

Lampiran 6. Rekapitulasi Perhitungan Nilai M_R Tanah Dasar

| No | STA | Beban | Defleksi | | | | | | | | | Modulus Resilient (M_R) | | | | | | | | | Mr Tanah Dasar |
|----|-------|-----------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|----------------|-----------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|-------------------------|----------------|
| | | P | D ₁ | D ₂ | D ₃ | D ₄ | D ₅ | D ₆ | D ₇ | D ₈ | D ₉ | M_R (d ₀) | M_R (d ₁) | M_R (d ₂) | M_R (d ₃) | M_R (d ₄) | M_R (d ₅) | M_R (d ₆) | M_R (d ₇) | M_R (d ₈) | |
| | | (Pound) | (inch) | (inch) | (inch) | (inch) | (inch) | (inch) | (inch) | (inch) | (inch) | psi | psi | psi | psi | psi | psi | psi | psi | psi | |
| 1 | 0+000 | 8.992,358 | 0,0056 | 0,0049 | 0,0046 | 0,0042 | 0,0037 | 0,0031 | 0,0025 | 0,002 | 0,0015 | ~ | 37.129,661 | 20.005,205 | 17.513,991 | 16.458,183 | 14.875,665 | 14.733,992 | 15.167,345 | 17.000,761 | 14.733,992 |
| 2 | 0+400 | 9.239,648 | 0,0098 | 0,0083 | 0,0073 | 0,0062 | 0,005 | 0,0034 | 0,0023 | 0,0019 | 0,0015 | ~ | 22.601,141 | 12.819,465 | 12.149,913 | 12.516,643 | 13.703,566 | 16.165,562 | 16.558,475 | 17.468,281 | 16.165,562 |
| 3 | 0+800 | 8.902,434 | 0,0115 | 0,0104 | 0,0095 | 0,0083 | 0,007 | 0,005 | 0,0035 | 0,0025 | 0,0019 | ~ | 17.338,851 | 9.532,771 | 8.710,513 | 8.653,099 | 9.116,658 | 10.442,717 | 11.965,613 | 13.395,905 | 10.442,717 |
| 4 | 1+200 | 9.082,281 | 0,0091 | 0,0069 | 0,0057 | 0,0046 | 0,0037 | 0,0026 | 0,002 | 0,0015 | 0,0012 | ~ | 26.786,398 | 16.053,492 | 15.890,236 | 16.622,765 | 17.491,118 | 18.750,479 | 20.032,563 | 21.601,934 | 18.750,479 |
| 5 | 1+600 | 9.127,243 | 0,0122 | 0,0094 | 0,0079 | 0,0067 | 0,0057 | 0,0037 | 0,0026 | 0,0019 | 0,0015 | ~ | 19.793,385 | 11.718,472 | 11.019,475 | 10.904,689 | 12.396,910 | 14.062,166 | 16.023,217 | 17.709,871 | 14.062,166 |
| 6 | 2+000 | 8.924,915 | 0,0154 | 0,0113 | 0,0087 | 0,0062 | 0,0044 | 0,0029 | 0,0021 | 0,0018 | 0,0017 | ~ | 15.994,439 | 10.421,716 | 11.736,047 | 13.833,029 | 15.775,338 | 17.060,735 | 16.689,850 | 15.303,650 | 15.303,650 |
| 7 | 2+400 | 8.947,396 | 0,0167 | 0,0124 | 0,0096 | 0,0068 | 0,0049 | 0,003 | 0,0021 | 0,0017 | 0,0014 | ~ | 14.613,929 | 9.463,118 | 10.677,460 | 12.314,671 | 15.190,795 | 17.426,421 | 18.325,403 | 18.848,986 | 17.426,421 |
| 8 | 2+800 | 8.969,877 | 0,0192 | 0,0141 | 0,0109 | 0,0078 | 0,0056 | 0,0033 | 0,0023 | 0,0018 | 0,0014 | ~ | 12.968,080 | 8.326,627 | 9.400,212 | 10.791,619 | 13.616,484 | 15.693,575 | 17.146,684 | 18.896,345 | 15.693,575 |
| 9 | 3+200 | 8.969,877 | 0,0079 | 0,0064 | 0,0057 | 0,0048 | 0,0039 | 0,0026 | 0,0019 | 0,0014 | 0,0011 | ~ | 28.402,482 | 16.075,016 | 15.304,478 | 15.746,954 | 17.274,644 | 19.700,445 | 22.045,736 | 24.495,262 | 19.700,445 |
| 10 | 3+600 | 8.947,396 | 0,0239 | 0,021 | 0,0186 | 0,0152 | 0,0119 | 0,0072 | 0,0043 | 0,0028 | 0,002 | ~ | 8.664,168 | 4.891,951 | 4.797,924 | 5.114,066 | 6.308,745 | 8.396,367 | 10.840,379 | 12.935,579 | 8.396,367 |
| 11 | 4+000 | 9.082,281 | 0,0104 | 0,0086 | 0,0075 | 0,0061 | 0,005 | 0,0033 | 0,0022 | 0,0016 | 0,0013 | ~ | 21.502,843 | 12.335,841 | 12.019,538 | 12.303,464 | 13.951,249 | 16.447,788 | 19.531,749 | 20.926,874 | 16.447,788 |
| 12 | 4+400 | 8.924,915 | 0,015 | 0,0109 | 0,0087 | 0,0067 | 0,005 | 0,0031 | 0,0021 | 0,0016 | 0,0013 | ~ | 16.689,850 | 10.374,772 | 10.902,718 | 12.186,240 | 14.577,211 | 17.060,735 | 18.725,197 | 20.564,279 | 17.060,735 |
| 13 | 4+800 | 9.127,243 | 0,0105 | 0,0094 | 0,0084 | 0,007 | 0,0057 | 0,0041 | 0,0029 | 0,0022 | 0,0019 | ~ | 19.793,385 | 11.058,276 | 10.586,125 | 10.829,484 | 11.434,043 | 12.906,372 | 14.020,315 | 14.020,315 | 12.906,372 |
| 14 | 5+200 | 8.992,358 | 0,0276 | 0,0223 | 0,0184 | 0,0133 | 0,0097 | 0,0057 | 0,0041 | 0,0035 | 0,0031 | ~ | 8.200,013 | 4.969,173 | 5.492,553 | 6.288,899 | 8.057,652 | 9.012,054 | 8.790,166 | 8.500,380 | 8.500,380 |
| 15 | 5+600 | 9.239,648 | 0,0065 | 0,0054 | 0,005 | 0,0045 | 0,0041 | 0,0033 | 0,0025 | 0,0019 | 0,0014 | ~ | 34.556,818 | 18.774,964 | 16.732,775 | 15.139,177 | 14.192,979 | 15.139,177 | 16.220,547 | 19.464,656 | 15.139,177 |
| 16 | 6+000 | 8.857,472 | 0,0209 | 0,0171 | 0,0138 | 0,0102 | 0,0073 | 0,0041 | 0,0024 | 0,002 | 0,0013 | ~ | 10.509,401 | 6.530,842 | 7.087,736 | 8.237,098 | 11.096,091 | 14.988,818 | 15.238,632 | 20.408,882 | 14.988,818 |
| 17 | 6+400 | 9.037,320 | 0,0148 | 0,0111 | 0,009 | 0,0067 | 0,005 | 0,003 | 0,002 | 0,0015 | 0,0013 | ~ | 16.482,027 | 10.228,977 | 10.975,091 | 12.339,719 | 15.548,046 | 18.291,818 | 19.933,392 | 20.192,267 | 18.291,818 |
| 18 | 6+800 | 9.194,686 | 0,0056 | 0,0033 | 0,0026 | 0,0022 | 0,0021 | 0,0016 | 0,0012 | 0,0009 | 0,0008 | ~ | 55.830,998 | 36.504,883 | 33.897,391 | 29.846,760 | 28.936,798 | 31.637,565 | 34.388,658 | 33.897,391 | 31.637,565 |
| 19 | 7+200 | 8.924,915 | 0,0206 | 0,0162 | 0,0131 | 0,0095 | 0,0065 | 0,0033 | 0,002 | 0,0015 | 0,0013 | ~ | 11.180,579 | 6.937,347 | 7.613,882 | 9.305,856 | 13.874,694 | 18.425,594 | 19.685,464 | 19.941,119 | 18.425,594 |
| 20 | 7+600 | 9.239,648 | 0,003 | 0,0028 | 0,0027 | 0,0026 | 0,0024 | 0,0021 | 0,0018 | 0,0015 | 0,0013 | ~ | 66.233,900 | 34.556,818 | 29.346,713 | 26.059,240 | 22.494,532 | 21.194,848 | 20.915,969 | 21.289,468 | 20.915,969 |
| 21 | 8+000 | 8.722,587 | 0,015 | 0,0113 | 0,0087 | 0,0063 | 0,0044 | 0,0024 | 0,0014 | 0,001 | 0,0007 | ~ | 15.686,311 | 10.139,575 | 11.254,928 | 13.280,152 | 18.450,702 | 25.010,952 | 30.013,143 | 35.729,932 | 25.010,952 |
| 22 | 8+400 | 9.127,243 | 0,0144 | 0,0125 | 0,0107 | 0,0085 | 0,0065 | 0,0041 | 0,0027 | 0,0022 | 0,0017 | ~ | 14.860,649 | 8.627,886 | 8.683,550 | 9.459,489 | 11.434,043 | 13.855,370 | 14.275,230 | 15.294,889 | 13.855,370 |
| 23 | 8+800 | 9.149,724 | 0,0129 | 0,0104 | 0,0084 | 0,0061 | 0,0044 | 0,0024 | 0,0017 | 0,0013 | 0,0011 | ~ | 17.956,003 | 11.085,514 | 12.186,913 | 14.181,468 | 19.676,786 | 22.487,756 | 24.595,983 | 23.263,196 | 22.487,756 |

Lampiran 6. Rekapitulasi Perhitungan Nilai M_R Tanah Dasar

| No | STA | Beban | Defleksi | | | | | | | | | Modulus Resilient (M_R) | | | | | | | | | Mr Tanah Dasar |
|-----------|--------|--------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|----------------|
| | | P (Pound) | D_1 (inch) | D_2 (inch) | D_3 (inch) | D_4 (inch) | D_5 (inch) | D_6 (inch) | D_7 (inch) | D_8 (inch) | D_9 (inch) | $M_R (d_0)$ psi | $M_R (d_1)$ psi | $M_R (d_2)$ psi | $M_R (d_3)$ psi | $M_R (d_4)$ psi | $M_R (d_5)$ psi | $M_R (d_6)$ psi | $M_R (d_7)$ psi | $M_R (d_8)$ psi | |
| 24 | 9+200 | 8.924,915 | 0,016 | 0,013 | 0,011 | 0,009 | 0,00685 | 0,0044 | 0,0031 | 0,0024 | 0,002 | ~ | 13.916,612 | 8.196,439 | 8.262,598 | 8.824,518 | 10.282,140 | 11.811,278 | 12.795,552 | 13.161,139 | 11.811,278 |
| 25 | 9+600 | 9.127,243 | 0,011 | 0,009 | 0,007 | 0,006 | 0,004173 | 0,0025 | 0,0017 | 0,0012 | 0,0009 | ~ | 21.030,472 | 12.663,510 | 13.177,135 | 14.813,917 | 18.693,753 | 22.432,504 | 26.171,254 | 28.040,629 | 22.432,504 |
| 26 | 10+000 | 9.104,762 | 0,011 | 0,009 | 0,007 | 0,006 | 0,004685 | 0,003 | 0,0021 | 0,0014 | 0,0012 | ~ | 20.431,403 | 12.431,806 | 12.205,773 | 13.163,089 | 15.257,217 | 17.404,529 | 21.755,661 | 22.377,251 | 17.404,529 |
| 27 | 10+400 | 8.767,549 | 0,023 | 0,018 | 0,014 | 0,01 | 0,006929 | 0,0033 | 0,0019 | 0,0016 | 0,0014 | ~ | 10.168,938 | 6.539,274 | 7.043,078 | 8.570,412 | 13.630,053 | 18.470,112 | 18.395,030 | 18.470,112 | 18.395,030 |
| 28 | 10+800 | 9.082,281 | 0,02 | 0,015 | 0,011 | 0,008 | 0,004921 | 0,0022 | 0,0015 | 0,0013 | 0,0011 | ~ | 12.669,242 | 8.252,852 | 9.469,939 | 12.500,319 | 20.926,874 | 25.338,485 | 23.674,847 | 23.091,723 | 23.091,723 |
| 29 | 11+200 | 9.082,281 | 0,005 | 0,004 | 0,004 | 0,003 | 0,002835 | 0,0021 | 0,0016 | 0,0012 | 0,0009 | ~ | 44.222,827 | 24.414,686 | 22.059,387 | 21.701,943 | 21.701,943 | 22.866,438 | 25.202,256 | 27.902,498 | 22.866,438 |
| 30 | 11+600 | 8.834,991 | 0,012 | 0,01 | 0,009 | 0,007 | 0,005433 | 0,0034 | 0,0022 | 0,0016 | 0,0012 | ~ | 17.471,213 | 10.316,712 | 10.422,826 | 11.014,460 | 13.255,775 | 16.285,666 | 18.536,530 | 21.013,763 | 16.285,666 |
| 31 | 12+000 | 9.172,205 | 0,018 | 0,013 | 0,01 | 0,007 | 0,005079 | 0,0029 | 0,002 | 0,0015 | 0,0012 | ~ | 14.389,154 | 9.355,794 | 10.520,071 | 12.232,640 | 15.993,351 | 18.936,127 | 20.230,905 | 21.815,815 | 18.936,127 |
| 32 | 12+400 | 9.082,281 | 0,01 | 0,008 | 0,007 | 0,005 | 0,00378 | 0,0022 | 0,0015 | 0,0011 | 0,0009 | ~ | 22.755,435 | 13.787,117 | 14.764,157 | 16.276,457 | 20.559,736 | 25.338,485 | 27.902,498 | 30.439,089 | 25.338,485 |
| 33 | 12+800 | 9.037,320 | 0,01 | 0,008 | 0,007 | 0,006 | 0,005079 | 0,0037 | 0,0029 | 0,0022 | 0,0018 | ~ | 23.091,157 | 13.102,286 | 12.194,546 | 12.052,748 | 12.274,773 | 12.779,216 | 13.638,636 | 14.807,662 | 12.779,216 |
| 34 | 13+200 | 8.992,358 | 0,012 | 0,009 | 0,007 | 0,006 | 0,004449 | 0,0029 | 0,002 | 0,0016 | 0,0012 | ~ | 20.179,164 | 12.213,704 | 12.543,804 | 13.690,878 | 15.894,547 | 17.850,799 | 18.866,698 | 21.388,054 | 17.850,799 |
| 35 | 13+600 | 8.969,877 | 0,01 | 0,008 | 0,007 | 0,006 | 0,004606 | 0,0031 | 0,0022 | 0,0017 | 0,0014 | ~ | 21.735,233 | 12.718,694 | 12.597,564 | 13.189,757 | 14.650,647 | 16.534,302 | 17.536,381 | 18.896,345 | 16.534,302 |
| 36 | 14+000 | 8.992,358 | 0,018 | 0,015 | 0,012 | 0,009 | 0,006969 | 0,0043 | 0,003 | 0,0024 | 0,0021 | ~ | 12.577,798 | 7.510,045 | 7.933,688 | 8.740,504 | 10.644,972 | 12.055,085 | 12.476,365 | 12.278,327 | 12.055,085 |
| 37 | 14+400 | 8.992,358 | 0,015 | 0,012 | 0,01 | 0,008 | 0,006535 | 0,0043 | 0,0029 | 0,002 | 0,0015 | ~ | 15.117,940 | 8.925,399 | 8.675,154 | 9.319,694 | 10.644,972 | 12.715,637 | 14.875,665 | 17.448,149 | 12.715,637 |
| 38 | 14+800 | 8.969,877 | 0,015 | 0,013 | 0,011 | 0,009 | 0,007717 | 0,0052 | 0,0035 | 0,0022 | 0,0015 | ~ | 14.244,937 | 8.065,513 | 7.716,008 | 7.873,477 | 8.768,191 | 10.403,606 | 14.029,105 | 17.874,921 | 10.403,606 |
| 39 | 15+200 | 8.969,877 | 0,021 | 0,017 | 0,014 | 0,011 | 0,008268 | 0,0048 | 0,003 | 0,002 | 0,0015 | ~ | 10.569,874 | 6.359,347 | 6.637,426 | 7.348,579 | 9.565,299 | 12.345,612 | 15.432,015 | 17.874,921 | 12.345,612 |
| 40 | 15+600 | 9.014,839 | 0,025 | 0,02 | 0,016 | 0,012 | 0,008425 | 0,005 | 0,0035 | 0,0028 | 0,0024 | ~ | 9.287,047 | 5.730,062 | 6.245,383 | 7.247,369 | 9.159,076 | 10.574,570 | 10.770,395 | 11.078,121 | 10.574,570 |
| 41 | 16+000 | 8.992,358 | 0,012 | 0,008 | 0,006 | 0,004 | 0,002244 | 0,0009 | 0,0007 | 0,0007 | 0,0006 | ~ | 21.687,886 | 14.324,715 | 18.564,830 | 27.141,565 | 50.447,909 | 51.568,974 | 45.502,036 | 47.359,261 | 45.502,036 |
| 42 | 16+400 | 9.104,762 | 0,012 | 0,01 | 0,009 | 0,007 | 0,005 | 0,003 | 0,002 | 0,0015 | 0,0012 | ~ | 18.574,003 | 10.877,830 | 11.188,626 | 12.333,918 | 15.457,969 | 18.796,891 | 20.082,148 | 21.655,404 | 18.796,891 |
| 43 | 16+800 | 9.104,762 | 0,014 | 0,011 | 0,009 | 0,007 | 0,005236 | 0,0032 | 0,0021 | 0,0016 | 0,0013 | ~ | 17.150,448 | 10.350,711 | 10.802,811 | 11.777,501 | 14.503,774 | 17.732,916 | 19.580,095 | 20.342,955 | 17.732,916 |
| 44 | 17+200 | 9.149,724 | 0,016 | 0,012 | 0,01 | 0,007 | 0,004803 | 0,0027 | 0,0019 | 0,0015 | 0,0013 | ~ | 15.382,504 | 9.559,572 | 10.856,158 | 12.902,811 | 17.361,870 | 20.095,442 | 20.181,319 | 19.842,138 | 19.842,138 |
| 45 | 17+600 | 9.104,762 | 0,018 | 0,013 | 0,009 | 0,006 | 0,004252 | 0,0026 | 0,0019 | 0,0016 | 0,0013 | ~ | 14.639,323 | 9.790,047 | 11.675,087 | 14.503,774 | 17.534,413 | 19.996,692 | 19.580,095 | 20.342,955 | 19.580,095 |
| 46 | 18+000 | 9.082,281 | 0,022 | 0,017 | 0,014 | 0,011 | 0,008346 | 0,0054 | 0,0037 | 0,0028 | 0,0023 | ~ | 10.702,328 | 6.528,718 | 6.843,240 | 7.370,471 | 8.554,051 | 9.868,673 | 11.160,999 | 11.350,169 | 9.868,673 |
| 47 | 18+400 | 9.217,167 | 0,017 | 0,014 | 0,012 | 0,009 | 0,007087 | 0,0046 | 0,003 | 0,0023 | 0,0019 | ~ | 13.438,525 | 8.035,875 | 8.097,426 | 8.809,700 | 10.078,894 | 12.356,462 | 13.438,525 | 14.158,446 | 12.356,462 |
| Rata-rata | | | | | | | | | | | | | | | | | | | | | 17.273,266 |