

**GOVERNMENT OF GOA  
QUALITY CONTROL LABORATORY  
WATER RESOURCES DEPARTMENT**

**Test Report No.:** WRD/Q.C./F.6-4/Aggr-T- 213,214/Lab/205/2022-23    **Dated:** 12/12/2022.    **Laboratory:** Bicholim-Goa  
**Sand –T: 5320, Cement-T: 1390. Soil-T: 1544,1545.**    **Sub Div:** V (QC)/W.D.VIII/Bicholim Goa.

**Sub: Strengthening and Renovation of existing bund from Nerul bridge to Caculo house at Candolim Bardez – Goa.**

**Ref to requisition No:-** SDII/WDI/WRD/F.24/2022-23/322    **Dated:** 25/11/2022.

**Qty. Received:** 1 bags each    **Date of Receipt:** 02/12/2022    **Tested on:** 06,07 & 08/12/2022    **Ref to Specification:** CPWD 2009, Vol. I&IS: 4031-4-1968

**Sample:** Sand, 20mm,    **O.S. No.** 9527,9528,9531,9521,9519,9520/SS.    **Lab. Sample No.:** 5444 To 5448    **Tested by:** Mrs. S.B. Naik Shirodkar J.E.  
 12.5mm size Aggr, Cement and Soil.

**R E P O R T 01 OF 02**

| Sr. No.   | Description of sample   | Tested for  | Results   | Max. /Min. value permissible   | Remark |
|---|---|---|---|--|--------|
| 1.  | <b>20 mm Size Aggregate:</b>  | Particle size distribution:   | It is single sized aggregate of 20.00 mm nominal size.          | (Qty. rep. –m <sup>3</sup> )   |        |
| 2.  | <b>12.5 mm Size Aggregate:</b>  | Particle size distribution:   | It is not single sized aggregate of 12.5 mm nominal size.       | (Qty. rep. –m <sup>3</sup> )   |        |
| <b>REMARK: After blending 20 mm aggregate with 12.5 mm aggregates at the ratio of 1:1 by weight; it is Satisfying the required criteria for graded aggregate of 20 mm nominal size.</b> |   |   |   |  |        |
| 3.  | <b>Coarse Sand:</b><br>(L.S.No.5446)  | i) Silt & Clay by S.A. method<br>ii) Silt by sedimentation<br>iii) Fineness Modulus<br>iv) Grading Zone   | : - 5.20 %<br>: - 4.54 %<br>: - 3.20 %<br>: - I                 |  |        |
| <b>REMARK: The observed results are within the permissible limits of the coarse sand.</b>   |   |   |   |  |        |
| 4.  | <b>Cement:</b><br>JK Cement, bearing IS:269<br>Ordinary Portland cement,<br>Manuf. date:W-47, M-11, Y- 2022<br>CM/L =_0003401033<br>Qty. rep. –<br>To be used for – | i) Fineness of Cement<br>ii) Consistency of cement<br>iii) Initial Setting Time<br>iv) Final Setting Time | : - 1.15 %<br>: - 32.50 %<br>: - 160 minutes<br>: - 290 minutes | ----- (It should not be more than 10%)<br>(It should be in the neighborhood of 35%)<br>---- (It should not be less than 30 minutes)<br>-- (It should not be more than 600 minutes) |        |
| <b>REMARK: The observed results are within the permissible limit for Ordinary Portland cement.</b>  |   |   |   |  |        |

Junior Engineer

Assistant Engineer

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**R E P O R T 02 OF 02**

| <b>Sr. No.</b> | <b>Description of sample</b>  | <b>Tested for</b>                  | <b>Results</b>    | <b>Max. /Min. value permissible</b> | <b>Remark</b> |
|----------------|-------------------------------|------------------------------------|-------------------|-------------------------------------|---------------|
| <b>5.</b>      | <b>Soil:</b><br>(L.S.No.5448) | <b>I) Proctor Values</b>           |                   |                                     |               |
|                |                               | a) M.D.D (from graph)              | :- <b>1.872</b>   | ----                                | ----          |
|                |                               | b) O.M.C (from graph)              | :- <b>17.50 %</b> |                                     |               |
|                |                               | <b>II. Sieve Analysis</b>          |                   |                                     |               |
|                |                               | a) Silt and Clay by Sieve Analysis | :- <b>50.90%</b>  |                                     |               |
|                |                               | b) Fine Sand                       | :- <b>0.40%</b>   |                                     |               |
|                |                               | c) Medium Sand                     | :- <b>17.50%</b>  |                                     |               |
|                |                               | d) Coarse Sand                     | :- <b>11.00%</b>  |                                     |               |
|                |                               | e) Gravel                          | :- <b>20.20%</b>  |                                     |               |

- Copy to: 1. The Assistant Engineer, SDII, WDI,WRD, Mapusa Bardez-Goa.  
2. Copy Submitted to The Superintending Engineer, CPO, WRD,Sinchai Bhavan Porvorim-Goa for kind Information  
3. Copy Submitted to The Executive Engineer, WDI, WRD,Sinchai Bhavan Porvorim-Goa  
4. Q.C. Lab file    5. Bill File.

**Junior Engineer**

**Assistant Engineer**