



TRANSPORT EVENTS



Jakarta, June 23-25 2015

# CONTAINERIZATION OF DRY BULK INCREASES PORT PROFITABILITY

B Velan

Managing Director







## Dimension of General Purpose Containers

CONTAINER				Capacity		Recommended Load Volume	
Nominal Dimension	Length	Width	Height	Cubic Feet	Cubic Meter	Cubic Feet	Cubic Meter
External	20'	8'	8' 6"				
	6.096 m	2.438 m	2.591 m				
Internal	19' 4.25"	7' 8.625"	7' 10"	1170 cft	33.131 cbm	1000 cft	28 cbm
	5.899 m	2.353 m	2.388 m				



## Common Dry Bulk Materials that can be handled in lined containers

- Alumina
- Abs resin
- Barley
- Wheat
- Cattle feed
- Cement
- Clay
- Coal
- Coffee beans
- Feldspar
- Rock phosphate
- Groundnuts
- Milk powder
- Polyester chips/pp/pe/nylon
- Pigments
- Flour
- Pvc resin
- Salt
- Seeds
- Sugar
- Soya beans
- Soda ash
- Tea Leaf
- Urea
- Detergents
- PTA
- Corn
- Lentils
- Peas
- Starch
- Chemicals



## **Chemicals**

ABS Resin  
Aluminium Powder  
Aluminium Resin  
Fertilisers (certain)  
Glass Beads  
Nylon Polyer Chip  
Polyester Granules  
Polyethylene Granules  
Polycarbonate Granules  
Polypropylene Granules  
PVC Granules  
PTA  
Soda Ash  
Catalysts (certain)  
PE Resin  
PP Resin  
PS Resin  
PVC Resin  
Pigments  
Zinc Powder  
Detergents

## **Foodstuffs**

Barley  
Cattle Feed  
Cocoa  
Coffee Beans  
Corn  
Fishmeal  
Flour  
Ground Nuts  
Lentils  
Milk Powder  
Mixed Grain Feed  
Nuts  
Peas  
Rice  
Salt  
Seeds  
Soya Beans  
Starch (certain)  
Sugar  
Tea Leaf  
Wheat



## **Minerals**

Anhydrite Binder

Bentonite Clay

Gypsum

Silica

Talcum Powder

Tri-poly Phosphate

Vanadium Slag

Aluminium Fluoride

Bleaching Earth

Zeolite



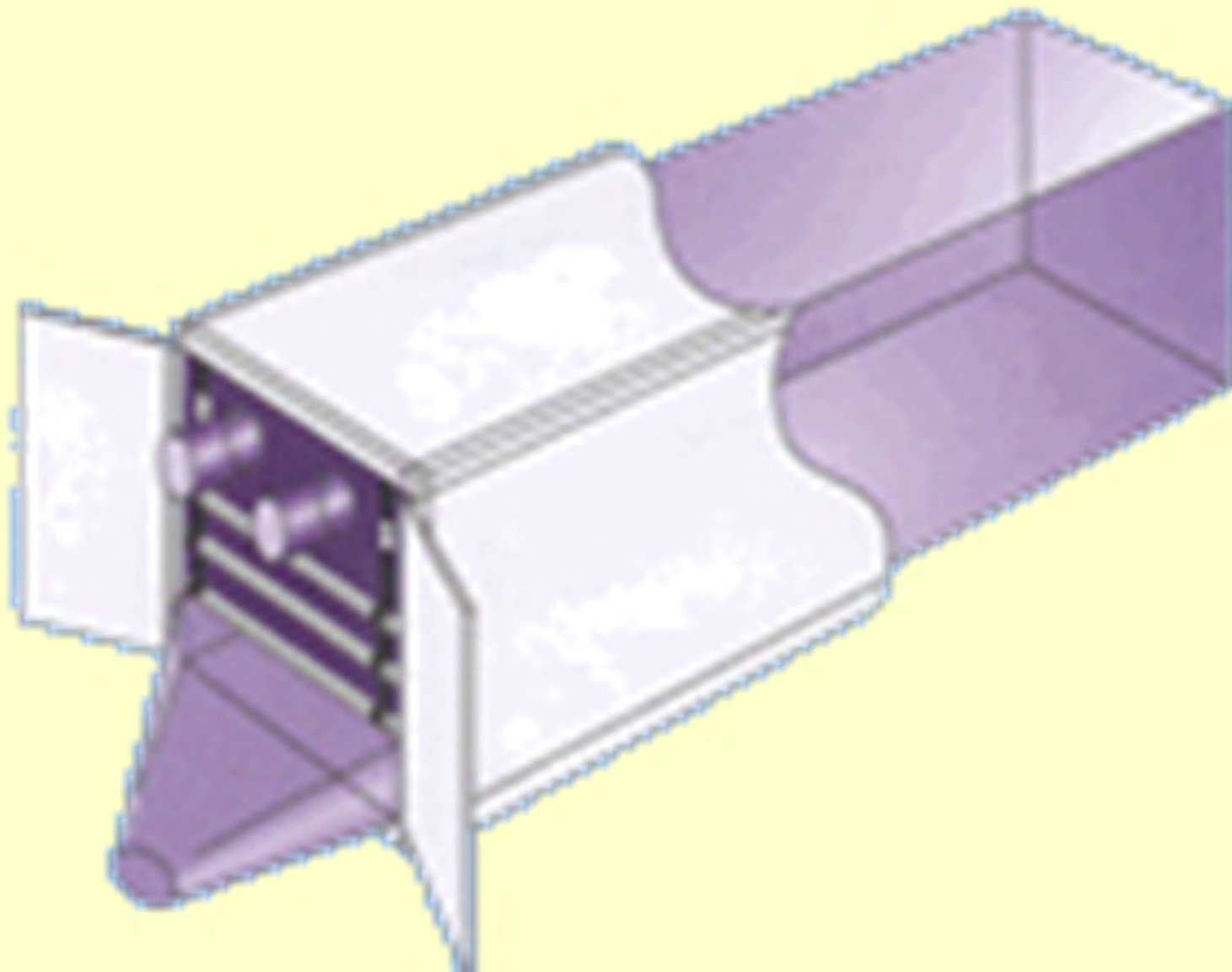
# SAMPLE STATISTICS

- Cement Production in 2104 in the Philippines – 21 million tonnes
- Assuming 90% is packed in 50kg bags, total no of bags:
  - 370 million
- Sugar Production, CY 13-14 1 million tonnes
  - No of bags of 50kg : 20 million

**NO OF BAGS PER YEAR: say 400 million**

**NO OF BAGS PER DAY: 1 Million**

**IF CONTAINERS REPLACE BAGS, NO OF CONTAINERS(at 25T per container) : 800000/yr**



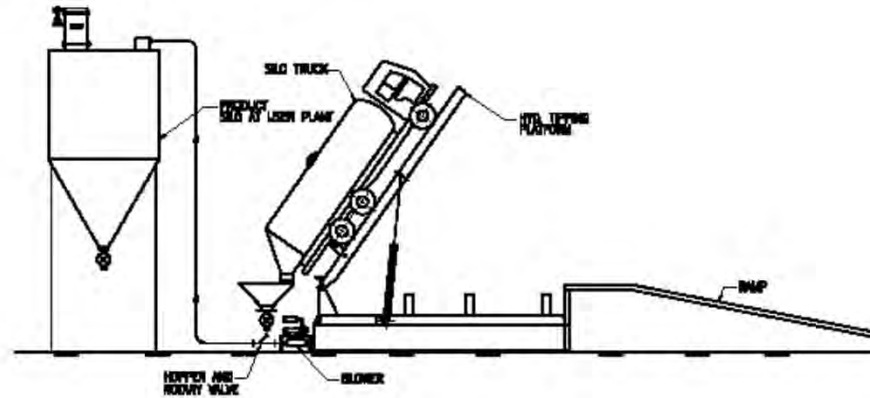
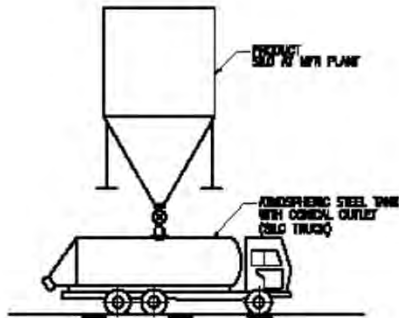
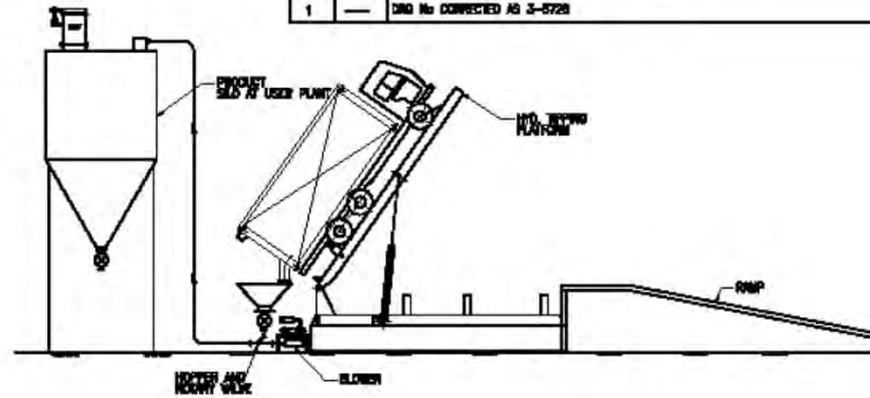
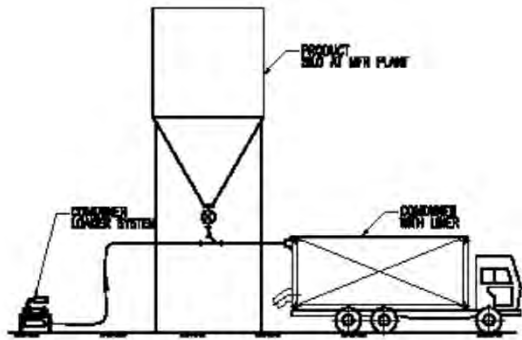







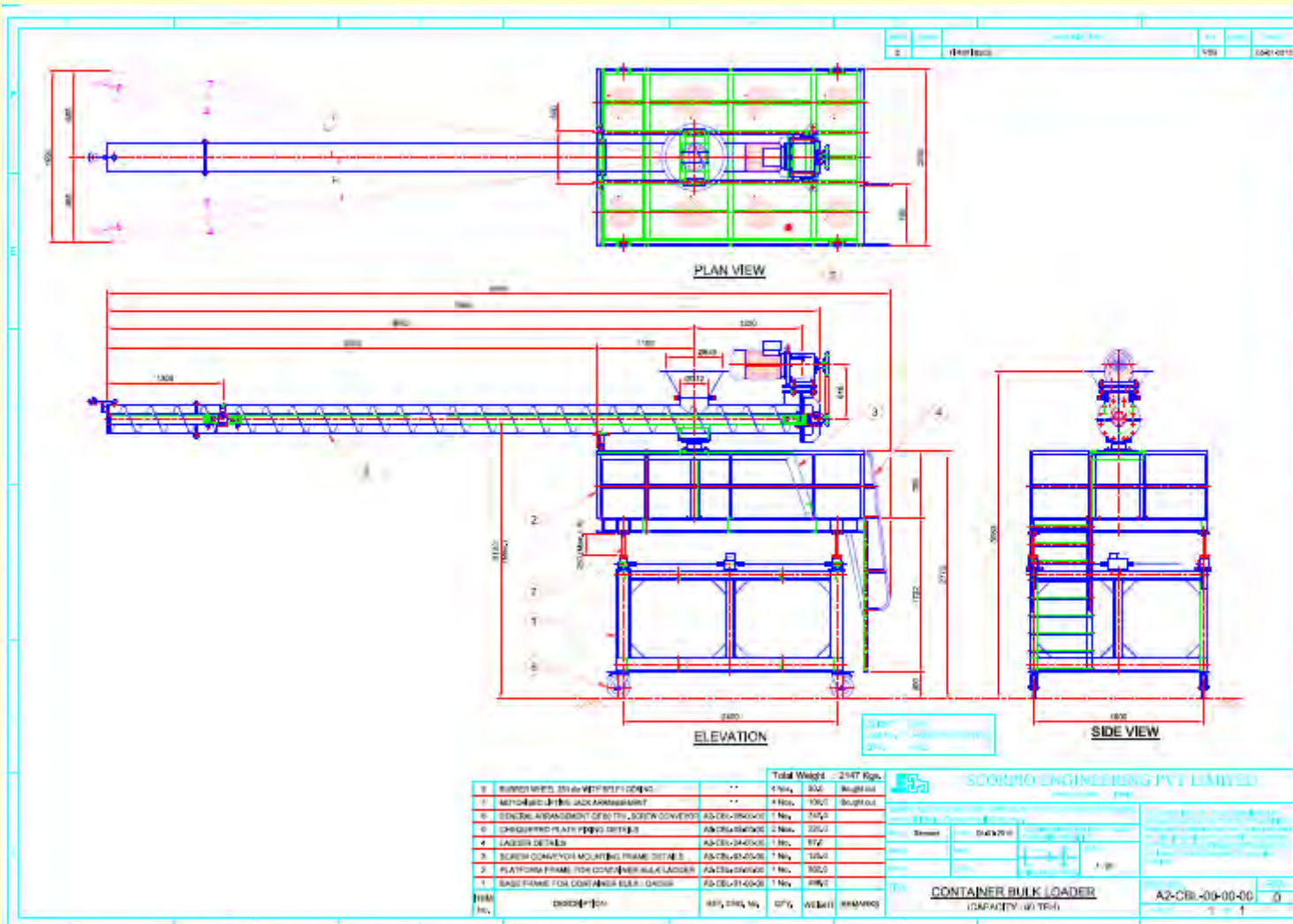
6 5 4 3 2 1

REV	ZONE	DESCRIPTION	BY	CHGD	DATE
0		FIRST ISSUE	RVK		30/08/11
1	---	DRG No CORRECTED AS 3-5726	RVK		17/1/12



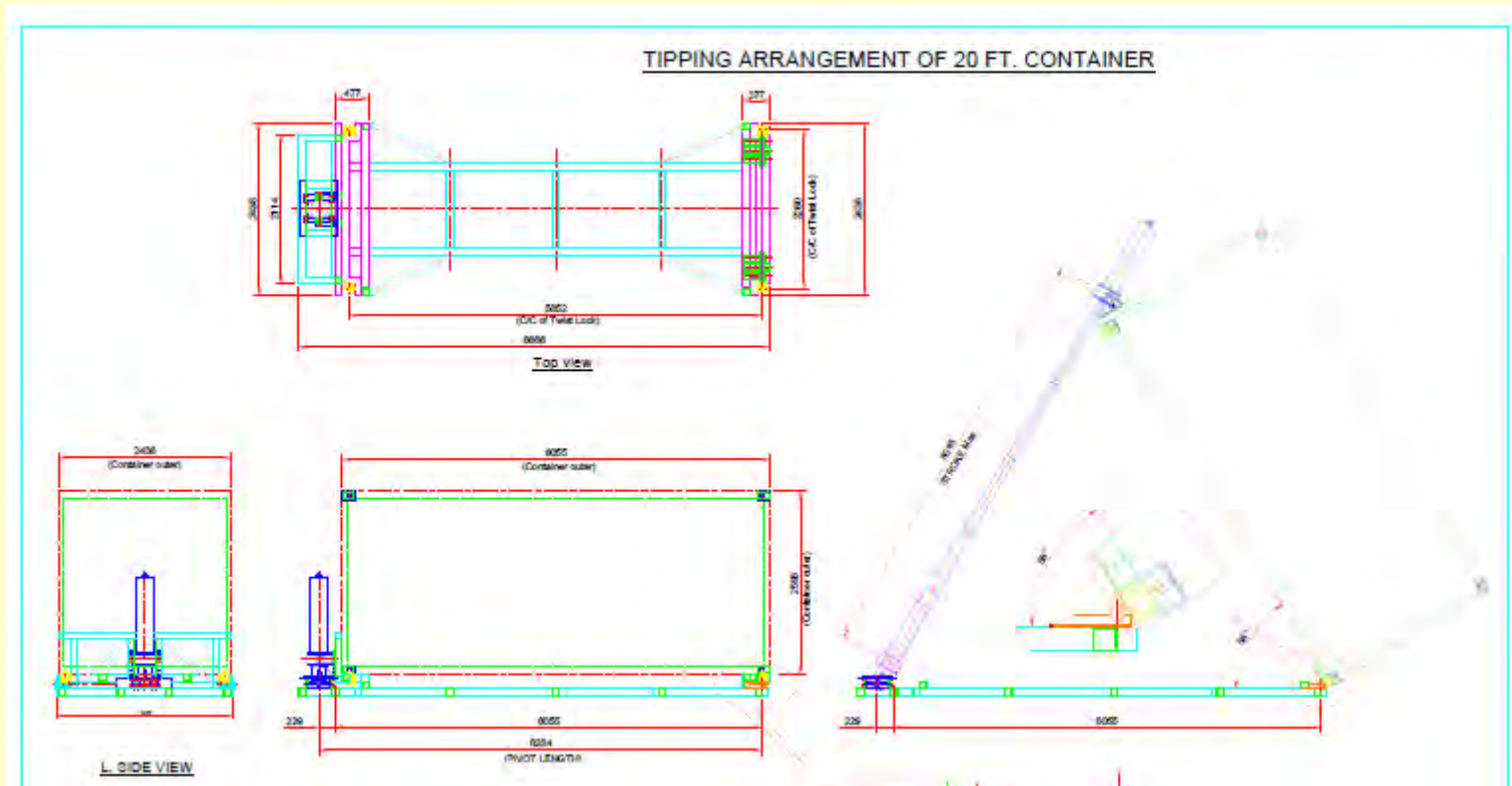
<b>SCORPIO ENGINEERING PVT LIMITED</b>		INDIA	
BANGALORE		INDIA	
REMOVE ALL BURRS AND SHARP CORNERS. TAPPED HOLES TO BE COUNTERSUNK. UNSPECIFIED FILLETS AND RADI TO BE 3 mm.			
DRN : RAKHMEMBARI	DATE : 30/08/2011	ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED	
CHRD :	DATE :	 THIRD ANGLE PROJ.	SCALE : N.T.S
APPD :	DATE :		
TITLE :- DRY BULK LOGISTICS ROAD MOVEMENT (ALSO RAIL)			DRG NO. 3-5726
SHEET 1 OF 2			REV 1

6 5 4 3 2 1





### TIPPING ARRANGEMENT OF 20 FT. CONTAINER





# Positioning of the containerliner

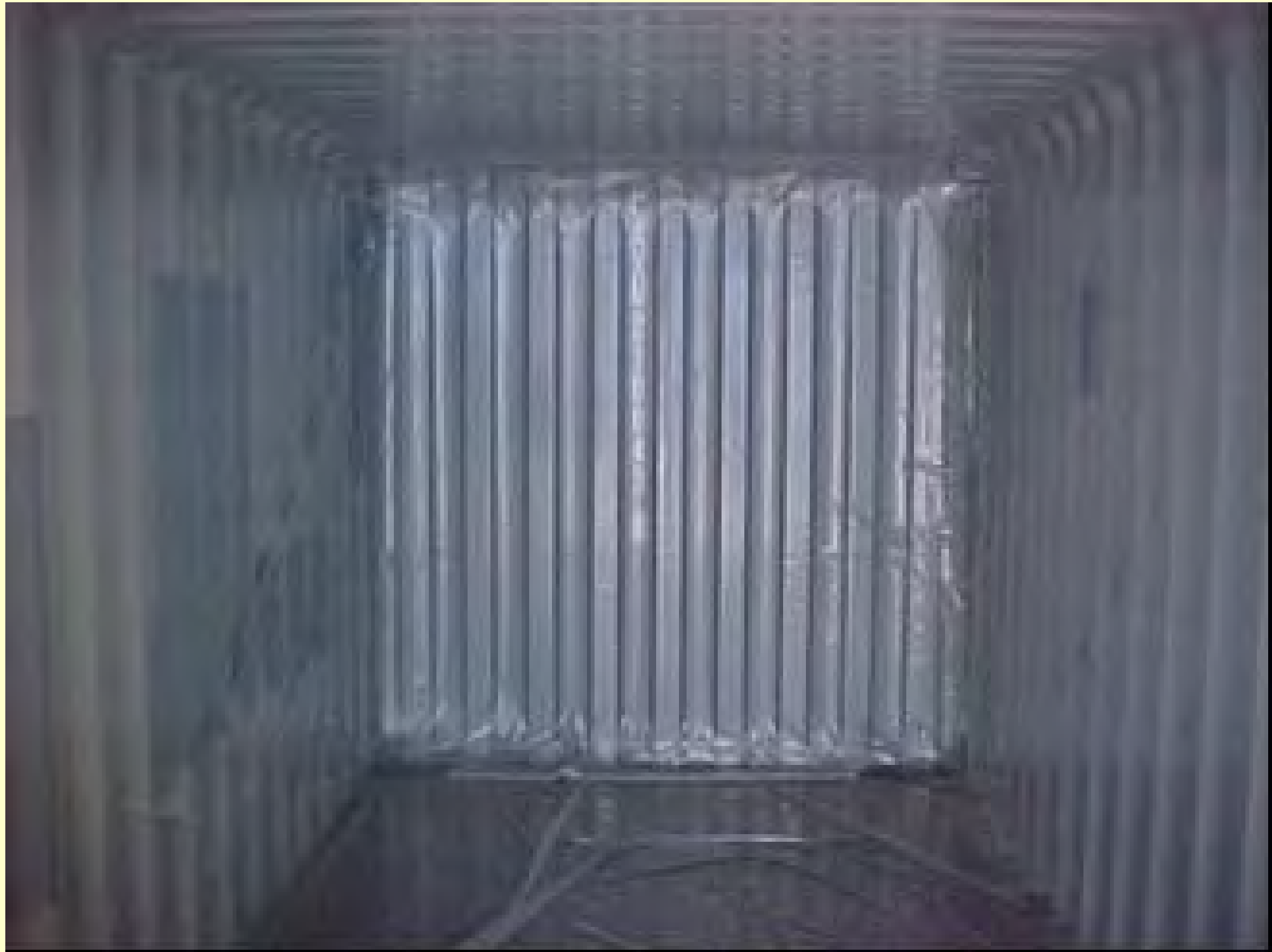












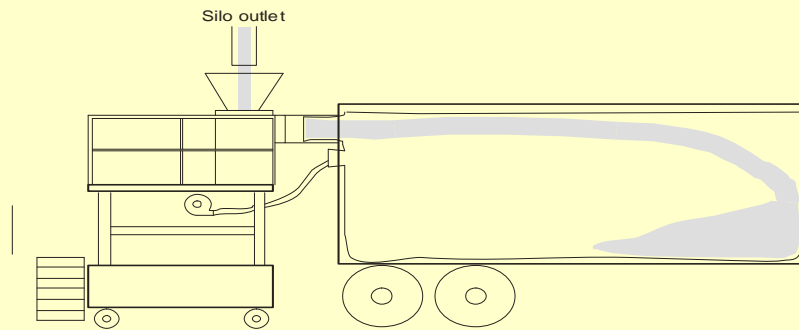




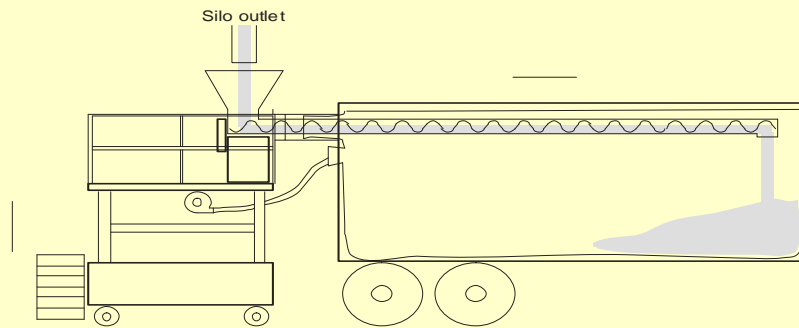


# FILLING OF CONTAINER

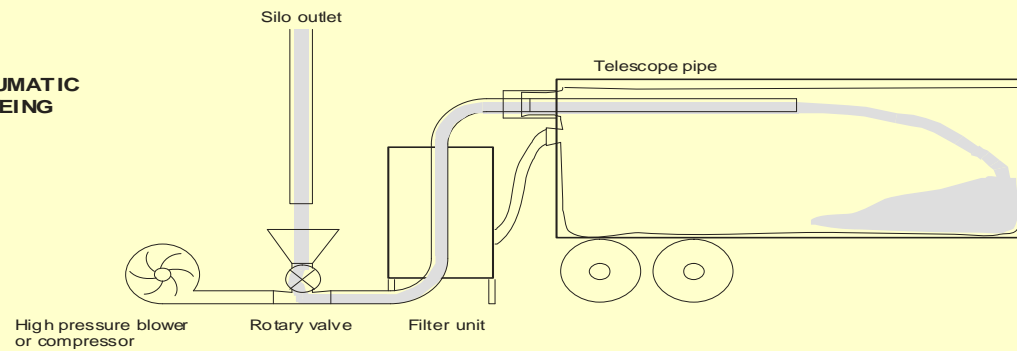
## 1. BELT THROWER Granules



## 2. AUGER Powder



## 3. PNEUMATIC CONVEYING









# Filling by gravity















20ft container

Bucket  
elevator

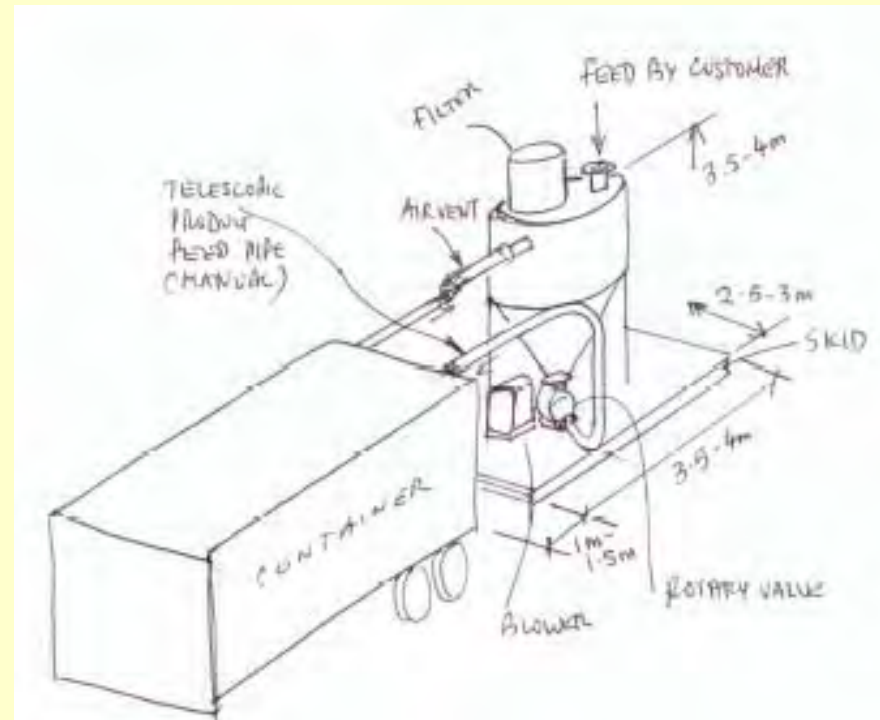
Feed  
hopper

Hydr  
tilting  
platform





# Pneumatic filling



CONTAINER LOADER

CAP @ 7PH

HP 30

PRODUCT - MALT (BO 600K/m<sup>3</sup>)



Scorpio Engineering Pvt. Ltd.  
"Scorpio House" 132, Wheeler Road,  
Cox Town, Bangalore - 560 005, India  
Phone: +91-80-25484733 / 508 - 7578  
Fax: +91-80-25485116  
E-mail: info@scorpioengg.com  
Web: www.scorpioengg.com

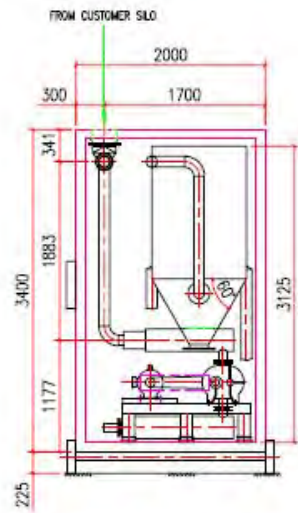
Specialty Technology

- In-line Bulk Handling
- Break Lines
- Long Distance Inlet / Fan-Connecting Systems
- Port Bulk Handling / Caisson / Open Bottom
- Mobile Hopper
- Grain Handling Systems

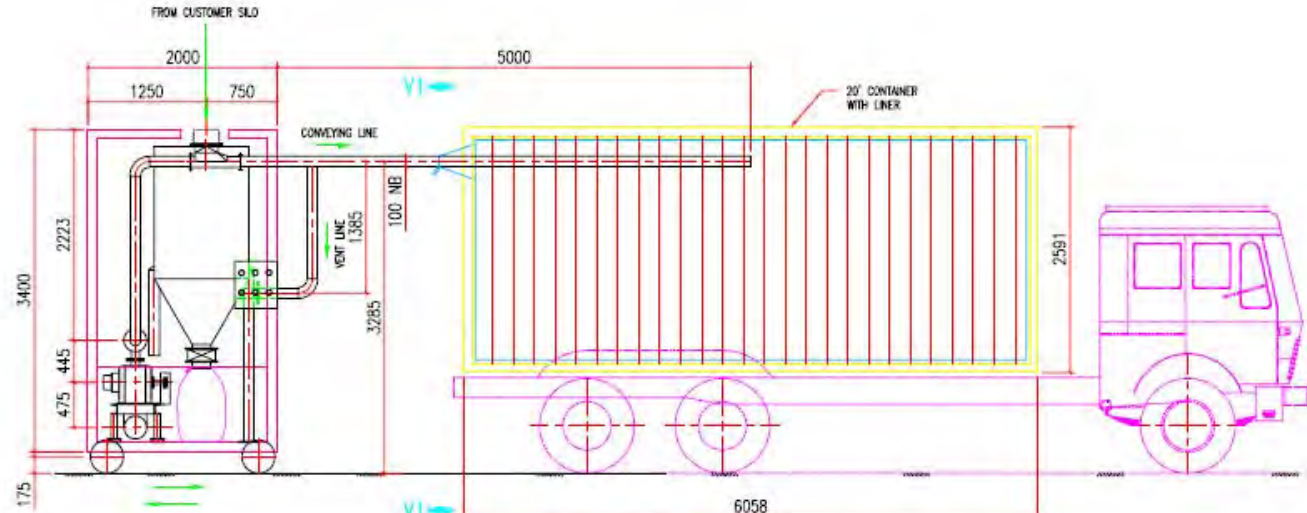
61110109



# Pneumatic filling



VIEW VI-VI

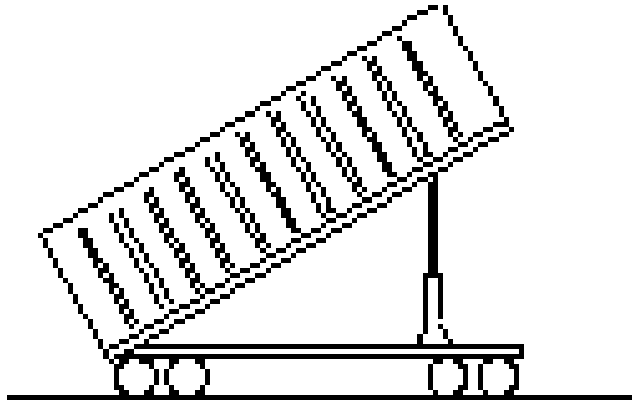


ELEVATION

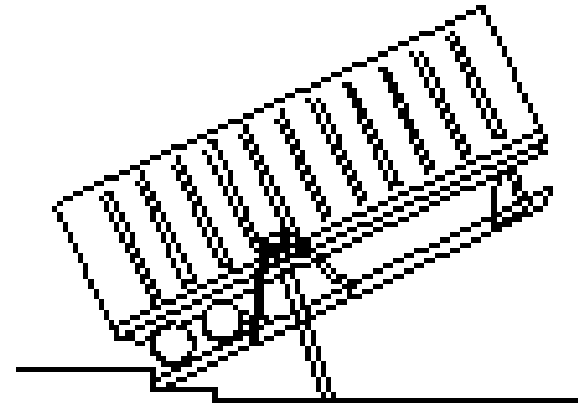


SCORPIO ENGINEERING PVT LIMITED  
BANGALORE INDIA

# Discharging of the liner



Chassis Tilt



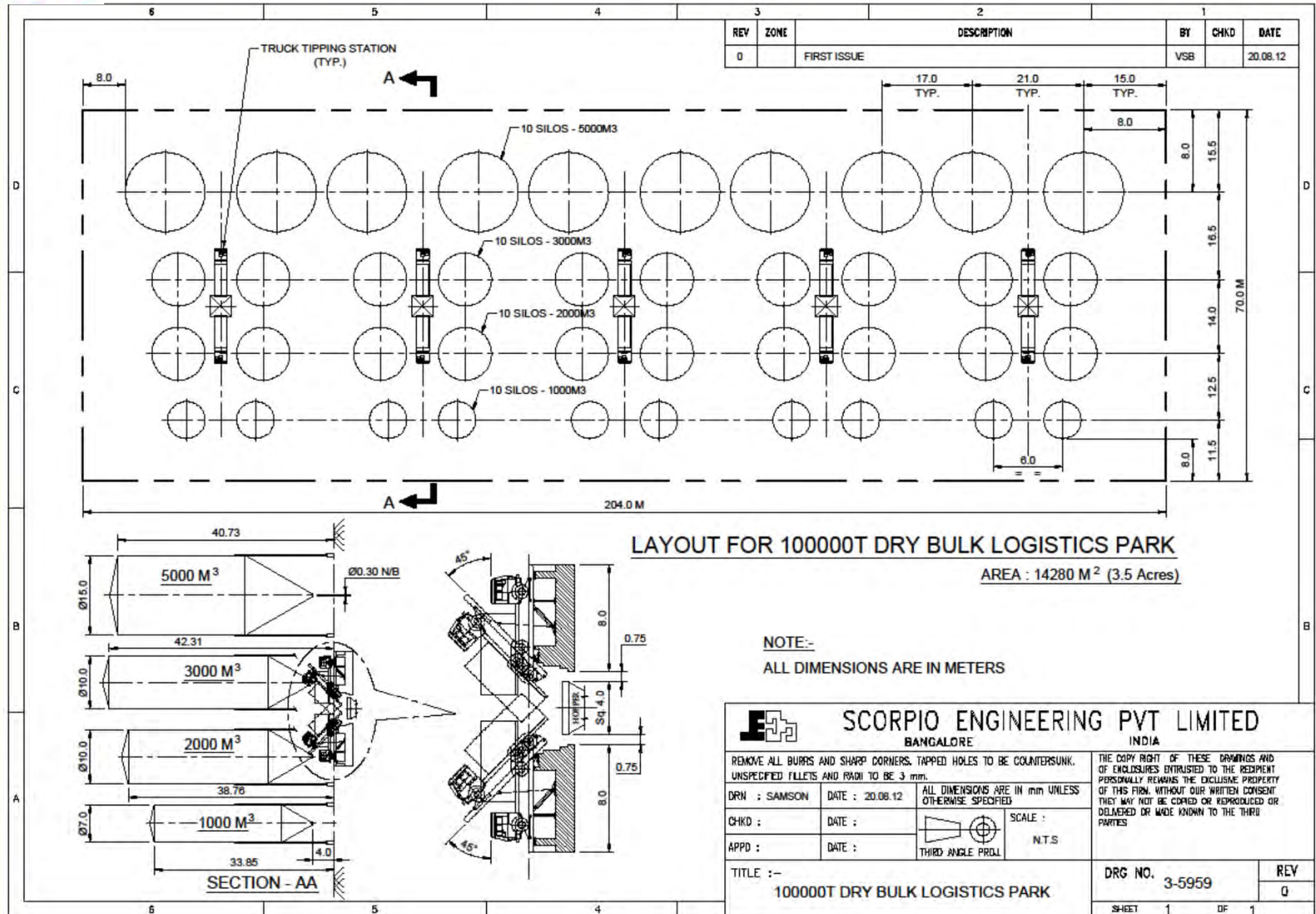
Platform Tilt







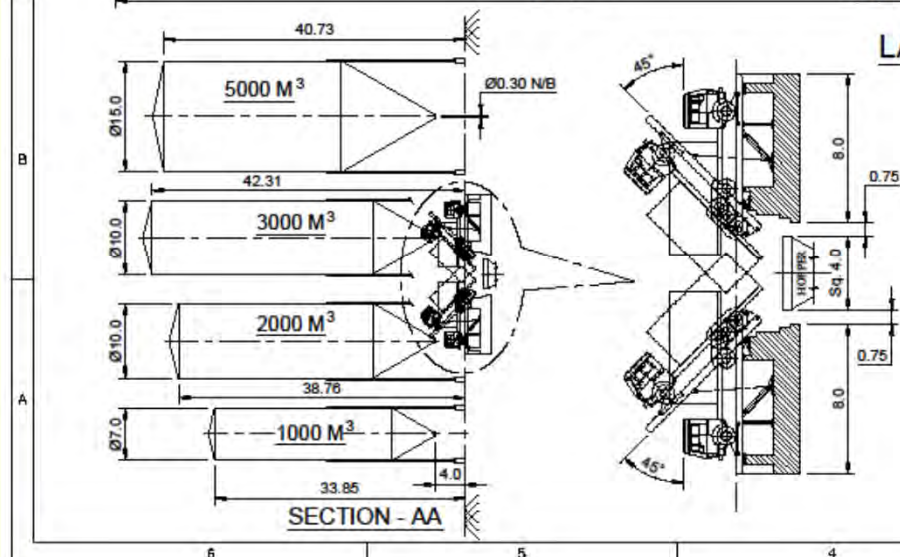




REV	ZONE	DESCRIPTION	BY	CHKD	DATE
0		FIRST ISSUE	VSB		20.08.12

**LAYOUT FOR 100000T DRY BULK LOGISTICS PARK**

AREA : 14280 M<sup>2</sup> (3.5 Acres)



**NOTE:-**  
ALL DIMENSIONS ARE IN METERS

		<b>SCORPIO ENGINEERING PVT LIMITED</b> BANGALORE INDIA	
		REMOVE ALL BURRS AND SHARP CORNERS. TAPPED HOLES TO BE COUNTERSUNK. UNSPECIFIED FILLETS AND RADI TO BE 3 mm.	
DRN : SAMSON	DATE : 20.08.12	ALL DIMENSIONS ARE IN mm UNLESS OTHERWISE SPECIFIED	
CHKD :	DATE :	 THIRD ANGLE PROJ	SCALE : N.T.S
APPD :	DATE :		THE COPY RIGHT OF THESE DRAWINGS AND OF ENCLOSURES ENTRUSTED TO THE REDDIPENT PERSONALLY REMAINS THE EXCLUSIVE PROPERTY OF THIS FIRM. WITHOUT OUR WRITTEN CONSENT THEY MAY NOT BE COPIED OR REPRODUCED OR DELIVERED OR MADE KNOWN TO THE THIRD PARTIES.
TITLE :- <b>100000T DRY BULK LOGISTICS PARK</b>		DRG NO. 3-5959	REV 0
SHEET 1 OF 1			



## **SUMMARY and CONCLUSION**

**CONTAINERS CAN BE EFFECTIVELY DEPLOYED FOR THE MOVEMENT AND HANDLING OF DRY BULK MATERIALS.**

**THIS ADDS TO EXISTING CONTAINER POPULATION AND INCREASED CONTAINER UTILISATION FOR PORTS AND SHIPPING LINES**

**THE CONCEPT REQUIRES SILOS AT BOTH SUPPLIER AND RECEIVER ENDS AND SOME CAPITAL EQUIPMENT AT BOTH ENDS.**

**THE OVERALL ECONOMICS PROVE THAT IT IS CHEAPER TO HANDLE DRY BULK IN CONTAINERS THAN IN BAGS OR IN BULK ESPECIALLY FOR DOMESTIC LOGISTICS IN ANY COUNTRY.**