

GOVERNMENT OF GOA  
QUALITY CONTROL LABORATORY  
WATER RESOURCES DEPARTMENT

Test Report No.: WRD / QC / F.6-2 / Cube -T :2393,2394,2403 to 2408,2411,2412,2445/ Lab /152/ 2021 - 22 Dated:- 12/07/ 2021. Laboratory : Bicholim - Goa.  
2446,2460,2461,2514, 2515,2519,2520,2530,2531,2541,2542,2553,2554 Sub Division V (QC)/WRD/ Bicholim- Goa.

**Name of work : Construction of Protection wall for nalla on both sides from main road to Sagun Sinari House and Govind Parab house to shekri, at Pimpalwada,Amona in Bicholim Taluka.**

Ref. to Requisition No.:F.226/WRD/WDVI/SDI/126/2021-22 Dated :- 21/ 06 / 2021.

Qty. Recived. :24 Sets of cube Date of Receipt:- 21/ 06 /2021. Tested on: - 22 to 26,29,30/06/2021 & 05 to 09/07/2021 as per due dates. Ref to CPWD :2009, Vol. I

Sample: Cube Mix 1:2:4 O.S No. :6632,6633,6642,6643,6644,6645,6646,6647,6650,6651,6686,6687,6701,6702,6760,6761,6766,6767,6778,6779,6789,6790,6801,6802/SS

Lab. Sample No.: 1932 to 1955 Tested By: Mrs. Shirodkar. J.E.

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| SR. NO | DISCRIPTION OF SAMPLE  | TESTED FOR                                | RESULTS       |                          | Max./Min.Value permissable | % above or below | REMARK                      |
|--------|--|---|---------------|--------------------------|----------------------------|------------------|-----------------------------|
| 1      | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 25/05/2021. For 3 <sup>rd</sup> step of L.H.S wall from ch 270m to ch 340m. | 28 <sup>th</sup> day compressive strenath | 208.40        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 4.63             | Qty represents -8.00 Cum.   |
|        |  |   | 237.85        | Kg/Cm <sup>2</sup>       |                            |                  |                             |
|        |  |   | 212.93        | Kg/Cm <sup>2</sup>       |                            |                  |                             |
|        |  | <b>Average</b>                            | <b>219.73</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |                             |
| 2      | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 25/05/2021. For 3 <sup>rd</sup> step of R.H.S wall from ch 270m to ch 340m. | 28 <sup>th</sup> day compressive strenath | 226.53        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 4.27             | Qty represents -8.00 Cum.   |
|        |  |   | 217.47        | Kg/Cm <sup>2</sup>       |                            |                  |                             |
|        |  |   | 212.93        | Kg/Cm <sup>2</sup>       |                            |                  |                             |
|        |  | <b>Average</b>                            | <b>218.98</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |                             |
| 3      | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 26/05/2021. For Foundation of L.H.S wall from ch 230m to ch 240m.           | 28 <sup>th</sup> day compressive strenath | 235.59        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 7.87             | Qty represents - 18.00 Cum. |
|        |  |   | 212.93        | Kg/Cm <sup>2</sup>       |                            |                  |                             |
|        |  |   | 231.06        | Kg/Cm <sup>2</sup>       |                            |                  |                             |
|        |  | <b>Average</b>                            | <b>226.53</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |                             |
| 4      | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 26/05/2021. For Foundation of R.H.S wall from ch 230m to ch 240m.           | 28 <sup>th</sup> day compressive strenath | 215.20        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 7.51             | Qty represents - 18.00 Cum. |
|        |  |   | 228.79        | Kg/Cm <sup>2</sup>       |                            |                  |                             |
|        |  |   | 233.32        | Kg/Cm <sup>2</sup>       |                            |                  |                             |
|        |  | <b>Average</b>                            | <b>225.77</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |                             |
| 5      | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 27/05/2021. For 2 <sup>nd</sup> step of R.H.S wall from ch 250m to ch 270m. | 28 <sup>th</sup> day compressive strenath | 226.53        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 10.75            | Qty represents - 18.00 Cum. |
|        |  |   | 226.53        | Kg/Cm <sup>2</sup>       |                            |                  |                             |
|        |  |   | 244.65        | Kg/Cm <sup>2</sup>       |                            |                  |                             |
|        |  | <b>Average</b>                            | <b>232.57</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |                             |
| 6      | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 27/05/2021. For 2 <sup>nd</sup> step of L.H.S wall from ch 250m to ch 270m. | 28 <sup>th</sup> day compressive strenath | 203.87        | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>  | 3.91             | Qty represents - 18.00 Cum. |
|        |  |   | 219.73        | Kg/Cm <sup>2</sup>       |                            |                  |                             |
|        |  |   | 231.06        | Kg/Cm <sup>2</sup>       |                            |                  |                             |
|        |  | <b>Average</b>                            | <b>218.22</b> | <b>Kg/Cm<sup>2</sup></b> |                            |                  |                             |

Junior Engineer

Assistant Engineer

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| <b>SR. NO</b> | <b>DISCRIPTION OF SAMPLE</b>   | <b>TESTED FOR</b>                         | <b>RESULTS</b> |                    | <b>Max./Min.Value permissable</b> | <b>% above or below</b> | <b>REMARK</b>               |
|---------------|--|---|----------------|--------------------|-----------------------------------|-------------------------|-----------------------------|
| 7             | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 28/05/2021. For Foundation of L.H.S wall from ch 220m to ch 230m.           | 28 <sup>th</sup> day compressive strength | 226.53         | Kg/Cm <sup>2</sup> | 210.00 Kg/cm <sup>2</sup>         | 2.48                    | Qty represents - 18.00 Cum. |
|               |  |   | 210.67         | Kg/Cm <sup>2</sup> |                                   |                         |                             |
|               |  |   | 208.40         | Kg/Cm <sup>2</sup> |                                   |                         |                             |
|               |  |   | <b>Average</b> | <b>215.20</b>      |                                   |                         |                             |
| 8             | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 28/05/2021. For Foundation of R.H.S wall from ch 220m to ch 230m.           | 28 <sup>th</sup> day compressive strength | 222.00         | Kg/Cm <sup>2</sup> | 210.00 Kg/cm <sup>2</sup>         | 4.27                    | Qty represents - 18.00 Cum. |
|               |  |   | 203.87         | Kg/Cm <sup>2</sup> |                                   |                         |                             |
|               |  |   | 231.06         | Kg/Cm <sup>2</sup> |                                   |                         |                             |
|               |  |   | <b>Average</b> | <b>218.98</b>      |                                   |                         |                             |
| 9             | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 29/05/2021. For 1 <sup>st</sup> step of L.H.S wall from ch 240m to ch 250m. | 28 <sup>th</sup> day compressive strength | 217.47         | Kg/Cm <sup>2</sup> | 210.00 Kg/cm <sup>2</sup>         | 3.20                    | Qty represents -13.50 Cum.  |
|               |  |   | 215.20         | Kg/Cm <sup>2</sup> |                                   |                         |                             |
|               |  |   | 217.47         | Kg/Cm <sup>2</sup> |                                   |                         |                             |
|               |  |   | <b>Average</b> | <b>216.71</b>      |                                   |                         |                             |
| 10            | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 29/05/2021. For 1 <sup>st</sup> step of R.H.S wall from ch 240m to ch 250m. | 28 <sup>th</sup> day compressive strength | 235.59         | Kg/Cm <sup>2</sup> | 210.00 Kg/cm <sup>2</sup>         | 11.82                   | Qty represents -13.50 Cum.  |
|               |  |   | 237.85         | Kg/Cm <sup>2</sup> |                                   |                         |                             |
|               |  |   | 231.06         | Kg/Cm <sup>2</sup> |                                   |                         |                             |
|               |  |   | <b>Average</b> | <b>234.83</b>      |                                   |                         |                             |
| 11            | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 01/06/2021. For 1 <sup>st</sup> step to L.H.S wall from ch 230m to ch 240m. | 28 <sup>th</sup> day compressive strength | 217.47         | Kg/Cm <sup>2</sup> | 210.00 Kg/cm <sup>2</sup>         | 5.71                    | Qty represents -13.50 Cum.  |
|               |  |   | 210.67         | Kg/Cm <sup>2</sup> |                                   |                         |                             |
|               |  |   | 237.85         | Kg/Cm <sup>2</sup> |                                   |                         |                             |
|               |  |   | <b>Average</b> | <b>222.00</b>      |                                   |                         |                             |
| 12            | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 01/06/2021. For 1 <sup>st</sup> step to R.H.S wall from ch 230m to ch 240m. | 28 <sup>th</sup> day compressive strength | 210.67         | Kg/Cm <sup>2</sup> | 210.00 Kg/cm <sup>2</sup>         | 3.91                    | Qty represents -13.50 Cum.  |
|               |  |   | 215.20         | Kg/Cm <sup>2</sup> |                                   |                         |                             |
|               |  |   | 228.79         | Kg/Cm <sup>2</sup> |                                   |                         |                             |
|               |  |   | <b>Average</b> | <b>218.22</b>      |                                   |                         |                             |
| 13            | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 02/06/2021. For Foundation of L.H.S wall from ch 210m to ch 220m.           | 28 <sup>th</sup> day compressive strength | 215.20         | Kg/Cm <sup>2</sup> | 210.00 Kg/cm <sup>2</sup>         | 7.51                    | Qty represents - 18.00 Cum. |
|               |  |   | 235.59         | Kg/Cm <sup>2</sup> |                                   |                         |                             |
|               |  |   | 226.53         | Kg/Cm <sup>2</sup> |                                   |                         |                             |
|               |  |   | <b>Average</b> | <b>225.77</b>      |                                   |                         |                             |
| 14            | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 02/06/2021. For Foundation of R.H.S wall from ch 210m to ch 220m.           | 28 <sup>th</sup> day compressive strength | 226.53         | Kg/Cm <sup>2</sup> | 210.00 Kg/cm <sup>2</sup>         | 4.27                    | Qty represents - 18.00 Cum. |
|               |  |   | 219.73         | Kg/Cm <sup>2</sup> |                                   |                         |                             |
|               |  |   | 210.67         | Kg/Cm <sup>2</sup> |                                   |                         |                             |
|               |  |   | <b>Average</b> | <b>218.98</b>      |                                   |                         |                             |

Junior Engineer

Assistant Engineer

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| <b>SR. NO</b> | <b>DISCRIPTION OF SAMPLE</b>   | <b>TESTED FOR</b>                         | <b>RESULTS</b> |                          | <b>Max./Min.Value permissible</b> | <b>% above or below</b> | <b>REMARK</b>               |
|---------------|--|---|----------------|--------------------------|-----------------------------------|-------------------------|-----------------------------|
| 15            | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 07/06/2021. For 2 <sup>nd</sup> step of L.H.S wall from ch 230m to ch 250m. | 28 <sup>th</sup> day compressive strength | 226.53         | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>         | 9.31                    | Qty represents - 18.00 Cum. |
|               |  |   | 212.93         | Kg/Cm <sup>2</sup>       |                                   |                         |                             |
|               |  |   | 249.18         | Kg/Cm <sup>2</sup>       |                                   |                         |                             |
|               |  | <b>Average</b>                            | <b>229.55</b>  | <b>Kg/Cm<sup>2</sup></b> |                                   |                         |                             |
| 16            | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 07/06/2021. For 2 <sup>nd</sup> step of R.H.S wall from ch 230m to ch 250m. | 28 <sup>th</sup> day compressive strength | 219.73         | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>         | 7.15                    | Qty represents - 18.00 Cum. |
|               |  |   | 222.00         | Kg/Cm <sup>2</sup>       |                                   |                         |                             |
|               |  |   | 233.32         | Kg/Cm <sup>2</sup>       |                                   |                         |                             |
|               |  | <b>Average</b>                            | <b>225.02</b>  | <b>Kg/Cm<sup>2</sup></b> |                                   |                         |                             |
| 17            | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 08/06/2021. For 1 <sup>st</sup> step L.H.S wall from ch 220m to ch 230m.    | 28 <sup>th</sup> day compressive strength | 212.93         | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>         | 4.99                    | Qty represents - 13.50 Cum. |
|               |  |   | 237.85         | Kg/Cm <sup>2</sup>       |                                   |                         |                             |
|               |  |   | 210.67         | Kg/Cm <sup>2</sup>       |                                   |                         |                             |
|               |  | <b>Average</b>                            | <b>220.49</b>  | <b>Kg/Cm<sup>2</sup></b> |                                   |                         |                             |
| 18            | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 08/06/2021. For 1 <sup>st</sup> step R.H.S wall from ch 220m to ch 230m.    | 28 <sup>th</sup> day compressive strength | 224.26         | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>         | 8.95                    | Qty represents - 13.50 Cum. |
|               |  |   | 226.53         | Kg/Cm <sup>2</sup>       |                                   |                         |                             |
|               |  |   | 235.59         | Kg/Cm <sup>2</sup>       |                                   |                         |                             |
|               |  | <b>Average</b>                            | <b>228.79</b>  | <b>Kg/Cm<sup>2</sup></b> |                                   |                         |                             |
| 19            | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 09/06/2021. For 1 <sup>st</sup> step L.H.S wall from ch 210m to ch 220m.    | 28 <sup>th</sup> day compressive strength | 226.53         | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>         | 6.43                    | Qty represents - 13.50 Cum. |
|               |  |   | 212.93         | Kg/Cm <sup>2</sup>       |                                   |                         |                             |
|               |  |   | 231.06         | Kg/Cm <sup>2</sup>       |                                   |                         |                             |
|               |  | <b>Average</b>                            | <b>223.51</b>  | <b>Kg/Cm<sup>2</sup></b> |                                   |                         |                             |
| 20            | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 09/06/2021. For 1 <sup>st</sup> step R.H.S wall from ch 210m to ch 220m.    | 28 <sup>th</sup> day compressive strength | 215.20         | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>         | 4.63                    | Qty represents - 13.50 Cum. |
|               |  |   | 235.59         | Kg/Cm <sup>2</sup>       |                                   |                         |                             |
|               |  |   | 208.40         | Kg/Cm <sup>2</sup>       |                                   |                         |                             |
|               |  | <b>Average</b>                            | <b>219.73</b>  | <b>Kg/Cm<sup>2</sup></b> |                                   |                         |                             |
| 21            | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 10/06/2021. For Foundation of L.H.S wall from ch 200m to ch 210m.           | 28 <sup>th</sup> day compressive strength | 215.20         | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>         | 2.48                    | Qty represents - 18.00 Cum. |
|               |  |   | 212.93         | Kg/Cm <sup>2</sup>       |                                   |                         |                             |
|               |  |   | 217.47         | Kg/Cm <sup>2</sup>       |                                   |                         |                             |
|               |  | <b>Average</b>                            | <b>215.20</b>  | <b>Kg/Cm<sup>2</sup></b> |                                   |                         |                             |

Junior Engineer

Assistant Engineer

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| <b>SR. NO</b> | <b>DISCRIPTION OF SAMPLE</b>   | <b>TESTED FOR</b>                         | <b>RESULTS</b> |                          | <b>Max./Min.Value permissable</b> | <b>% above or below</b> | <b>REMARK</b>               |
|---------------|--|---|----------------|--------------------------|-----------------------------------|-------------------------|-----------------------------|
| 22            | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 10/06/2021. For Foundation of R.H.S wall from ch 200m to ch 210m.           | 28 <sup>th</sup> day compressive strength | 222.00         | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>         | 8.95                    | Qty represents - 18.00 Cum. |
|               |  |   | 237.85         | Kg/Cm <sup>2</sup>       |                                   |                         |                             |
|               |  |   | 226.53         | Kg/Cm <sup>2</sup>       |                                   |                         |                             |
|               |  | <b>Average</b>                            | <b>228.79</b>  | <b>Kg/Cm<sup>2</sup></b> |                                   |                         |                             |
| 23            | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 11/06/2021. For 2 <sup>nd</sup> step of L.H.S wall from ch 210m to ch 230m. | 28 <sup>th</sup> day compressive strength | 208.40         | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>         | 7.51                    | Qty represents - 18.00 Cum. |
|               |  |   | 242.38         | Kg/Cm <sup>2</sup>       |                                   |                         |                             |
|               |  |   | 226.53         | Kg/Cm <sup>2</sup>       |                                   |                         |                             |
|               |  | <b>Average</b>                            | <b>225.77</b>  | <b>Kg/Cm<sup>2</sup></b> |                                   |                         |                             |
| 24            | Cement concrete cube of mix <b>1 : 2 : 4</b> , cast on 11/06/2021. For 2 <sup>nd</sup> step of R.H.S wall from ch 210m to ch 230m. | 28 <sup>th</sup> day compressive strength | 215.20         | Kg/Cm <sup>2</sup>       | 210.00 Kg/cm <sup>2</sup>         | 3.55                    | Qty represents - 18.00 Cum. |
|               |  |   | 217.47         | Kg/Cm <sup>2</sup>       |                                   |                         |                             |
|               |  |   | 219.73         | Kg/Cm <sup>2</sup>       |                                   |                         |                             |
|               |  | <b>Average</b>                            | <b>217.47</b>  | <b>Kg/Cm<sup>2</sup></b> |                                   |                         |                             |

Copy to: 1. The Assistant Engineer , SD I , WD VI, WRD, Bicholim - Goa.

2. Copy submitted to The Superintending Engineer ,CPO,WRD, Sinchai Bhavan, Porvorim Goa for kind Information.

3. Copy submitted to The Executive Engineer , WD VI ,WRD,Bicholim - Goa.

4. QC Lab File.      5. Bill File.

Junior Engineer

Assistant Engineer