**Table 7** Cutting plan of comprehensive building in mechanical work area.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. |  |  | |  |  |  |  |  |  |  |  | Remaining length | No. of Rebar |
| 1 | 3.2 | | 1 | 3.135 | 1 | 3.101 | 1 | 2.326 | 1 | 0.238 | 1 | 0 | 2 |
| 2 | 2.237 | | 1 | 1.402 | 1 | 1.047 | 7 | 0.172 | 6 |  |  | 0 | 2 |
| 3 | 2.33 | | 1 | 1.402 | 2 | 1.113 | 3 | 1.068 | 2 | 1.047 | 1 | 0 | 1 |
| 0.172 | | 2 |  |  |  |  |  |  |  |  |
| 4 | 2.522 | | 3 | 2.327 | 1 | 1.935 | 1 | 0.172 | 1 |  |  | 0 | 1 |
| 5 | 2.33 | | 1 | 2.325 | 1 | 2.11 | 2 | 1.935 | 1 | 0.238 | 5 | 0 | 2 |
| 6 | 4.08 | | 1 | 1.943 | 1 | 1.935 | 3 | 0.172 | 1 |  |  | 0 | 1 |
| 7 | 2.81 | | 2 | 2.585 | 1 | 2.51 | 1 | 1.113 | 1 | 0.172 | 1 | 0 | 2 |
| 8 | 3.002 | | 1 | 2.81 | 1 | 2.505 | 1 | 1.113 | 1 | 1.047 | 2 | 0 | 1 |
| 0.238 | | 2 |  |  |  |  |  |  |  |  |
| 9 | 3.155 | | 3 | 2.535 | 1 |  |  |  |  |  |  | 0 | 5 |
| 10 | 3.235 | | 2 | 2.11 | 1 | 1.71 | 2 |  |  |  |  | 0 | 3 |
| 11 | 3.235 | | 1 | 2.605 | 1 | 1.935 | 1 | 1.71 | 1 | 1.468 | 1 | 0 | 1 |
| 1.047 | | 1 |  |  |  |  |  |  |  |  |
| 12 | 2.325 | | 1 | 1.935 | 5 |  |  |  |  |  |  | 0 | 4 |
| 13 | 3.397 | | 1 | 2.888 | 1 | 2.325 | 1 | 2.277 | 1 | 1.113 | 1 | 0 | 1 |
| 14 | 2.518 | | 1 | 2.329 | 1 | 2.11 | 1 | 1.935 | 1 | 1.468 | 1 | 0 | 1 |
| 1.402 | | 1 | 0.238 | 1 |  |  |  |  |  |  |
| 15 | 3.976 | | 1 | 3.975 | 1 | 1.468 | 2 | 1.113 | 1 |  |  | 0 | 2 |
| 16 | 3.987 | | 1 | 3.201 | 1 | 2.535 | 1 | 2.277 | 1 |  |  | 0 | 2 |
| 17 | 3.48 | | 1 | 3.201 | 1 | 1.402 | 3 | 1.113 | 1 |  |  | 0 | 2 |
| 18 | 4.08 | | 1 | 3.468 | 1 | 1.113 | 4 |  |  |  |  | 0 | 1 |
| 19 | 3.485 | | 2 | 2.226 | 1 | 1.402 | 2 |  |  |  |  | 0 | 3 |
| 20 | 2.535 | | 1 | 2.51 | 1 | 2.505 | 1 | 2.225 | 2 |  |  | 0 | 1 |
| 21 | 2.952 | | 1 | 2.343 | 1 | 2.235 | 3 |  |  |  |  | 0 | 2 |
| 22 | 2.888 | | 1 | 2.33 | 2 | 2.226 | 2 |  |  |  |  | 0 | 1 |
| 23 | 2.585 | | 1 | 2.518 | 1 | 2.33 | 1 | 2.329 | 1 | 2.238 | 1 | 0 | 1 |
| 24 | 3.101 | | 1 | 2.277 | 2 | 2.235 | 1 | 2.11 | 1 |  |  | 0 | 7 |
| 25 | 5 | | 1 | 2.555 | 1 | 2.51 | 1 | 1.935 | 1 |  |  | 0 | 1 |
| 26 | 4.075 | | 1 | 3.135 | 1 | 2.555 | 1 | 2.235 | 1 |  |  | 0 | 6 |
| 27 | 2.51 | | 1 | 2.505 | 1 | 1.468 | 4 | 1.113 | 1 |  |  | 0 | 1 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. |  |  |  |  |  |  |  |  |  |  | Remaining length | No. of Rebar |
| 28 | 3.397 | 1 | 3.2 | 1 | 2.81 | 1 | 2.593 | 1 |  |  | 0 | 2 |
| 29 | 6.755 | 1 | 2.902 | 1 | 2.343 | 1 | 0 | 1 |  |  | 0 | 1 |
| 30 | 3.397 | 1 | 3.208 | 1 | 2.81 | 1 | 2.585 | 1 |  |  | 0 | 4 |
| 31 | 3.202 | 1 | 3.188 | 1 | 3.1 | 1 | 2.51 | 1 |  |  | 0 | 2 |
| 32 | 4.077 | 1 | 2.235 | 1 | 2.11 | 2 | 1.468 | 1 |  |  | 0 | 1 |
| 33 | 4.08 | 1 | 2.81 | 1 | 2.605 | 1 | 2.505 | 1 |  |  | 0 | 1 |
| 34 | 3.235 | 1 | 3.11 | 1 | 3.1 | 1 | 2.555 | 1 |  |  | 0 | 19 |
| 35 | 3.976 | 1 | 3.11 | 1 | 2.585 | 1 | 2.329 | 1 |  |  | 0 | 3 |
| 36 | 3.485 | 1 | 3.2 | 1 | 2.81 | 1 | 2.505 | 1 |  |  | 0 | 4 |
| 37 | 4.11 | 1 | 3.204 | 1 | 2.343 | 2 |  |  |  |  | 0 | 6 |
| 38 | 3.468 | 1 | 3.1 | 1 | 2.922 | 1 | 2.51 | 1 |  |  | 0 | 1 |
| 39 | 5 | 1 | 2.922 | 1 | 2.61 | 1 | 1.468 | 1 |  |  | 0 | 3 |
| 40 | 4.08 | 1 | 3.2 | 1 | 2.61 | 1 | 2.11 | 1 |  |  | 0 | 3 |
| 41 | 3.2 | 1 | 3.188 | 1 | 3.002 | 1 | 2.61 | 1 |  |  | 0 | 1 |
| 42 | 4.076 | 1 | 2.985 | 1 | 2.61 | 1 | 2.329 | 1 |  |  | 0 | 2 |
| 43 | 4.075 | 1 | 2.81 | 1 | 2.61 | 1 | 2.505 | 1 |  |  | 0 | 1 |
| 44 | 4.9 | 1 | 3.988 | 1 | 3.112 | 1 |  |  |  |  | 0 | 1 |
| 45 | 3.2 | 1 | 3.112 | 1 | 2.11 | 2 | 1.468 | 1 |  |  | 0 | 3 |
| 46 | 4.6 | 1 | 3.03 | 1 | 2.902 | 1 | 1.468 | 1 |  |  | 0 | 1 |
| 47 | 3.03 | 1 | 2.985 | 3 |  |  |  |  |  |  | 0.015 | 1 |
| 48 | 3.1 | 1 | 3.03 | 2 | 2.81 | 1 |  |  |  |  | 0.03 | 1 |
| 49 | 3.1 | 2 | 2.985 | 1 | 2.81 | 1 |  |  |  |  | 0.005 | 9 |
| 50 | 3.2 | 1 | 2.922 | 2 | 2.902 | 1 |  |  |  |  | 0.054 | 1 |
| 51 | 3.2 | 1 | 2.922 | 3 |  |  |  |  |  |  | 0.034 | 2 |
| 52 | 3.2 | 1 | 2.985 | 1 | 2.902 | 2 |  |  |  |  | 0.011 | 1 |
| 53 | 3.2 | 1 | 2.985 | 1 | 2.922 | 1 | 2.81 | 1 |  |  | 0.083 | 1 |
| 54 | 3.2 | 1 | 3.1 | 2 | 2.505 | 1 |  |  |  |  | 0.095 | 3 |
| 55 | 3.2 | 1 | 3.1 | 2 | 2.585 | 1 |  |  |  |  | 0.015 | 1 |
| 56 | 3.2 | 1 | 3.118 | 1 | 3.11 | 1 | 2.522 | 1 |  |  | 0.05 | 1 |
| 57 | 3.2 | 1 | 3.188 | 1 | 3.1 | 1 | 2.505 | 1 |  |  | 0.007 | 1 |
| 58 | 3.2 | 2 | 2.81 | 1 | 2.505 | 1 |  |  |  |  | 0.285 | 1 |
| 59 | 3.2 | 3 | 2.329 | 1 |  |  |  |  |  |  | 0.071 | 6 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. |  |  |  |  |  |  |  |  |  |  | Remaining length | No. of Rebar |
| 60 | 3.2 | 3 | 2.343 | 1 |  |  |  |  |  |  | 0.057 | 3 |
| 61 | 3.208 | 1 | 3.2 | 1 | 3.03 | 1 | 2.522 | 1 |  |  | 0.04 | 3 |
| 62 | 3.235 | 1 | 3.101 | 1 | 3.1 | 1 | 2.505 | 1 |  |  | 0.059 | 1 |
| 63 | 3.235 | 1 | 3.101 | 2 | 2.505 | 1 |  |  |  |  | 0.058 | 4 |
| 64 | 3.235 | 1 | 3.11 | 1 | 3.1 | 1 | 2.505 | 1 |  |  | 0.05 | 1 |
| 65 | 3.235 | 1 | 3.113 | 2 | 2.505 | 1 |  |  |  |  | 0.034 | 1 |
| 66 | 3.235 | 1 | 3.208 | 1 | 3.2 | 1 | 2.329 | 1 |  |  | 0.028 | 3 |
| 67 | 3.235 | 3 | 2.11 | 1 |  |  |  |  |  |  | 0.185 | 2 |
| 68 | 4.079 | 2 | 3.235 | 1 |  |  |  |  |  |  | 0.607 | 7 |
| 69 | 4.11 | 1 | 4.075 | 1 | 3.208 | 1 |  |  |  |  | 0.607 | 1 |
| 70 | 4.11 | 2 | 3.235 | 1 |  |  |  |  |  |  | 0.545 | 42 |
| 71 | 4.566 | 1 | 4.075 | 1 | 3.235 | 1 |  |  |  |  | 0.124 | 4 |
| 72 | 4.6 | 1 | 4.11 | 1 | 3.235 | 1 |  |  |  |  | 0.055 | 5 |
| 73 | 4.634 | 1 | 4.11 | 1 | 3.235 | 1 |  |  |  |  | 0.021 | 40 |
| 74 | 4.9 | 1 | 3.235 | 1 | 3.2 | 1 |  |  |  |  | 0.665 | 1 |
| 75 | 4.9 | 1 | 3.38 | 2 |  |  |  |  |  |  | 0.34 | 4 |
| 76 | 4.9 | 1 | 4.075 | 1 | 2.985 | 1 |  |  |  |  | 0.04 | 5 |
| 77 | 4.9 | 1 | 4.11 | 1 | 2.985 | 1 |  |  |  |  | 0.005 | 7 |
| 78 | 4.966 | 1 | 3.38 | 2 |  |  |  |  |  |  | 0.274 | 2 |
| 79 | 6.66 | 1 | 4.966 | 1 |  |  |  |  |  |  | 0.374 | 4 |
| 80 | 7.185 | 1 | 4.566 | 1 |  |  |  |  |  |  | 0.249 | 10 |
| 81 | 7.185 | 1 | 4.746 | 1 |  |  |  |  |  |  | 0.069 | 2 |
| 82 | 7.285 | 1 | 4.6 | 1 |  |  |  |  |  |  | 0.115 | 16 |
| 83 | 7.285 | 1 | 4.666 | 1 |  |  |  |  |  |  | 0.049 | 2 |
| 84 | 7.835 | 1 | 4.11 | 1 |  |  |  |  |  |  | 0.055 | 4 |
| 85 | 7.955 | 1 | 3.38 | 1 |  |  |  |  |  |  | 0.665 | 2 |
| 86 | 8.05 | 1 | 3.38 | 1 |  |  |  |  |  |  | 0.57 | 4 |
| 87 | 8.1 | 1 | 3.208 | 1 |  |  |  |  |  |  | 0.692 | 1 |
| 88 | 8.1 | 1 | 3.38 | 1 |  |  |  |  |  |  | 0.52 | 3 |
| 89 | 8.455 | 1 | 3.235 | 1 |  |  |  |  |  |  | 0.31 | 6 |
| 90 | 10.21 | 1 |  |  |  |  |  |  |  |  | 1.79 | 2 |
| 91 | 10.26 | 1 |  |  |  |  |  |  |  |  | 1.74 | 2 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No. |  |  |  |  |  |  |  |  |  |  | Remaining length | No. of Rebar |
| 92 | 11.217 | 1 |  |  |  |  |  |  |  |  | 0.783 | 2 |
| 93 | 11.241 | 1 |  |  |  |  |  |  |  |  | 0.759 | 1 |
| Total | Number of steel bars used: 342, Loss Rate: 1.488% | | | | | | | | | | | |

**Table 8** Cutting plan for garbage building.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NO.** |  |  |  |  |  |  |  |  |  |  | **Remaining length** | **No. of Rebar** |
| 1 | 3.143 | 1 | 2.94 | 3 |  |  |  |  |  |  | 0.037 | 3 |
| 2 | 3.143 | 2 | 2.94 | 1 | 2.67 | 1 |  |  |  |  | 0.104 | 8 |
| 3 | 3.948 | 3 |  |  |  |  |  |  |  |  | 0.156 | 1 |
| 4 | 4.702 | 1 | 2.67 | 2 | 1.795 | 1 |  |  |  |  | 0.163 | 9 |
| 5 | 4.702 | 1 | 3.815 | 1 | 3.143 | 1 |  |  |  |  | 0.34 | 1 |
| 6 | 4.702 | 1 | 4.2 | 1 | 2.94 | 1 |  |  |  |  | 0.158 | 4 |
| 7 | 4.702 | 1 | 4.2 | 1 | 3.073 | 1 |  |  |  |  | 0.025 | 2 |
| 8 | 4.702 | 2 | 1.795 | 1 | 0.35 | 2 |  |  |  |  | 0.101 | 1 |
| 9 | 4.905 | 1 | 3.143 | 1 | 1.795 | 2 | 0.35 | 1 |  |  | 0.012 | 1 |
| 10 | 4.905 | 1 | 3.143 | 1 | 2.065 | 1 | 1.795 | 1 |  |  | 0.092 | 1 |
| 11 | 4.905 | 2 | 1.795 | 1 | 0.35 | 1 |  |  |  |  | 0.045 | 9 |
| 12 | 5.2 | 1 | 3.143 | 1 | 1.795 | 2 |  |  |  |  | 0.067 | 1 |
| 13 | 5.2 | 1 | 4.905 | 1 | 1.795 | 1 |  |  |  |  | 0.1 | 5 |
| 14 | 5.78 | 1 | 3.143 | 1 | 2.94 | 1 |  |  |  |  | 0.137 | 1 |
| 15 | 5.78 | 1 | 3.143 | 1 | 3.063 | 1 |  |  |  |  | 0.014 | 4 |
| 16 | 5.78 | 2 | 0.35 | 1 |  |  |  |  |  |  | 0.09 | 10 |
| 17 | 5.9 | 1 | 3.143 | 1 | 2.94 | 1 |  |  |  |  | 0.017 | 8 |
| 18 | 6.373 | 1 | 3.815 | 1 | 1.795 | 1 |  |  |  |  | 0.017 | 2 |
| 19 | 6.373 | 1 | 5.577 | 1 |  |  |  |  |  |  | 0.05 | 18 |
| 20 | 9.21 | 1 | 2.67 | 1 |  |  |  |  |  |  | 0.12 | 10 |
| 21 | 9.62 | 1 | 1.795 | 1 | 0.35 | 1 |  |  |  |  | 0.235 | 6 |
| 22 | 9.62 | 1 | 2.065 | 1 |  |  |  |  |  |  | 0.315 | 2 |
| Total | | | Number of steel bars used: 107, Loss Rate: 1.348% | | | | | | | | | | |

**Table 9** Comprehensive cutting plan.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| NO. |  |  |  |  |  |  |  |  |  |  | Remaining length | No. of Rebar |
| 1 | 3.188 | 2 | 2.343 | 1 | 1.468 | 1 | 1.113 | 1 | 0.35 | 2 | 0 | 1 |
| 2 | 2.94 | 1 | 2.67 | 3 | 0.35 | 3 |  |  |  |  | 0 | 1 |
| 3 | 2.33 | 2 | 1.468 | 5 |  |  |  |  |  |  | 0 | 2 |
| 4 | 4.6 | 1 | 2.238 | 1 | 1.468 | 2 | 1.113 | 2 |  |  | 0 | 1 |
| 5 | 1.402 | 3 | 1.068 | 2 | 0.35 | 4 | 0.238 | 15 | 0.172 | 4 | 0 | 1 |
| 6 | 3.188 | 1 | 3.143 | 1 | 2.518 | 1 | 1.935 | 1 | 0.35 | 2 | 0 | 2 |
| 0.172 | 3 |  |  |  |  |  |  |  |  |
| 7 | 4.746 | 1 | 3.48 | 1 | 3.252 | 1 | 0.35 | 1 | 0.172 | 1 | 0 | 2 |
| 8 | 2.605 | 1 | 2.585 | 3 | 1.468 | 1 | 0.172 | 1 |  |  | 0 | 2 |
| 9 | 2.585 | 1 | 2.505 | 2 | 2.065 | 1 | 1.468 | 1 | 0.35 | 2 | 0 | 3 |
| 0.172 | 1 |  |  |  |  |  |  |  |  |
| 10 | 8.606 | 1 | 2.522 | 1 | 0.35 | 2 | 0.172 | 1 |  |  | 0 | 1 |
| 11 | 2.593 | 1 | 2.51 | 1 | 2.33 | 2 | 2.237 | 1 |  |  | 0 | 1 |
| 12 | 3.235 | 1 | 2.505 | 1 | 2.343 | 1 | 1.402 | 2 | 1.113 | 1 | 0 | 7 |
| 13 | 4.666 | 1 | 2.329 | 2 | 2.326 | 1 | 0.35 | 1 |  |  | 0 | 1 |
| 14 | 3.975 | 1 | 3.948 | 1 | 3.03 | 1 | 1.047 | 1 |  |  | 0 | 2 |
| 15 | 2.325 | 1 | 1.935 | 5 |  |  |  |  |  |  | 0 | 5 |
| 16 | 2.81 | 2 | 2.51 | 1 | 1.935 | 2 |  |  |  |  | 0 | 1 |
| 17 | 4.2 | 1 | 2.67 | 1 | 1.71 | 3 |  |  |  |  | 0 | 2 |
| 18 | 2.81 | 1 | 1.795 | 1 | 1.113 | 1 | 1.047 | 6 |  |  | 0 | 2 |
| 19 | 3.485 | 1 | 3.208 | 1 | 3.03 | 1 | 2.277 | 1 |  |  | 0 | 4 |
| 20 | 4.702 | 1 | 4.075 | 1 | 2.11 | 1 | 1.113 | 1 |  |  | 0 | 4 |
| 21 | 2.61 | 2 | 2.535 | 2 | 1.71 | 1 |  |  |  |  | 0 | 1 |
| 22 | 4.6 | 1 | 2.952 | 1 | 2.505 | 1 | 1.943 | 1 |  |  | 0 | 1 |
| 23 | 5.577 | 1 | 4.08 | 1 | 2.343 | 1 |  |  |  |  | 0 | 6 |
| 24 | 3.155 | 1 | 2.67 | 1 | 2.593 | 1 | 2.535 | 1 | 1.047 | 1 | 0 | 1 |
| 25 | 3.143 | 1 | 2.277 | 1 | 2.235 | 2 | 2.11 | 1 |  |  | 0 | 10 |
| 26 | 3.468 | 1 | 3.143 | 1 | 3.063 | 1 | 2.326 | 1 |  |  | 0 | 1 |
| 27 | 3.143 | 1 | 3.063 | 1 | 2.952 | 1 | 1.795 | 1 | 1.047 | 1 | 0 | 1 |
| 28 | 3.2 | 1 | 2.67 | 1 | 2.225 | 1 | 2.11 | 1 | 1.795 | 1 | 0 | 2 |
| 29 | 6.66 | 1 | 2.67 | 2 |  |  |  |  |  |  | 0 | 4 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| NO. |  |  |  |  |  |  |  |  |  |  | Remaining length | No. of Rebar |
| 30 | 6.755 | 1 | 3.135 | 1 | 2.11 | 1 |  |  |  |  | 0 | 1 |
| 31 | 4.566 | 1 | 2.67 | 2 | 1.047 | 2 |  |  |  |  | 0 | 1 |
| 32 | 3.987 | 1 | 2.963 | 1 | 2.94 | 1 | 2.11 | 1 |  |  | 0 | 2 |
| 33 | 2.585 | 1 | 2.555 | 2 | 2.51 | 1 | 1.795 | 1 |  |  | 0 | 2 |
| 34 | 4.076 | 1 | 3.204 | 1 | 2.61 | 1 | 2.11 | 1 |  |  | 0 | 2 |
| 35 | 3.252 | 1 | 3.208 | 1 | 2.985 | 1 | 2.555 | 1 |  |  | 0 | 6 |
| 36 | 3.118 | 1 | 3.002 | 1 | 2.94 | 2 |  |  |  |  | 0 | 1 |
| 37 | 3.202 | 1 | 3.143 | 1 | 3.1 | 1 | 2.555 | 1 |  |  | 0 | 2 |
| 38 | 4.11 | 1 | 3.143 | 1 | 2.51 | 1 | 2.237 | 1 |  |  | 0 | 1 |
| 39 | 2.51 | 1 | 2.505 | 1 | 2.329 | 2 | 2.327 | 1 |  |  | 0 | 1 |
| 40 | 3.2 | 1 | 3.143 | 1 | 3.135 | 1 | 2.522 | 1 |  |  | 0 | 6 |
| 41 | 4.127 | 1 | 3.201 | 1 | 2.343 | 1 | 2.329 | 1 |  |  | 0 | 4 |
| 42 | 3.2 | 1 | 3.155 | 1 | 3.135 | 1 | 2.51 | 1 |  |  | 0 | 1 |
| 43 | 3.113 | 1 | 3.063 | 1 | 2.922 | 1 | 2.902 | 1 |  |  | 0 | 2 |
| 44 | 3.815 | 1 | 3.073 | 1 | 3.002 | 1 | 2.11 | 1 |  |  | 0 | 1 |
| 45 | 3.11 | 3 | 2.67 | 1 |  |  |  |  |  |  | 0 | 8 |
| 46 | 3.204 | 1 | 3.143 | 2 | 2.51 | 1 |  |  |  |  | 0 | 1 |
| 47 | 3.468 | 1 | 3.143 | 1 | 3.112 | 1 | 2.277 | 1 |  |  | 0 | 1 |
| 48 | 3.155 | 3 | 2.535 | 1 |  |  |  |  |  |  | 0 | 4 |
| 49 | 4.075 | 1 | 3.143 | 1 | 2.505 | 1 | 2.277 | 1 |  |  | 0 | 2 |
| 50 | 3.112 | 2 | 2.888 | 2 |  |  |  |  |  |  | 0 | 1 |
| 51 | 3.073 | 1 | 2.329 | 1 | 2.226 | 2 | 2.11 | 1 |  |  | 0.036 | 1 |
| 52 | 3.1 | 3 | 2.67 | 1 |  |  |  |  |  |  | 0.03 | 1 |
| 53 | 3.101 | 3 | 2.67 | 1 |  |  |  |  |  |  | 0.027 | 1 |
| 54 | 3.143 | 2 | 2.902 | 1 | 2.81 | 1 |  |  |  |  | 0.002 | 1 |
| 55 | 3.143 | 3 | 2.535 | 1 |  |  |  |  |  |  | 0.036 | 1 |
| 56 | 3.2 | 1 | 3.101 | 1 | 3.1 | 1 | 2.505 | 1 |  |  | 0.094 | 1 |
| 57 | 3.2 | 3 | 2.11 | 1 |  |  |  |  |  |  | 0.29 | 3 |
| 58 | 3.2 | 3 | 2.226 | 1 |  |  |  |  |  |  | 0.174 | 3 |
| 59 | 3.2 | 3 | 2.325 | 1 |  |  |  |  |  |  | 0.075 | 2 |
| 60 | 3.235 | 1 | 3.2 | 1 | 3.143 | 1 | 2.088 | 1 |  |  | 0.334 | 1 |
| 61 | 3.235 | 2 | 1.795 | 3 |  |  |  |  |  |  | 0.145 | 3 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| NO. |  |  |  |  |  |  |  |  |  |  | Remaining length | No. of Rebar |
| 62 | 3.235 | 3 | 2.088 | 1 |  |  |  |  |  |  | 0.207 | 7 |
| 63 | 3.38 | 1 | 3.235 | 1 | 3.2 | 1 | 1.795 | 1 |  |  | 0.39 | 1 |
| 64 | 3.38 | 1 | 3.235 | 1 | 3.2 | 1 | 2.11 | 1 |  |  | 0.075 | 1 |
| 65 | 3.397 | 1 | 3.38 | 1 | 3.235 | 1 | 1.795 | 1 |  |  | 0.193 | 1 |
| 66 | 4.075 | 1 | 3.2 | 1 | 2.922 | 1 | 1.795 | 1 |  |  | 0.008 | 1 |
| 67 | 4.079 | 1 | 3.2 | 1 | 2.902 | 1 | 1.795 | 1 |  |  | 0.024 | 2 |
| 68 | 4.079 | 1 | 4.075 | 1 | 3.397 | 1 |  |  |  |  | 0.449 | 1 |
| 69 | 4.11 | 1 | 3.1 | 1 | 2.985 | 1 | 1.795 | 1 |  |  | 0.01 | 2 |
| 70 | 4.11 | 1 | 4.075 | 1 | 3.38 | 1 |  |  |  |  | 0.435 | 1 |
| 71 | 4.11 | 2 | 3.235 | 1 |  |  |  |  |  |  | 0.545 | 23 |
| 72 | 4.127 | 1 | 3.1 | 1 | 2.94 | 1 | 1.795 | 1 |  |  | 0.038 | 1 |
| 73 | 4.127 | 1 | 4.11 | 1 | 3.38 | 1 |  |  |  |  | 0.383 | 1 |
| 74 | 4.566 | 1 | 4.075 | 1 | 3.235 | 1 |  |  |  |  | 0.124 | 4 |
| 75 | 4.566 | 1 | 4.079 | 1 | 3.235 | 1 |  |  |  |  | 0.12 | 2 |
| 76 | 4.566 | 1 | 4.11 | 1 | 3.204 | 1 |  |  |  |  | 0.12 | 3 |
| 77 | 4.566 | 1 | 4.2 | 1 | 3.2 | 1 |  |  |  |  | 0.034 | 4 |
| 78 | 4.6 | 1 | 4.11 | 1 | 3.235 | 1 |  |  |  |  | 0.055 | 20 |
| 79 | 4.634 | 1 | 4.11 | 1 | 3.235 | 1 |  |  |  |  | 0.021 | 31 |
| 80 | 4.702 | 1 | 4.079 | 1 | 3.2 | 1 |  |  |  |  | 0.019 | 1 |
| 81 | 4.702 | 1 | 4.079 | 1 | 3.208 | 1 |  |  |  |  | 0.011 | 2 |
| 82 | 4.702 | 1 | 4.11 | 1 | 3.143 | 1 |  |  |  |  | 0.045 | 1 |
| 83 | 4.702 | 1 | 4.11 | 1 | 3.155 | 1 |  |  |  |  | 0.033 | 1 |
| 84 | 4.9 | 1 | 4.11 | 1 | 2.985 | 1 |  |  |  |  | 0.005 | 18 |
| 85 | 4.905 | 1 | 3.976 | 1 | 3.101 | 1 |  |  |  |  | 0.018 | 2 |
| 86 | 4.905 | 1 | 3.976 | 1 | 3.112 | 1 |  |  |  |  | 0.007 | 1 |
| 87 | 4.905 | 1 | 3.988 | 1 | 3.1 | 1 |  |  |  |  | 0.007 | 1 |
| 88 | 4.905 | 1 | 4.077 | 1 | 2.985 | 1 |  |  |  |  | 0.033 | 1 |
| 89 | 4.905 | 1 | 4.079 | 1 | 2.94 | 1 |  |  |  |  | 0.076 | 5 |
| 90 | 4.905 | 1 | 4.079 | 1 | 2.985 | 1 |  |  |  |  | 0.031 | 1 |
| 91 | 4.905 | 1 | 4.11 | 1 | 2.94 | 1 |  |  |  |  | 0.045 | 12 |
| 92 | 4.905 | 1 | 4.127 | 1 | 2.94 | 1 |  |  |  |  | 0.028 | 2 |
| 93 | 4.966 | 1 | 4.11 | 1 | 2.922 | 1 |  |  |  |  | 0.002 | 6 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| NO. |  |  |  |  |  |  |  |  |  |  | Remaining length | No. of Rebar |
| 94 | 5 | 1 | 4.075 | 1 | 2.922 | 1 |  |  |  |  | 0.003 | 4 |
| 95 | 5.2 | 1 | 3.235 | 2 |  |  |  |  |  |  | 0.33 | 2 |
| 96 | 5.2 | 1 | 3.38 | 2 |  |  |  |  |  |  | 0.04 | 3 |
| 97 | 5.2 | 1 | 3.397 | 2 |  |  |  |  |  |  | 0.006 | 1 |
| 98 | 5.577 | 1 | 3.2 | 2 |  |  |  |  |  |  | 0.023 | 8 |
| 99 | 5.78 | 1 | 3.1 | 2 |  |  |  |  |  |  | 0.02 | 19 |
| 100 | 5.78 | 1 | 3.101 | 2 |  |  |  |  |  |  | 0.018 | 6 |
| 101 | 5.9 | 2 |  |  |  |  |  |  |  |  | 0.2 | 4 |
| 102 | 6.373 | 1 | 2.81 | 2 |  |  |  |  |  |  | 0.007 | 12 |
| 103 | 6.373 | 1 | 3.1 | 1 | 2.505 | 1 |  |  |  |  | 0.022 | 3 |
| 104 | 6.373 | 1 | 3.143 | 1 | 1.795 | 1 |  |  |  |  | 0.689 | 1 |
| 105 | 6.373 | 1 | 5.577 | 1 |  |  |  |  |  |  | 0.05 | 4 |
| 106 | 7.185 | 1 | 2.94 | 1 | 1.795 | 1 |  |  |  |  | 0.08 | 5 |
| 107 | 7.185 | 1 | 2.963 | 1 | 1.795 | 1 |  |  |  |  | 0.057 | 6 |
| 108 | 7.185 | 1 | 4.666 | 1 |  |  |  |  |  |  | 0.149 | 1 |
| 109 | 7.285 | 1 | 4.634 | 1 |  |  |  |  |  |  | 0.081 | 9 |
| 110 | 7.285 | 1 | 4.702 | 1 |  |  |  |  |  |  | 0.013 | 9 |
| 111 | 7.835 | 1 | 4.11 | 1 |  |  |  |  |  |  | 0.055 | 4 |
| 112 | 7.955 | 1 | 3.976 | 1 |  |  |  |  |  |  | 0.069 | 2 |
| 113 | 8.05 | 1 | 3.38 | 1 |  |  |  |  |  |  | 0.57 | 1 |
| 114 | 8.05 | 1 | 3.485 | 1 |  |  |  |  |  |  | 0.465 | 1 |
| 115 | 8.05 | 1 | 3.815 | 1 |  |  |  |  |  |  | 0.135 | 2 |
| 116 | 8.1 | 1 | 3.2 | 1 |  |  |  |  |  |  | 0.7 | 1 |
| 117 | 8.1 | 1 | 3.397 | 1 |  |  |  |  |  |  | 0.503 | 3 |
| 118 | 8.455 | 1 | 3.1 | 1 |  |  |  |  |  |  | 0.445 | 1 |
| 119 | 8.455 | 1 | 3.485 | 1 |  |  |  |  |  |  | 0.06 | 5 |
| 120 | 8.606 | 1 | 3.235 | 1 |  |  |  |  |  |  | 0.159 | 25 |
| 121 | 8.606 | 1 | 3.38 | 1 |  |  |  |  |  |  | 0.014 | 9 |
| 122 | 9.21 | 1 | 2.555 | 1 |  |  |  |  |  |  | 0.235 | 14 |
| 123 | 9.21 | 1 | 2.61 | 1 |  |  |  |  |  |  | 0.18 | 6 |
| 124 | 9.21 | 1 | 2.67 | 1 |  |  |  |  |  |  | 0.12 | 8 |
| 125 | 9.62 | 1 | 2.11 | 1 |  |  |  |  |  |  | 0.27 | 1 |

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| NO. |  |  |  |  |  |  |  |  |  |  | Remaining length | No. of Rebar |
| 126 | 9.62 | 1 | 2.329 | 1 |  |  |  |  |  |  | 0.051 | 7 |
| 127 | 10.21 | 1 |  |  |  |  |  |  |  |  | 1.79 | 2 |
| 128 | 10.26 | 1 |  |  |  |  |  |  |  |  | 1.74 | 2 |
| 129 | 11.217 | 1 |  |  |  |  |  |  |  |  | 0.783 | 2 |
| 130 | 11.241 | 1 |  |  |  |  |  |  |  |  | 0.759 | 1 |
| Total | Number of steel bars used: 494, Loss Rate: 0.876% | | | | | | | | | | | |