



**ROLE OF SLLR&DC IN SUPPLYING OFF-SHORE SAND
TO CONSTRUCTION INDUSTRY**

By

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SRI LANKA LAND RECLAMATION & DEVELOPMENT CORPORATION

30TH AUGUST 2018

SRI LANKA LAND RECLAMATION & DEVELOPMENT CORPORATION

- **Established in 1968**
- **Co- Businesses areas**
 - ❖ **Drainage Improvements**
 - ❖ **Reclamation of Land**
 - ❖ **Supply of Offshore Sand**
 - ❖ **Construction of building**
 - ❖ **Dredging & Rehabilitation of canals & lakes**



OUR EXPERIENCE WITH OFF-SHORE SAND (Contd..)

In 1994/1995

- Reclamation of 400 Acres at Kerawalapitiya, Muthurajawela
- First ever hydraulic sand fill
- Quantity Pumped 4.55 million m³
- Cost USD 30.5 million



OUR EXPERIENCE WITH OFF-SHORE SAND (Contd..)

In 2005/2007

- Embankment filling of Colombo-Katunayaka Expressway
- Quantity Pumped 3 million m³
- Cost USD 20.4 million



OUR EXPERIENCE WITH OFF-SHORE SAND (Contd..)

In 2011/2013

- Supply Sand for Construction Industry
- Quantity Pumped 3.80 million m³
- Cost USD 26.6 million



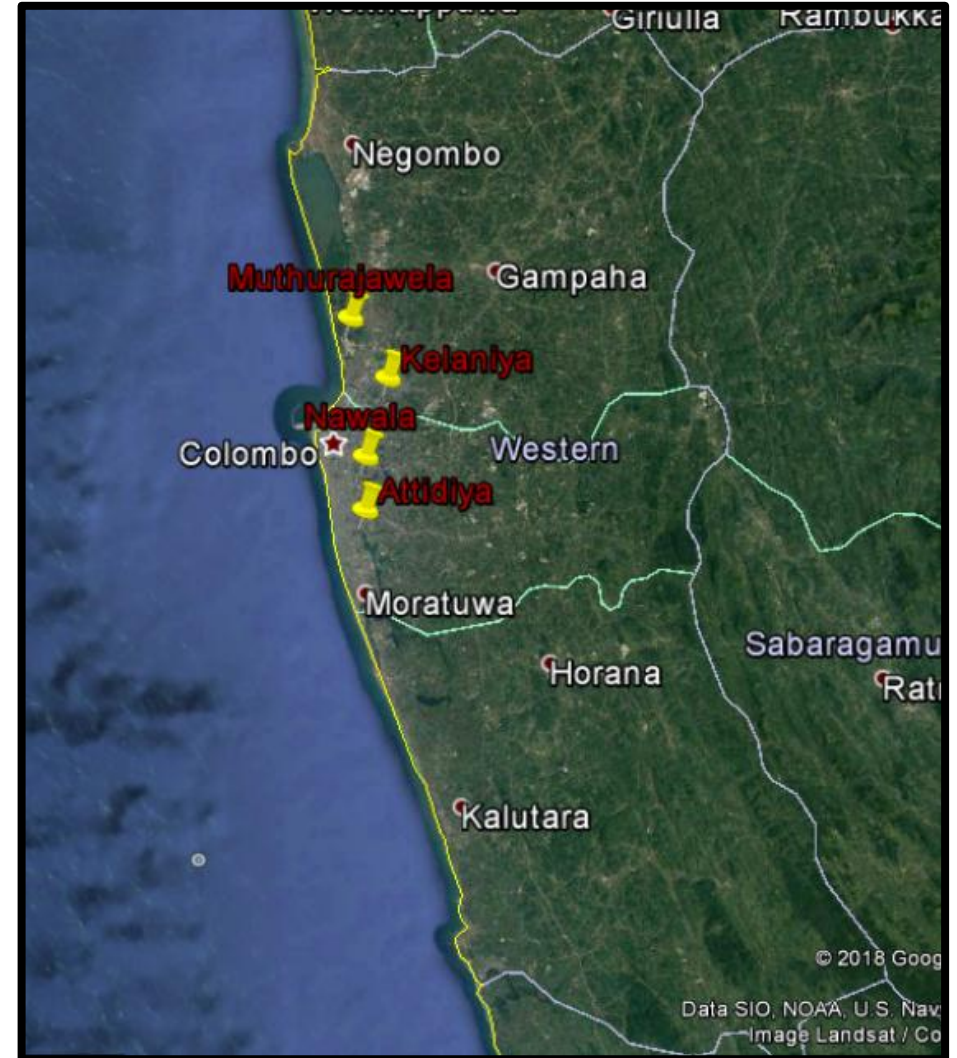
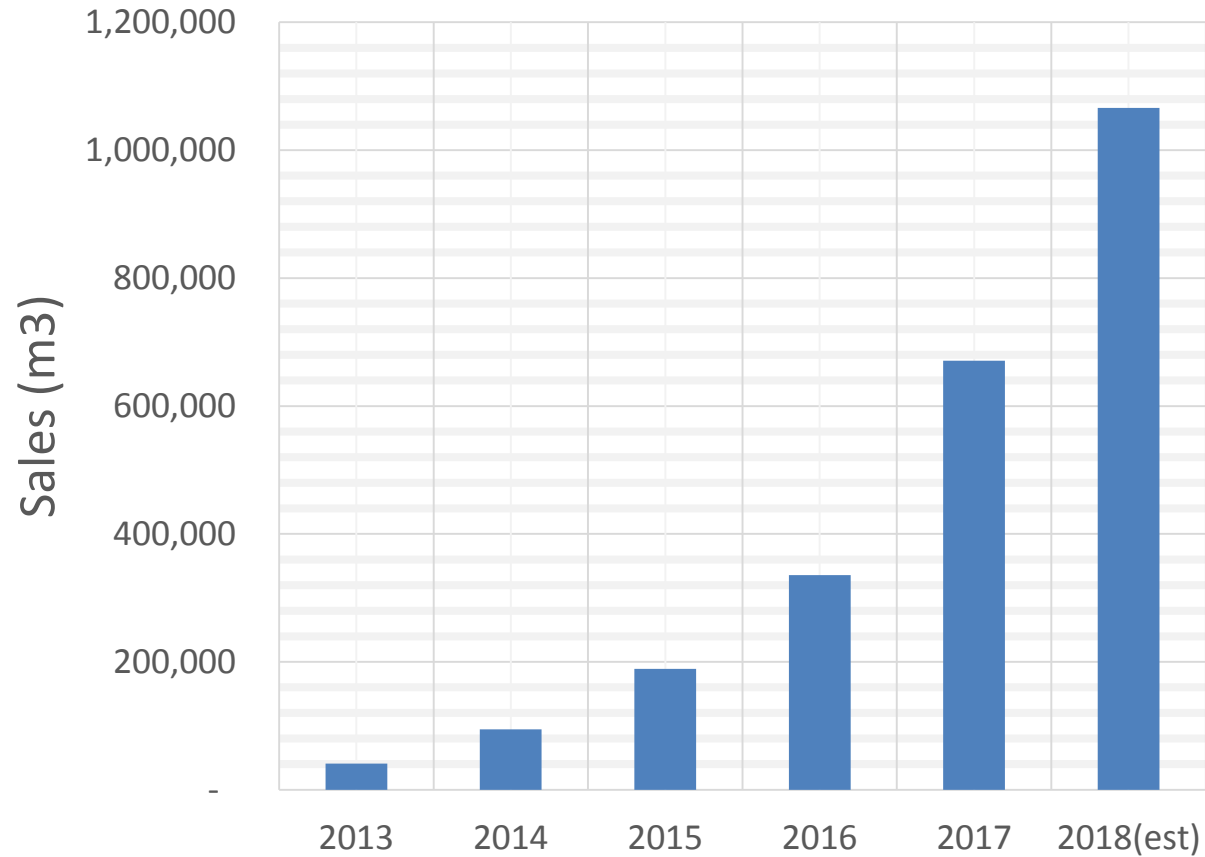
OUR EXPERIENCE WITH OFF-SHORE SAND (Contd...)

In 2018/2019 (Ongoing)

- Supply Sand for Construction Industry & Reclamation
- Quantity Pumped 4.0 million m³



OFF-SHORE SAND SALES

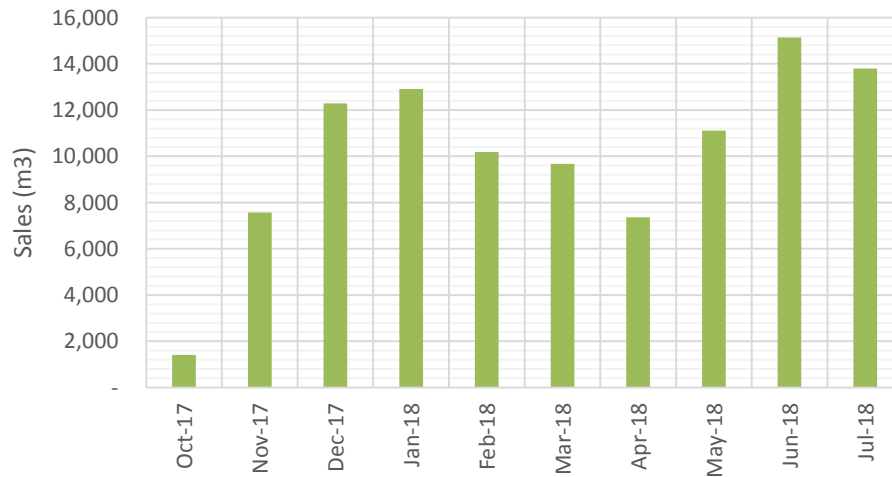


SIEVING AND WASHING PLANT

- Commenced operation on October 2017
- Capacity -500 Cubes per day



Sieved and Washed Offshore Sand Sales



QUALITY CONTROLLING

Testing of Off Shore Sand

➤ Sizes Analysis

- Particle Size Distribution
- Percentage of Fines

➤ Chemical Testing

- Water Soluble Chloride Content (Photometer Method)
- Water Soluble Sulphate Content (Photometer Method)

➤ Shell Content

TEST REPORT

1.0 Sample Particulars

Client: BMRTD National Building Research Organisation	Client's Reference: : Chemical testing of offshore sand from SLRDC
Number of Sample: 04	Test Item: Water soluble chloride, acid soluble sulfate and Sell content
Samples Collected by: Client	Quantity of sample received: Each approximately 1.5kg
Date of received to the Laboratory: 15/02/2016	Date of Analysis: 15/02/2016 to 03/03/2016

2.0 Sample Identification

Client's Sample Reference	Sample Description	Laboratory Reference
Location-1 (Bujagaha Junction –Kelaniya)	Wet aggregate with shell particle	WQ/2016/029-1
Location-2 (Kelawerapitiya, Hendala –Wattala)	Wet aggregate with shell particle	WQ/2016/029-2
Location-3 (Kiri Mandala Mw, Nawal –Rajagiriya)	Wet aggregate with shell particle	WQ/2016/029-3
Location-4 (Attidiya Rd –Attidiya)	Wet aggregate with shell particle	WQ/2016/029-4

3.0 Test Methods and Results

Parameter/Unit	Method	Result			
		WQ/2016/ 029-1	WQ/2016/ 029-2	WQ/2016/ 029-3	WQ/2016/ 029-4
Acid soluble Sulphate content (as SO ₃ , w/w%)	BS 812 : Part 118 : 1988	0.13	0.13	0.07	0.07
Water soluble chloride (as Cl, w/w %)	BS 812 : Part 117 : 1988	<0.01	<0.01	<0.01	<0.01
Acid soluble shell content (as w/w%)	SLS 1397 : 2010, Appendix B	4.1	5.0	3.7	3.8

BS- British Standard
SLS- Sri Lanka Standard
“<” denotes that the measurement is less than the minimum detection level measured by the methodology employed
All chemicals used in the analysis were of Analytical Grade (AR)

The results are valid only for the samples submitted for analysis.

Analysis was carried out by: Technical Assistant – H G Abeyawardana
Technical Assistant – M P Arunasiri

Checked by:
S A M S Dissanayake
Senior Scientist-Co-ordinator/Water Quality Studies

Certified by:
S V Dias
Director/Environmental Studies and Services Division

QUALITY CONTROLLING Cnt..

Sri Lanka Land Reclamation & Development Corporation Engineering Materials Testing Laboratory TEST RESULTS - TESTING OF OFF-SHORE SAND

Certificate No	EMT/PBD1601/0130 - V	Job No	16/K/0130
Project	Testing of Off-Shore sand (Stock Pile at Muthurajawela)	Sampling Site	Muthurajawela
Augur Hole Ref	5	Grid Ref	G4
Surface Elevation	Not Available	Angle of Auguring	0° from vertical
Date of Sampling	19/03/2015	Sampled by	Testing Officer
Basis of Sampling	1m depth intervals from the surface	Reported by	P.M.P. Madushan

RESULT SUMMARY

DEPTH (m) (from surface)	Block Ref	Water Soluble Chloride (%)	Fines (%)	D 50 Value (mm)	Shell Content (% by mass)	Sieve Analysis (passing %)							
						10mm	5mm	2.5mm	1.18mm	600µm	300µm	150µm	
Max Specified Limit		0.01	3.0	15		100	100	100	100	100	70	15	
Min Specified Limit		-	-	-	-	100	89	60	30	15	5	0	
surface		0.00138	-	-	-	-	-	-	-	-	-	-	
1	G4 Z1	0.00036	0.2	0.7	-	99	96	91	77	43	12	2	
2		0.00042	-	-	-	-	-	-	-	-	-	-	
3		0.00042	-	-	-	-	-	-	-	-	-	-	
4	G4 Z2	0.00046	0.6	0.5	-	100	100	98	90	57	16	3	
5		0.00049	-	-	7.8	-	-	-	-	-	-	-	
6		0.00064	-	-	-	-	-	-	-	-	-	-	
7	G4 Z3	0.00045	0.3	0.5	-	100	99	98	93	66	25	6	
8		0.00042	-	-	-	-	-	-	-	-	-	-	
9		0.00042	-	-	-	-	-	-	-	-	-	-	
10	G4 Z4	0.00049	0.4	0.5	-	100	99	97	90	59	21	4	
11		0.00076	-	-	6.5	-	-	-	-	-	-	-	
12		0.00074	-	-	-	-	-	-	-	-	-	-	
13	G4 Z5	0.00080	0.9	0.5	-	100	98	96	91	56	14	2	

Remarks
 ~ Depth (from surface) - (5 - 8) - Colour change in material was observed, possible contamination with sea mud/peat
 ~ This report supersedes the report No. EMT/DR1501/0031 - issued on 20/05/2015.

TESTED BY

Testing Officer

Chemical Analysis Technician

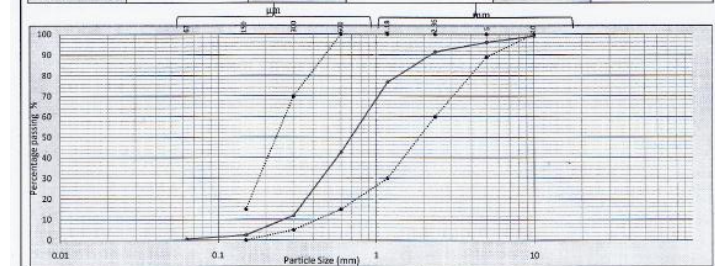
CHECKED BY
 Assistant Manager

CERTIFIED BY

K.K.W. Premathilaka
 ENGINEER
 Engineering Materials Testing Laboratory

Sri Lanka Land Reclamation & Development Corporation Engineering Materials Testing Laboratory Determination Particle Size Distribution

Project*	Testing of Off-Shore sand (Stock Pile at Muthurajawela)		
Report No	EMT/PBD1601/0130 - V	Augur hole Ref	5
Grid Ref	G4		
Depth (from surface)	1.00 m	Block Ref	G4 Z1
Tested on	02 April 2015		

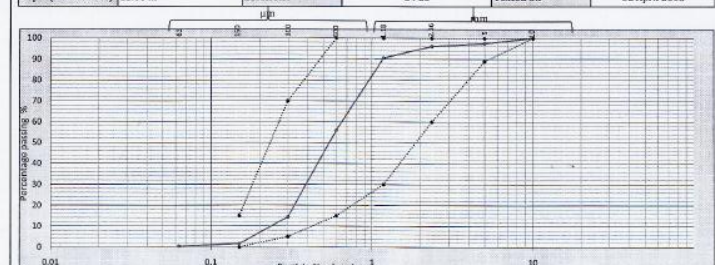


Remarks
 * Overall limits envelop for sand (Table 4) in BS 882:1992 is used here.

Tested by : K.M.U.Kulathunga
 Testing Officer
 Checked by : D.S.P.Samarasekera
 Asst. Manager
 Certified by : K.K.W.Premathilaka
 Engineer (EMT Lab)

Sri Lanka Land Reclamation & Development Corporation Engineering Materials Testing Laboratory Determination Particle Size Distribution

Project*	Testing of Off-Shore sand (Stock Pile at Muthurajawela)		
Report No	EMT/PBD1601/0130 - V	Augur hole Ref	5
Grid Ref	G4		
Depth (from surface)	13.00 m	Block Ref	G4 Z5
Tested on	02 April 2015		



Remarks
 * Overall limits envelop for sand (Table 4) in BS 882:1992 is used here.

Tested by : K.M.U.Kulathunga
 Testing Officer
 Checked by : D.S.P.Samarasekera
 Asst. Manager
 Certified by : K.K.W.Premathilaka
 Engineer (EMT Lab)



The 10 Benefits of using Sanstha weli

1. Right quantity
2. Faster collection
3. Tested for quality
4. Competitive price

5. Free loading using heavy machinery
6. Six days week operation from 4 sales outlets
7. Permit by GSMB on the spot
8. Washed & Sieved sand
9. Credibility & assurance from state organization
10. Sand availability in Colombo





Approval for Sanstha Weli for URP projects ?

- Your confidence and approval
- Ask for a test report to ensure Quality
- Sand prices for Washed & sieved sand at our sales outlets, pricing and contact details



Sand Sales Centers

Muthurajawela Main Stock - Tel: 0113 193 130

Kelaniya Center - Tel: 0112 908 196

Nawala Center - Tel: 0112 875 336

Dehiwala Center - Tel: 0113 084 465



Muthurajawela – Rs 8,700/cube

Kelaniya – Rs. 9,400/-

Nawala – Rs. 10,300/-

Attidiya - Rs. 11,000/-

WAY FORWARD

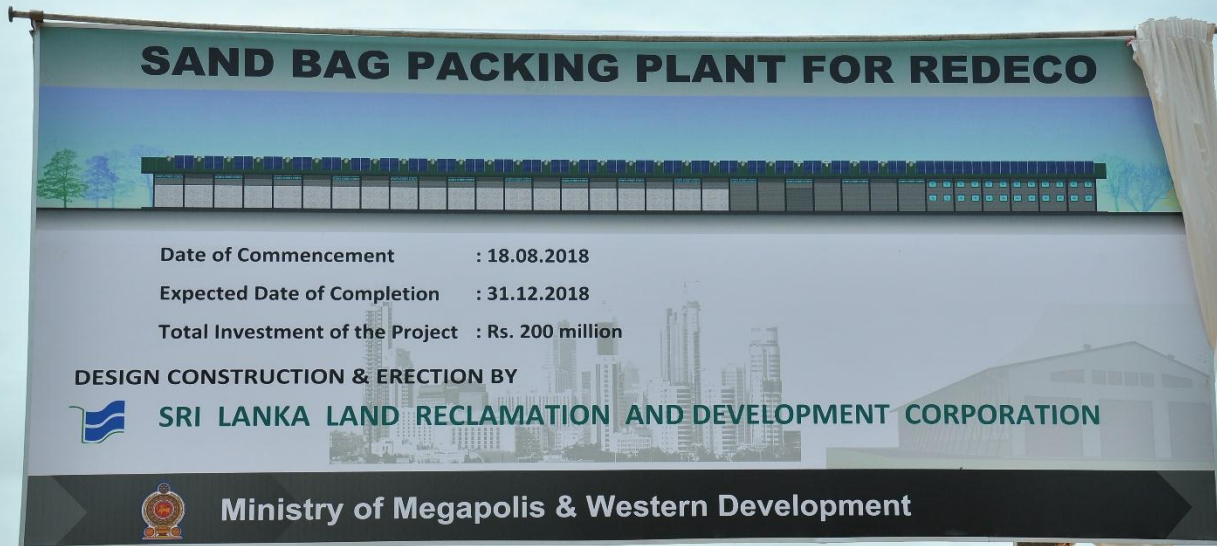
INSTALLATION OF ADIITIONAL SIEVING & WASHING PLANT AT KERAWALAPITIYA

Capacity- 1,000 Cubes per day




WAY FORWARD Contd..


INSTALLATION OF SAND PACKETING PLANT AT KERAWALAPITIYA



SAND BAG PACKING PLANT FOR REDECO

Date of Commencement : 18.08.2018
Expected Date of Completion : 31.12.2018
Total Investment of the Project : Rs. 200 million

DESIGN CONSTRUCTION & ERECTION BY
 **SRI LANKA LAND RECLAMATION AND DEVELOPMENT CORPORATION**

 **Ministry of Megapolis & Western Development**



WAY FORWARD Contd..

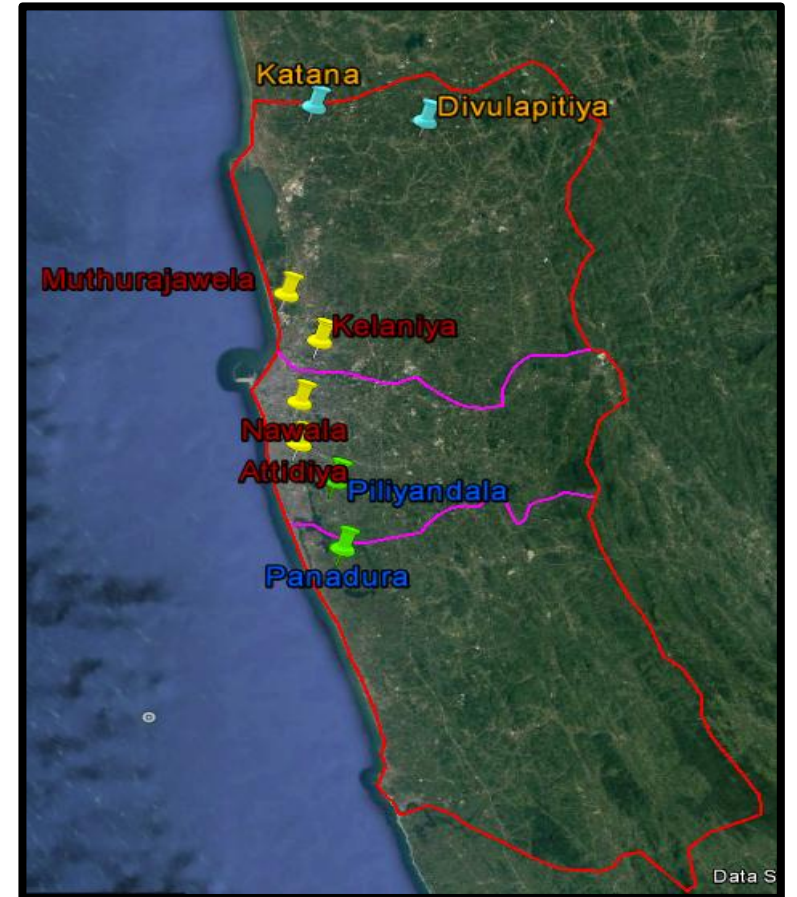
INCREASING NUMBER OF SALES OUTLETS WITHIN WESTERN REGION



Current Outlets
(04 Nos.)



Total Outlets by 15th Sep 2018
(06 Nos.)



Total Outlets by end of 2018
(08 Nos.)



IMPROVEMENT IN QUALITY ASSURANCE SYSTEM

- Testing Laboratory to be established at the stock pile
- Introduction of modern tools for
Instant measurement of Cl⁻ content in sand
- Continuous monitoring of washing & sieving process of Bulk purchaser



Thank you !...