PROJECT REPORT

Of

RCC SPUN PIPE

PURPOSE OF THE DOCUMENT

This particular pre-feasibility is regarding **RCC Spun Pipes**

The objective of the pre-feasibility report is primarily to facilitate potential entrepreneurs in project identification for investment and in order to serve his objective; the document covers various aspects of the project concept development, start-up, marketing, finance and management.

[We can modify the project capacity and project cost as per your requirement. We can also prepare project report on any subject as per your requirement.]

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PROJECT AT A GLANCE

1	Name of the Entreprenuer		XXXXXXX	
2	Constitution (legal Status)	:	XXXXXXX	
3	Father's / Spouce's Name		XXXXXXXX	
4	Unit Address	:	XXXXXXXX	
			Taluk / Block:	
			District :	XXXXX
			State:	XXXXX
			Pin:	XXXXX
			E-Mail :	XXXXX
			Mobile	XXXXX
5	Product and By Product	:	RCC Spun Pipe	
6	Name of the project / business activity proposed :		Manufacturing Unit of RCC Spun Pipe	
7	Cost of Project	:	Rs. 75.55 Lacs	
8	Means of Finance			
	Term Loan		Rs. 48.00 Lacs	
	KVIC Margin Money		As per Project Eligibility	
	Own Capital		Rs. 7.56 Lacs	
9	Debt Service Coverage Ratio	:	1.86	
10	Pay Back Period	:	5 Years	Years
11	Project Implementation Period	:	8 Months	Months
12	Break Even Point	:	50%	
13	Employment	:	19	
14	Power Requirement	:	20	kW
15	Major Raw materials	:	Cement, Steel, Coarse and Fine Aggregates etc.	
16	Estimated Annual Sales Turnover	:	Rs. 140.00 Lacs	
17	Detailed Cost of Project & Means of Finance			

COST OF PROJECT

MEANS OF FINANCE

(Rs. In Lacs)

Particulars	Amount	Particulars	Amount
Land	Rented / Owned	Own Contribution 10%	7.56
Building & Civil Work	25.00	Term Loan	48.00
Plant & Machinery	25.45	Working capital	20.00
Furniture & Fixtures	2.88		
Working Capital	22.22		
Total	75.55	Total	75.55

18 PLANT & MACHINERY

PARTICULARS	QTY.	RATE	AMOUNT IN RS.
Pipe Moulding Machine with Motor	1.00		3,00,000.00
Gauge Winding Machine	2.00		1,10,000.00
Concrete Mixer	1.00		1,10,000.00
Collar Winding drum with stand	2.00		75,000.00
Pipe moulds 100mm to 600mm dia 2 metre with accessories	40.00		8,00,000.00
Collar moulds complete with end rings	40.00		5,50,000.00
Gantry with pull-push trolley	1.00		3,00,000.00
Testing Equipments			1,00,000.00
Add: Electrification and Installation			2,00,000.00
TOTAL			25,45,000.00

R.C.C. Spun Pipe

INTRODUCTION

Reinforced Cement Concrete (RCC) Spun / Hume Pipes are generally used for water drainage,sewerage,culverts and irrigation. RCC Pipes are very much preferred for such usage because they are leak proof, are easily repairable and are non-reactive to sewerage toxins. Concrete Pipes has been estimated to easily last around 100 years and as such they are fit and forget solution which is why they are preferred over other materials for such usage.

Reinforced cement concrete spun pipes upto 1000 mm dia are exclusively reserved for manufacture in the MSME sector.

RCC Spun Pipes are classified as pressure and non-pressure pipes. viz NP1, NP2, NP3, P1, P2, P3 for use in specific conditions. RCC Hume Pipes are made from cement, coarse and fine aggregate, sand, mild steel and HT Rods and bars.

RCC Spun/Hume Pipes have been used around the world since 1926. RCC Hume Pipe,so called because it was developed by Sir Walter Hume from Australia in 1910.
RCC Hume Pipes (Also known as Spun Pipes) are used for sewerage, drainage, culverts, irrigation, water supply / transportation, service lines etc.

MARKET POTENTIAL

Public Health Engineering Department, Public Works Departments, Agriculture and Forest Department, National Highways, Environment Engineering Department, Panchayats Municipal Corporations are the bulk consumers of RCC spun pipes. Most of the customers are approved civil contractors who are executing the works of the Government Department and Public Sector Undertakings. Presently government is giving stress on rural irrigation and improving methods of water supply scheme, so the demand for pipes is increasing.

TECHNICAL ASPECTS

PROCESS OF MANUFACTURE

Mixture: According to mix design and regular checking aggregates, water and Cement are used by weight. Instructions are written on boards for proper mixtures. Instructions are given to consume mixture within 30 minutes for its proper strength. IS 456 is followed for this. The concrete mixture for the RCC spun pipe is prepared in proportion of 1:2:5:2:5 of cement stone, metal and sand respectively

Molding: All moulds are properly cleaned from Hand Grinder after opening. Proper supports are given for centering of cages. (If it is higher dia 2 cages are made as per IS:

458 and upper cage is always 75% of inner cage) Proper oiling is done on moulds as well as on bushes and rings. These are properly packed with tie rods and nut-bolts.

Manufacturing: The reinforced cage is first prepared on the cage-winding machine by hand process. The cage is then placed inside the pipe mould which is then hoisted up and mounted horizontally on the turn unions.

After molding, moulds are properly kept on runners with the help of Chain Pulleys. Initially while pouring the mixture RPM of machine is very slow for proper pouring and then RPM are up to 1500 as per the requirement of IS: 458. When the proper spinning is done it leaves extra water which gives the strength to the pipe.

It is rotated by driving shaft with variable speed arrangement, the rotation is kept slow in the beginning and then the speed is increased. The cement concrete is fed into the moulds during rotation which spreads inside evenly. The time required for completion of this operation depends upon the diameter and class of the pipe. The pipes are kept in the mould for 24 hours. On the following day the pipes are removed from the moulds and submersed in water in the curing tank for about 15-20 days depending upon the class of the pipe. The specimens of the pipes are subject to the following tests viz: (1) Hydrostatic pressure test (2) Three edge bearing test (3) Absorption test.

After it, finishing of pipes is done by cutting from rods and brushes.

Demolding: While demolding, with the help of Chain pulleys moulds are separated. Moulds are demoulded after 24 hours for proper quality of pipes.

Marking: After manufacturing process, all pipes are marked and dated from permanent marker. Supervisor record all these marked numbers in front of tagged numbers and afterwards these are stored in Computer by date and marked number wise with the weight of cages.

Curing: After Demoulding with the help of Trolleys, Hydra and ceilings pipes are kept in curing tanks for proper curing. Rotation of pipes is done daily and 24 hours Sprinklers are on. After 28 days curing pipes are taken out from tanks and storage is done.

QUALITY CONTROL AND STANDARDS

The Bureau of Indian Standards has formulated IS 458:1971, for maintaining Quality of the product.

PRODUCTION CAPACITY (PER YEAR)

Quantity	20,000 Running meter

Motive Power	20kW.

POLLUTION CONTROL

The project does not create any noise or water pollution. The air pollution in mixing area need to be contained by providing cyclonic dust collector. Workers may use dust mask.

ENERGY CONSERVATION

General precautions for saving electricity are required to be followed by the unit by adopting energy conservation techniques.

MACHINERY AND EQUIPMENTS

S.no.	Description		Qty. nos.
1	Pipe moulding machine of 2 metre length complete set with 10HP motor		1
2	Gauge winding machine		2
3	Concrete mixer		1
4	Collar winding drum with stand		2
5	Gantry with pull-push trolley		1
6	Testing equipments		LS
7	Collar moulds complete with end rings, tie rods, riving ring for pipes 100mm to 600mm dia and 2 metre length pipes		40
8	Pipe moulds 100mm to 600mm dia 2 metre with accessories		40
9	Electrification and installation charges		LS

PROJECTED BALANCE SHEET

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
SOURCES OF FUND					
Capital Account	7.56	7.56	7.56	7.56	7.56
Retained Profit	10.42	21.17	33.52	48.35	66.74
Term Loan	45.18	33.90	22.62	11.34	-
Cash Credit	25.00	25.00	25.00	25.00	25.00
Sundry Creditors	3.00	3.07	3.37	3.73	4.10
Provisions & Other Liab	0.50	0.60	0.66	0.73	0.80
TOTAL :	**91.65**	**91.29**	**92.71**	**96.70**	**104.19**
APPLICATION OF FUND					
Fixed Assets (Gross)	53.33	53.33	53.33	53.33	53.33
Gross Dep.	6.46	12.23	17.26	21.65	25.48
Net Fixed Assets	46.87	41.10	36.07	31.68	27.85
Current Assets					
Sundry Debtors	16.80	18.48	20.28	22.32	24.60
Stock in Hand	14.00	20.00	25.00	30.00	35.00
Cash and Bank	11.98	9.51	8.94	10.04	13.81
Other Current Assets	2.00	2.20	2.42	2.66	2.93
TOTAL :	**91.65**	**91.29**	**92.71**	**96.70**	**104.19**
	-	-	-	-	-

PROJECTED CASH FLOW STATEMENT

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
SOURCES OF FUND					
Share Capital	7.56	-			
Reserve & Surplus	13.89	14.34	16.46	19.78	24.52
Depriciation & Exp. W/off	6.46	5.77	5.03	4.39	3.83
Increase in Cash Credit	25.00	-	-	-	-
Increase In Term Loan	48.00	-	-	-	-
Increase in Creditors	3.00	0.07	0.30	0.37	0.37
Increase in Provisions	0.50	0.10	0.06	0.07	0.07
TOTAL :	**104.40**	**20.28**	**21.85**	**24.60**	**28.79**
APPLICATION OF FUND					
Increase in Fixed Assets	53.33	-	-	-	-
Increase in Stock	14.00	6.00	5.00	5.00	5.00
Increase in Debtors	16.80	1.68	1.80	2.04	2.28
Increase in Other Current Assets	2.00	0.20	0.22	0.24	0.27
Repayment of Term Loan	2.82	11.28	11.28	11.28	11.34
Taxation	3.47	3.59	4.11	4.94	6.13
TOTAL :	**92.42**	**22.75**	**22.41**	**23.51**	**25.02**
Opening Cash & Bank Balance	-	11.98	9.51	8.94	10.04
Add : Surplus	11.98	- 2.47	- 0.57	1.09	3.78
Closing Cash & Bank Balance	**11.98**	**9.51**	**8.94**	**10.04**	**13.81**

PROJECTED PROFITABILITY STATEMENT

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
Capacity Ulisation %					
A) SALES					
Gross Sale	140.00	154.00	169.00	186.00	205.00
Total (A)	**140.00**	**154.00**	**169.00**	**186.00**	**205.00**
B) COST OF SALES					
Raw Material	90.00	92.00	101.00	112.00	123.00
Elecricity Expenses	3.58	3.94	4.33	4.77	5.24
Repair & Maintenance	2.80	3.08	3.38	3.72	4.10
Labour & Wages	12.96	14.26	15.68	17.25	18.97
Depriciation	6.46	5.77	5.03	4.39	3.83
Other Direct Expenses	3.92	4.31	4.73	5.21	5.74
Cost of Production	119.72	123.36	134.16	147.33	160.89
Add: Opening Stock /WIP	-	14.00	20.00	25.00	30.00
Less: Closing Stock /WIP	14.00	20.00	25.00	30.00	35.00
Cost of Sales (B)	105.72	117.36	129.16	142.33	155.89
C) GROSS PROFIT (A-B)	34.28	36.64	39.84	43.67	49.11
	24%	**24%**	**24%**	**23%**	**24%**
D) Bank Interest (Term Loan)	3.96	4.50	3.26	2.02	0.78
Bank Interest (C.C. Limit)	2.75	2.75	2.75	2.75	2.75
E) Salary to Staff	5.28	5.81	6.39	7.03	7.73
F) Selling & Adm Expenses Exp.	8.40	9.24	10.99	12.09	13.33
TOTAL (D+E)	**20.39**	**22.30**	**23.39**	**23.89**	**24.59**
H) NET PROFIT	13.89	14.34	16.46	19.78	24.52
I) Taxation	3.47	3.59	4.11	4.94	6.13
J) PROFIT (After Tax)	10.42	10.76	12.34	14.83	18.39
K) DIVIDEND	-	-	-	-	-
L) RETAINED PROFIT	10.42	10.76	12.34	14.83	18.39

COMPUTATION OF WORKING CAPITAL REQUIREMENT

Particulars	Total		Own		Bank
	Amount		Margin		Finance
Stock in Hand	14.00	25%	3.50	75%	10.50
Sundry Debtors	16.80	25%	4.21	75%	12.59
	30.80		7.71		23.09
Sundry Creditors	3.00		-		3.00
	27.80		**7.71**		**20.09**
WORKING CAPITAL (HYP) FRESH DEMAND			**20.00**		

BREAK UP OF LABOUR

Particulars		Wages	No of	Total
		Per Month	Employees	Salary
Skilled Worker		8,000.00	6	48,000.00
Unskilled Worker		6,000.00	10	60,000.00
				1,08,000.00

12.96

BREAK UP OF SALARY

Particulars		Salary	No of	Total
		Per Month	Employees	Salary
Manager		20,000.00	1	20,000.00
Accountant		14,000.00	1	14,000.00
Supervisor		10,000.00	1	10,000.00
Total Salary Per Month				44,000.00

5.28

COMPUTATION OF ELECTRICITY

(A) POWER CONNECTION				
Electric Load Required			20	kW
Load Factor			0.746	
Total Working Days			300	
Electricity Charges			8	Rs / unit
No. of hours / day			10	hours
Total Power Expenses			358080.00	
			3.58	Rs. In Lacs

COMPUTATION OF DEPRECIATION

Description	Land	Building	Plant & Machinery	Furniture	**TOTAL**
Rate of Depreciation		**10.00%**	**15.00%**	**10.00%**	
Opening Balance	Leased	-	-	-	-
Addition	-	25.00	25.45	2.88	53.33
	-	25.00	25.45	2.88	53.33
Less : Depreciation	-	2.50	3.82	0.14	6.46
WDV at end of Ist year	-	22.50	21.63	2.74	46.87
Additions During The Year	-	-	-	-	-
	-	22.50	21.63	2.74	46.87
Less : Depreciation	-	2.25	3.24	0.27	5.77
WDV at end of IInd Year	-	20.25	18.39	2.46	41.10
Additions During The Year	-	-	-	-	-
	-	20.25	18.39	2.46	41.10
Less : Depreciation	-	2.03	2.76	0.25	5.03
WDV at end of IIIrd year	-	18.23	15.63	2.22	36.07
Additions During The Year	-	-	-	-	-
	-	18.23	15.63	2.22	36.07
Less : Depreciation	-	1.82	2.34	0.22	4.39
WDV at end of IV year	-	16.40	13.29	1.99	31.68
Additions During The Year	-	-	-	-	-
	-	16.40	13.29	1.99	31.68
Less : Depreciation	-	1.64	1.99	0.20	3.83
WDV at end of Vth year	-	14.76	11.29	1.80	27.85

REPAYMENT SCHEDULE OF TERM LOAN

11%

Year	Particulars	Amount	Addition	Total	Interest	Repayment	CI Balance
IST YEAR	Opening Balance						
	Ist Quarter	-	48.00	48.00	-	-	48.00
	Iind Quarter	48.00	-	48.00	1.32	-	48.00
	IIIrd Quarter	48.00	-	48.00	1.32	-	48.00
	Ivth Quarter	48.00	-	48.00	1.32	2.82	45.18
					3.96	2.82	
IIND YEAR	Opening Balance						
	Ist Quarter	45.18	-	45.18	1.24	2.82	42.36
	Iind Quarter	42.36	-	42.36	1.16	2.82	39.54
	IIIrd Quarter	39.54	-	39.54	1.09	2.82	36.72
	Ivth Quarter	36.72		36.72	1.01	2.82	33.90
					4.50	11.28	
IIIRD YEAR	Opening Balance						
	Ist Quarter	33.90	-	33.90	0.93	2.82	31.08
	Iind Quarter	31.08	-	31.08	0.85	2.82	28.26
	IIIrd Quarter	28.26	-	28.26	0.78	2.82	25.44
	Ivth Quarter	25.44		25.44	0.70	2.82	22.62
					3.26	11.28	
IVTH YEAR	Opening Balance						
	Ist Quarter	22.62	-	22.62	0.62	2.82	19.80
	Iind Quarter	19.80	-	19.80	0.54	2.82	16.98
	IIIrd Quarter	16.98	-	16.98	0.47	2.82	14.16
	Ivth Quarter	14.16		14.16	0.39	2.82	11.34
					2.02	11.28	
VTH YEAR	Opening Balance						
	Ist Quarter	11.34	-	11.34	0.31	2.82	8.52
	Iind Quarter	8.52	-	8.52	0.23	2.82	5.70
	IIIrd Quarter	5.70	-	5.70	0.16	2.82	2.88
	Ivth Quarter	2.88		2.88	0.08	2.88	- 0.00
					0.78	11.34	

CALCULATION OF D.S.C.R

PARTICULARS	IST YEAR	IIND YEAR	IIIRD YEAR	IVTH YEAR	VTH YEAR
CASH ACCRUALS	16.88	16.53	17.37	19.22	22.22
Interest on Term Loan	3.96	4.50	3.26	2.02	0.78
Total	20.84	21.03	20.64	21.24	23.01
REPAYMENT					
Instalment of Term Loan	2.82	11.28	11.28	11.28	11.34
Interest on Term Loan	3.96	4.50	3.26	2.02	0.78
Total	6.78	15.78	14.54	13.30	12.12
DEBT SERVICE COVERAGE RATIO	**3.07**	**1.33**	**1.42**	**1.60**	**1.90**
AVERAGE D.S.C.R.			**1.86**		

BREAK EVEN POINT ANALYSIS

Year	I	II	III	IV	V
Net Sales & Other Income	140.00	154.00	169.00	186.00	205.00
Less : Op. WIP Goods	-	14.00	20.00	25.00	30.00
Add : Cl. WIP Goods	14.00	20.00	25.00	30.00	35.00
Total Sales	**154.00**	**160.00**	**174.00**	**191.00**	**210.00**
Variable & Semi Variable Exp.					
Raw Material & Tax	90.00	92.00	101.00	112.00	123.00
Electricity Exp/Coal Consumption at 85%	3.04	3.35	3.68	4.05	4.46
Manufacturing Expenses 80%	3.14	3.45	3.79	4.17	4.59
Wages & Salary at 60%	7.78	8.55	9.41	10.35	11.38
Selling & adminstrative Expenses 80%	8.96	9.86	11.49	12.65	13.94
Intt. On Working Capital Loan	2.75	2.75	2.75	2.75	2.75
Total Variable & Semi Variable Exp	**115.67**	**119.96**	**132.12**	**145.97**	**160.12**
Contribution	**38.33**	**40.04**	**41.88**	**45.03**	**49.88**
Fixed & Semi Fixed Expenses					
Manufacturing Expenses 20%	0.78	0.86	0.95	1.04	1.15
Electricity Exp/Coal Consumption at 15%	0.54	0.59	0.65	0.71	0.79
Wages & Salary at 40%	5.18	5.70	6.27	6.90	7.59
Interest on Term Loan	3.96	4.50	3.26	2.02	0.78
Depreciation	6.46	5.77	5.03	4.39	3.83
Selling & adminstrative Expenses 20%	2.24	2.46	2.87	3.16	3.49
Total Fixed Expenses	**19.17**	**19.89**	**19.03**	**18.23**	**17.62**
Capacity Utilization	**100%**	**100%**	**100%**	**100%**	**100%**
OPERATING PROFIT	**19.17**	**20.15**	**22.85**	**26.81**	**32.25**
BREAK EVEN POINT	**50%**	**50%**	**45%**	**40%**	**35%**
BREAK EVEN SALES	**77.00**	**79.48**	**79.08**	**77.31**	**74.20**

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