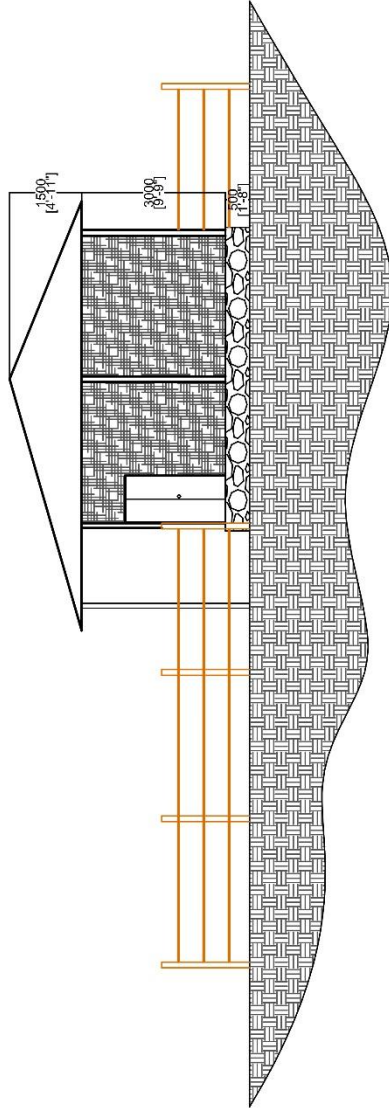


TITLE

SECTION OF MITHUN SHELTER HOUSE



MITHUN SHELTER SECTION A-A'



MITHUN SHELTER FRONT ELEVATION

GENERAL NOTES:

1. ALL DIMENSIONS ARE IN MM UNLESS OTHERWISE SPECIFIED
2. NO CHANGE IN DRAWINGS OR DESIGN SHALL BE MADE WITHOUT THE PERMISSION OF THE ARCHITECT OR ENGINEER
3. ALL WORKS SHOULD BE CARRIED OUT AS STATED IN THE DRAWINGS



PROJECT : MITHUN SHELTER & DRINKING TROUGH

LOCATION : FOCUS MODEL

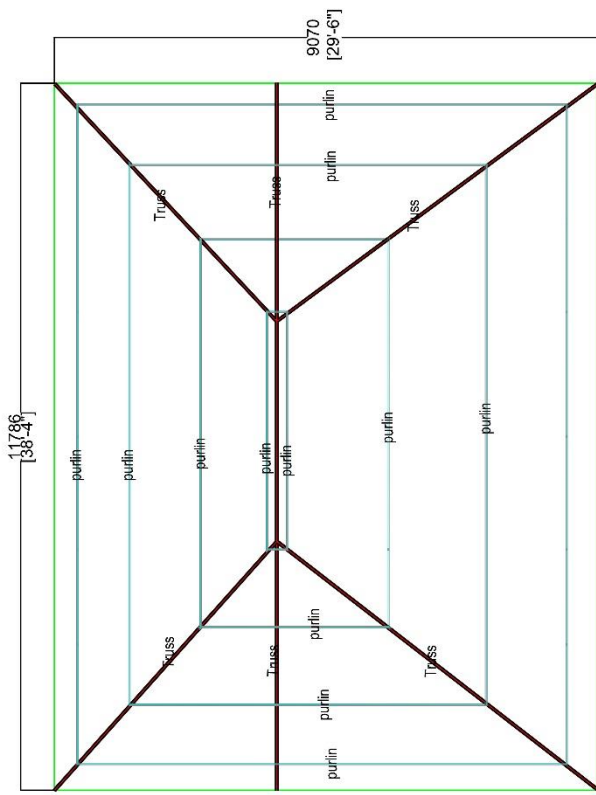
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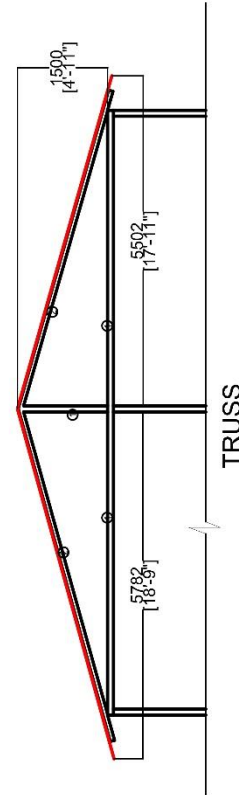
TITLE

**FRONT ELEVATION
OF MITHUN
SHELTER HOUSE**





MITHUN SHELTER ROOF PLAN



All joints are bolted

Member No.	SIZE
1	100x100
2	100x75

PURLIN 50x35mm wood

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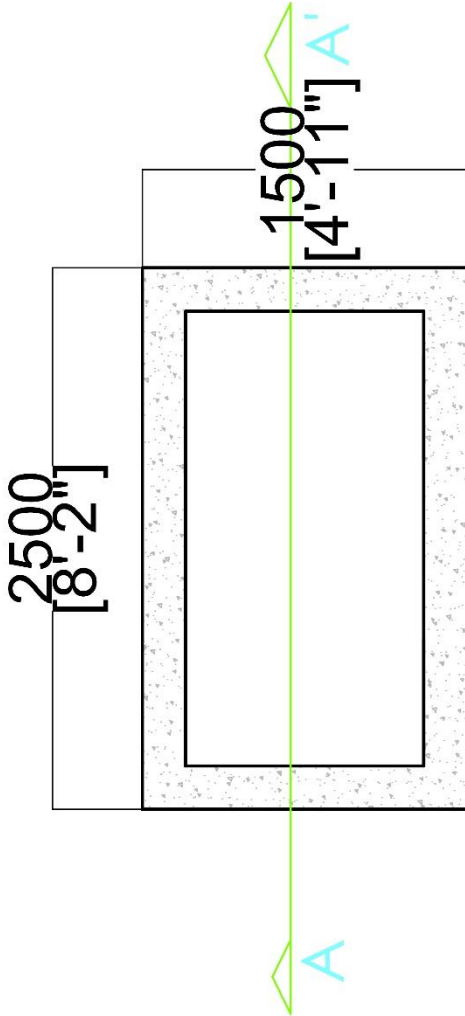
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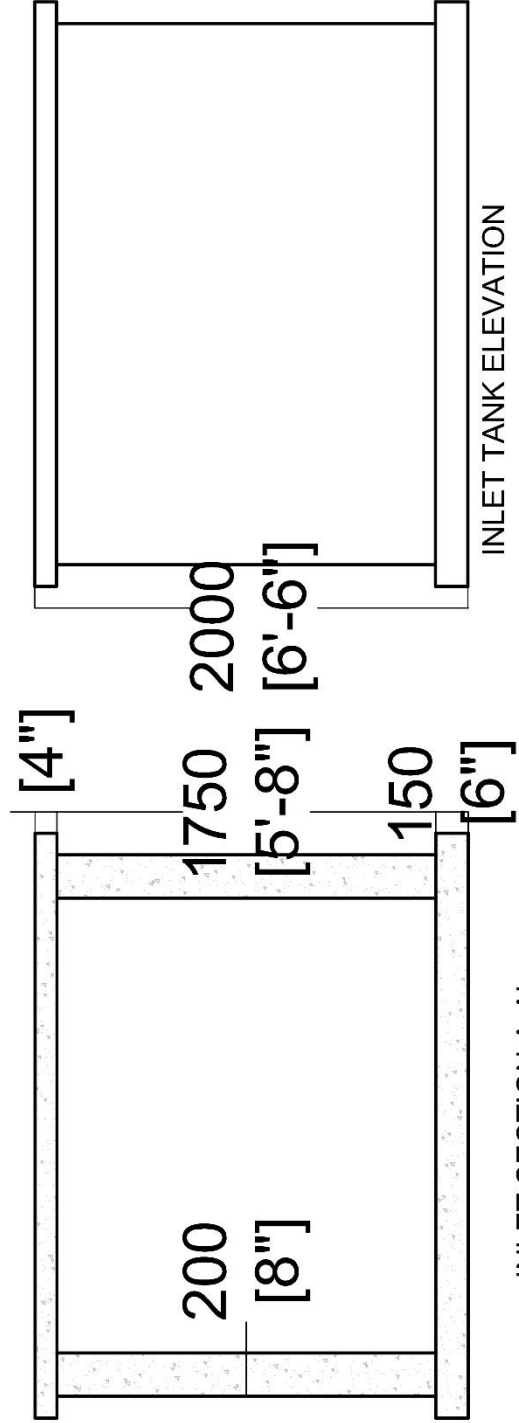
PLAN OF MITHUN SHELTER HOUSE



INLET TANK 2.5MX1.5MX2M



INLET TANK PLAN
100



INLET SECTION A-A'

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LOCATION : FOCUS MODEL

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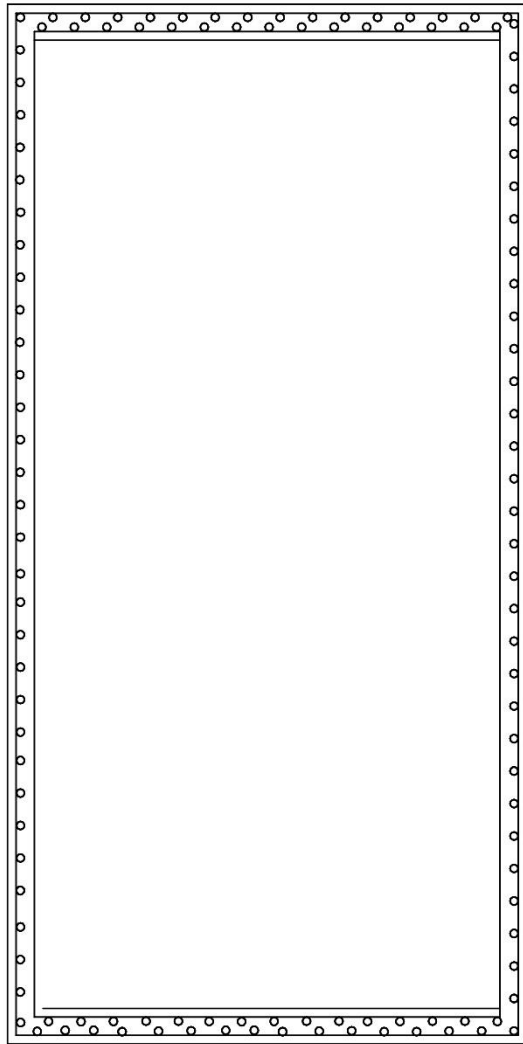
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INLET WATER TANK
DETAILS

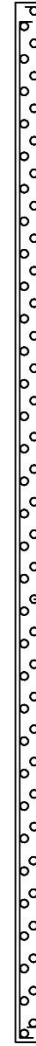
FOCUS MIZORAM



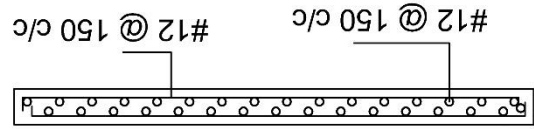
INLET TANK REINFORCEMENT



Reinforcement



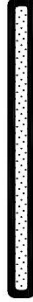
Top and Bottom slab Reinforcement



wall reinforcement

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LOCATION : FOCUS MODEL

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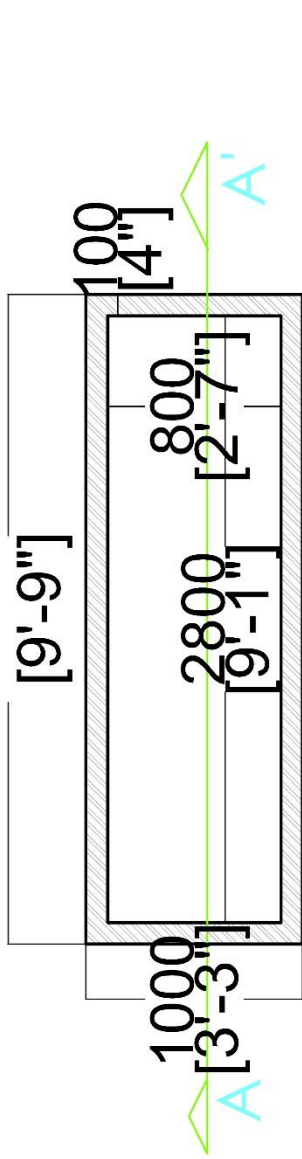


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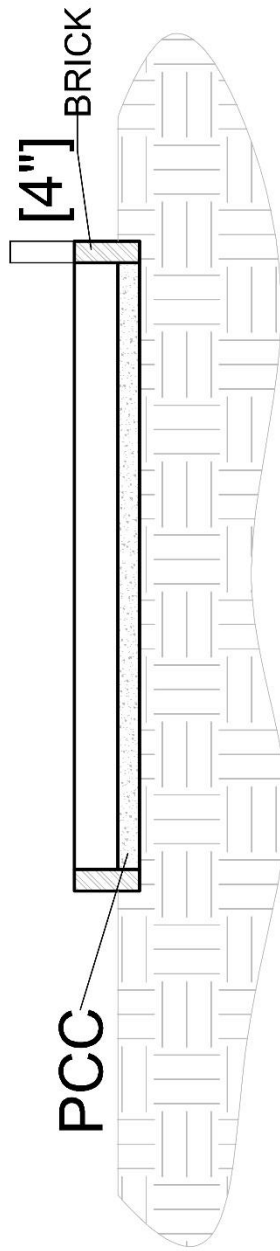
INLET WATER TANK REINFORCEMENT DETAILS



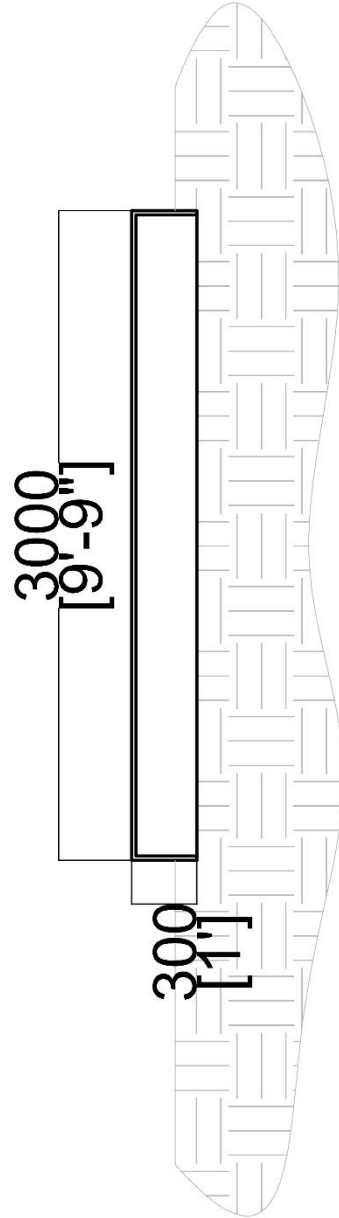
MITHUN WATER TROUGH 3000



WATER TROUGH PLAN



WATER TROUGH SECTION A-A'



WATER TROUGH ELEVATION

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PROJECT : MITHUN SHELTER & DRINKING TROUGH

LOCATION : FOCUS MODEL.

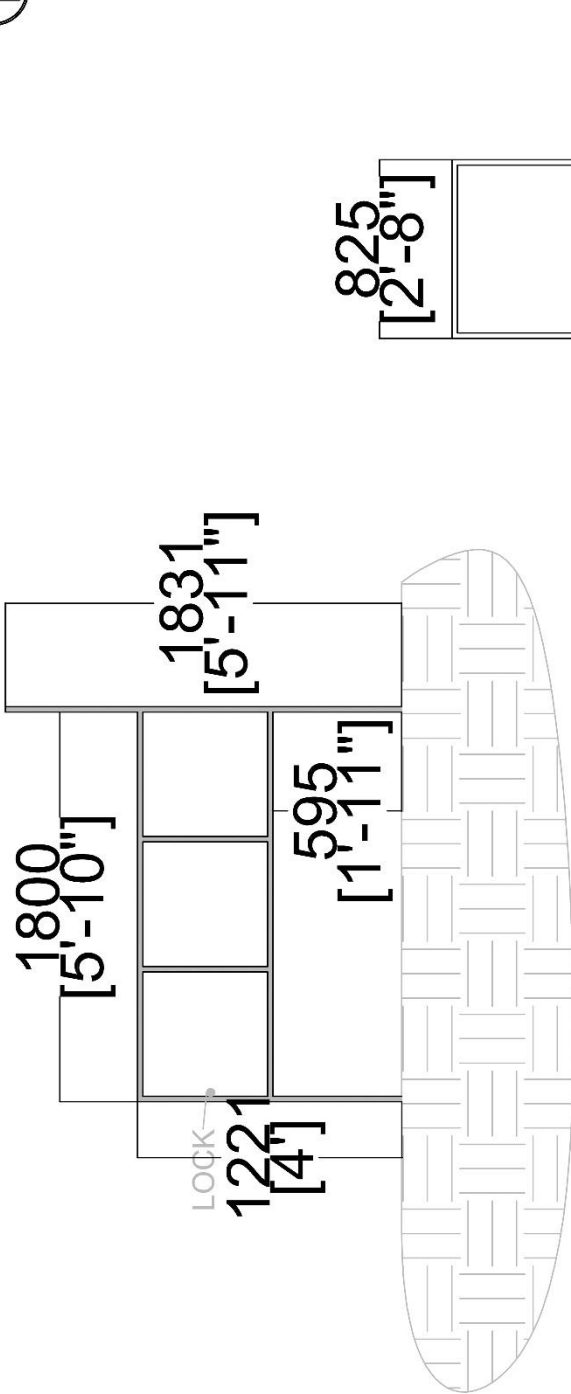
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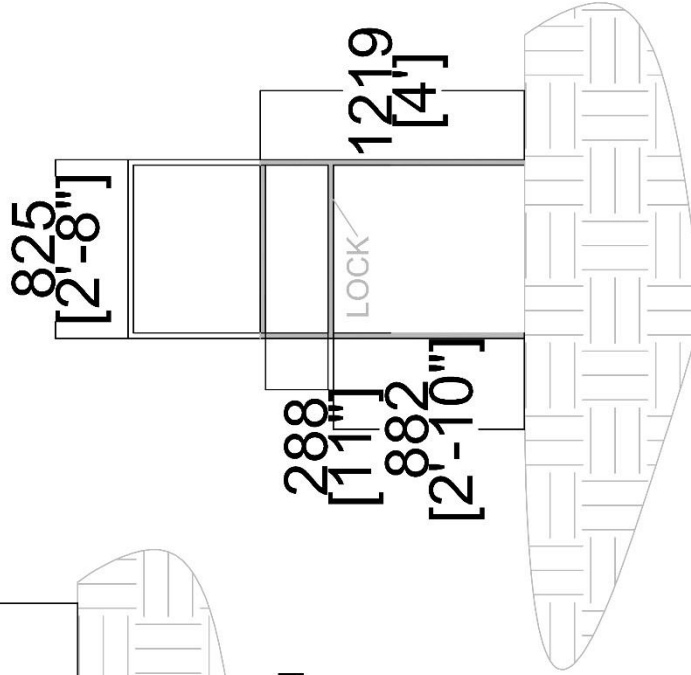
TITLE

DRINKING TROUGH
DETAILS





MITHUN TRAVIS FRONT ELEVATION



MITHUN TRAVIS BACK ELEVATION

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LOCATION : FOCUS MODEL

DRAWN BY : FOCUS MIZORAM



TITLE

MITHUN TRAVIS

