| DIST. | COUNTY | ROUTE | KILOMETER POST TOTAL PROJECT | SHEET NO. | TOTAL SHEETS |
|---|---|---|---|---|---|
| | | | | | |

REGISTERED ENGINEER - CIVIL

PLANS APPROVAL DATE

REGISTERED PROFESSIONAL ENGINEER — No. — Exp. — CIVIL — STATE OF CALIFORNIA

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Caltrans Metric

## TRUSS FRAME QUATITIES (WEIGHT - kg)

| PANEL LENGTH m | PANEL DEPTH - mm | | | | | |
|---|---|---|---|---|---|---|
| | 1778 | 2032 | 2286 | 2540 | 2794 | 3048 |
| 12.19 | 2339 | 2424 | 2431 | 2504 | 2504 | 2504 |
| 12.80 | 2456 | 2545 | 2553 | 2629 | 2629 | 2629 |
| 13.41 | 2573 | 2666 | 2674 | 2754 | 2754 | 2754 |
| 14.02 | 2690 | 2788 | 2796 | 2879 | 2879 | 2879 |
| 14.63 | 2807 | 2909 | 2918 | 3005 | 3005 | 3005 |
| 15.24 | 2923 | 3030 | 3039 | 3130 | 3130 | 3130 |
| 15.85 | 3040 | 3151 | 3161 | 3255 | 3255 | 3255 |
| 16.46 | 3157 | 3272 | 3282 | 3380 | 3380 | 3380 |
| 17.07 | 3274 | 3394 | 3404 | 3505 | 3505 | 3505 |
| 17.68 | 3391 | 3515 | 3525 | 3631 | 3631 | 3631 |
| 18.29 | 3508 | 3636 | 3647 | 3756 | 3756 | 3756 |
| 18.90 | 3625 | 3757 | 3769 | 3881 | 3881 | 3881 |
| 19.51 | 3742 | 3878 | 3890 | 4006 | 4006 | 4006 |
| 20.12 | 3859 | 4000 | 4012 | 4131 | 4131 | 4131 |
| 20.73 | 3976 | 4121 | 4133 | 4257 | 4257 | 4257 |
| 21.34 | 4093 | 4242 | 4255 | 4382 | 4382 | 4382 |
| 21.95 | 4670 | 4703 | 4739 | 4899 | 5079 | 5079 |
| 22.56 | 4800 | 4834 | 4870 | 5035 | 5220 | 5220 |
| 23.17 | 4930 | 4964 | 5002 | 5171 | 5361 | 5361 |
| 23.77 | 5059 | 5095 | 5134 | 5307 | 5502 | 5502 |
| 24.38 | 5189 | 5225 | 5265 | 5443 | 5643 | 5643 |
| 24.99 | 5319 | 5356 | 5397 | 5579 | 5784 | 5784 |
| 25.60 | 5449 | 5487 | 5529 | 5715 | 5925 | 5925 |
| 26.21 | 5578 | 5617 | 5660 | 5851 | 6066 | 6066 |
| 26.82 | 5708 | 5748 | 5792 | 5988 | 6207 | 6207 |
| 27.43 | 5838 | 5879 | 5924 | 6124 | 6348 | 6348 |
| 28.04 | 5968 | 6009 | 6055 | 6260 | 6489 | 6489 |
| 28.65 | 6097 | 6140 | 6187 | 6396 | 6630 | 6630 |
| 29.26 | 6227 | 6271 | 6318 | 6532 | 6771 | 6771 |
| 29.87 | 6357 | 6401 | 6450 | 6668 | 6912 | 6912 |
| 30.48 | 6486 | 6532 | 6582 | 6804 | 7053 | 7053 |
| 31.09 | 8805 | 9013 | 9147 | 9314 | 9314 | 9314 |
| 31.70 | 8977 | 9190 | 9326 | 9496 | 9496 | 9496 |
| 32.31 | 9150 | 9366 | 9506 | 9679 | 9679 | 9679 |
| 32.92 | 9323 | 9543 | 9685 | 9861 | 9861 | 9861 |
| 33.53 | 9495 | 9720 | 9864 | 10044 | 10044 | 10044 |
| 34.14 | 9668 | 9896 | 10044 | 10227 | 10227 | 10227 |
| 34.75 | 9840 | 10073 | 10223 | 10409 | 10409 | 10409 |
| 35.36 | 10013 | 10250 | 10402 | 10592 | 10592 | 10592 |
| 35.97 | 10186 | 10427 | 10582 | 10775 | 10775 | 10775 |
| 36.58 | 10358 | 10603 | 10761 | 10957 | 10957 | 10957 |
| 37.19 | 10531 | 10780 | 10941 | 11140 | 11140 | 11140 |
| 37.80 | 10704 | 10957 | 11120 | 11322 | 11322 | 11322 |
| 38.41 | 10876 | 11134 | 11299 | 11505 | 11505 | 11505 |
| 39.01 | 11049 | 11310 | 11479 | 11688 | 11688 | 11688 |
| 39.62 | 11222 | 11487 | 11658 | 11870 | 11870 | 11870 |
| 40.23 | 11394 | 11664 | 11837 | 12053 | 12053 | 12053 |
| 40.84 | 11567 | 11840 | 12017 | 12235 | 12235 | 12235 |
| 41.45 | 11740 | 12017 | 12196 | 12418 | 12418 | 12418 |
| 42.06 | 11912 | 12194 | 12375 | 12601 | 12601 | 12601 |
| 42.67 | 12085 | 12371 | 12555 | 12783 | 12783 | 12783 |
| 43.28 | 12257 | 12547 | 12734 | 12966 | 12966 | 12966 |
| 43.89 | 12430 | 12724 | 12913 | 13149 | 13149 | 13149 |
| 44.50 | 12603 | 12901 | 13093 | 17175 | 17175 | 17175 |

Quantities for stripped span length frame only. For cantilever length see "EXAMPLE". Sign panels, removable frames & walkways are not included. Chord splices are included for spans exceeding 23.16 m.

## POST QUANTITIES (WEIGHT - kg)

| POST TYPE 5.72 m | PANEL DEPTH - mm | | | | | | Column "A" |
|---|---|---|---|---|---|---|---|
| | 1778 | 2032 | 2286 | 2540 | 2794 | 3048 | kg/m |
| I-S | 872 | 899 | 927 | 954 | 954 | 954 | 113.4 |
| II-S | 1004 | 1035 | 1067 | 1098 | 1098 | 1098 | 130.6 |
| III-S | 1136 | 1171 | 1207 | 1242 | 1242 | 1242 | 147.7 |
| IV-S | 1268 | 1307 | 1347 | 1386 | 1386 | 1386 | 164.8 |
| V-S | 1511 | 1558 | 1606 | 1653 | 1653 | 1653 | 196.6 |
| VI-S | | | 3091 | 3181 | 3181 | 3181 | 378.3 |
| VII-S | | | 3091 | 3181 | 3181 | 3181 | 378.3 |

Note:
Wt is for each post of a 2 post truss. Quantities include post (length from base plate to top of truss) and split plates. Quantities are based on "h"= 5.72 m. Column "A" kg/m to be added or subtracted from weights shown on table. (See Example)

## FOUNDATION QUANTITIES FOR SPREAD FOOTING

| POST TYPE | BAR REINF STEEL, kg | CLASS "A" CONC, $m^3$ | STRUCT EXCAV, $m^3$ | STRUCT BACKFILL, $m^3$ |
|---|---|---|---|---|
| I-S | 1365 | 11.2 | 29.7 | 18.6 |
| II-S | 1365 | 11.2 | 29.7 | 18.6 |
| III-S | 1428 | 12.1 | 32.7 | 20.6 |
| IV-S | 1731 | 13.8 | 38.2 | 24.5 |
| V-S | 2386 | 16.0 | 43.3 | 27.3 |
| VI-S | 2470 | 17.4 | 47.8 | 30.4 |
| VII-S | 2628 | 18.8 | 52.5 | 33.6 |

## JUNCTURE CONNECTIONS

UPPER & LOWER CHORD CONNECTIONS (CAP PLATES & RING, WEDGE PLATES & NO ANGLES) kg/EA POST

| POST TYPE | FRAME WIDTH, mm | | | |
|---|---|---|---|---|
| | 610 | 762 | 914 | 1067 |
| I-S | 231 | 227 | 300 | 335 |
| II-S | 253 | 251 | 330 | 369 |
| III-S | 276 | 318 | 361 | 403 |
| IV-S | 298 | 345 | 345 | 437 |
| V-S | 344 | 398 | 452 | 506 |
| VI-S | 344 | 398 | 452 | 506 |
| VII-S | 344 | 398 | 452 | 506 |

## WEIGHT OF ANCHOR BOLTS w/NUTS A307

| POST TYPE | kg @ EA POST TOTAL WT BOLTS & NUTS |
|---|---|
| I-S | 303 |
| II-S | 303 |
| III-S | 303 |
| IV-S | 354 |
| V-S | 517 |
| VI-S | 517 |
| VII-S | 517 |

## GUSSET WEIGHT (kg)

| POST TYPE | kg GUSSET TOTAL WT EA POST |
|---|---|
| I-S | 57 |
| II-S | 57 |
| III-S | 57 |
| IV-S | 57 |
| V-S | 57 |
| VI-S | 68 |
| VII-S | 68 |

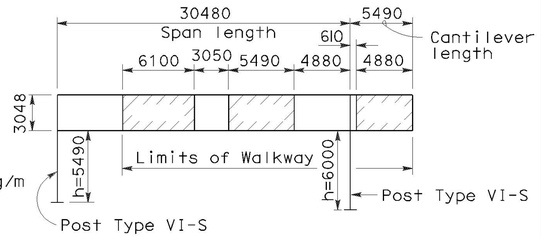
## BASE PLATE

| POST TYPE | WT (kg) EA POST |
|---|---|
| I-S | 234 |
| II-S | 234 |
| III-S | 277 |
| IV-S | 323 |
| V-S | 391 |
| VI-S | 582 |
| VII-S | 582 |

## EXAMPLE

Given :

| | |
|---|---|
| Sign panel depth | = 3048 mm |
| Span length | = 3048 mm |
| Cantilever length | = 5490 mm |
| Sign panel length | = 6100 mm |
| Sign panel length | = 4880 mm |
| Sign panel length | = 5490 mm |
| Left post type VI-S | = 5490 mm |
| Right post type VI-S | = 6020 mm |
| Walkway assembly | = 111.6 kg/m |
| Span=30.48 m, | |
| Frame width STD Plan S11 | = 1067 mm |




## REMOVABLE SIGN PANEL FRAME

| | (kg) |
|---|---|
| Span length } Truss | = 7,053 |
| Cantilever length (Note 1) } Truss | = 1,270 |
| Removable Sign panel frame } 6100 | = 224 |
| Removable Sign panel frame } 5490 (Note 2) | = 218 |
| Removable Sign panel frame } 4880 | = 181 |
| Lt post type VI-S 3181 - (378.3 x .23) | = 3,098 |
| Lt post juncture connection type VI-S | = 506 |
| Rt post type VI-S 3181 + (378.3 x .3) | = 3,287 |
| Rt post juncture connection type VI-S | = 506 |
| Walkway assembly 111.6 kg/m x 25 m | = 2,790 |
| Bolt & Nuts Type VI-S | = 517 |
| Bolt & Nuts Type VI-S | = 517 |
| Gusset Type VI-S | = 68 |
| Gusset Type VI-S | = 68 |
| Base Plate Type VI-S | = 582 |
| Base Plate Type VI-S | = 582 |
| Sub total | =21,467 |
| +3.5% for galvanizing | = 751 |
| Total | =22,218 |

## LAMINATED SIGN PANEL MOUNTING I-BEAM

| | (kg) |
|---|---|
| Span length } Truss | = 7,053 |
| Cantilever length (Note 1) } Truss | = 1,270 |
| Mounting I-Beam } 6100 | = 114 |
| Mounting I-Beam } 5490 (Note 2) | = 114 |
| Mounting I-Beam } 4880 | = 114 |
| Lt post type VI-S 3181 - (378.3 x .23) | = 3,098 |
| Lt post juncture connection type VI-S | = 506 |
| Rt post type VI-S 3181 + (378.3 x .3) | = 3,287 |
| Rt post juncture connection type VI-S | = 506 |
| Walkway assembly 111.6 kg/m x 25 m | = 2,790 |
| Bolt & Nuts Type VI-S | = 517 |
| Bolt & Nuts Type VI-S | = 517 |
| Gusset Type VI-S | = 68 |
| Gusset Type VI-S | = 68 |
| Base Plate Type VI-S | = 582 |
| Base Plate Type VI-S | = 582 |
| Sub total | =21,186 |
| +3.5% for galvanizing | = 742 |
| Total | =21,928 |

| Post Type | Specification of pipe post | |
|---|---|---|
| | | Split (mm) |
| I-S | Pipe NPS 14 x 12.7 TK | 127 |
| II-S | Pipe NPS 16 x 12.7 TK | 152 |
| III-S | Pipe NPS 18 x 12.7 TK | 178 |
| IV-S | Pipe NPS 20 x 12.7 TK | 203 |
| V-S | Pipe NPS 24 x 12.7 TK | 203 |
| VI-S | Pipe NPS 24 x 24.6 TK | 254 |
| VII-S | Pipe NPS 24 x 24.6 TK | 254 |

Notes:

1. Cantilever frame weight = Span frame length weight x $\frac{\text{Cantilever length}}{\text{Span length}}$ = 7053 x $\frac{5.49}{30.48}$ = 1270
2. For weight of Removable Sign Panel Frame or Mounting Beams see "Overhead Sign Truss Single Post Type" sheet.
3. Walkway assembly includes grating, brackets, safety railing, light fixture supports and all fittings.
4. For Mounting I-Beam spacing and numbers, see Standard Plan S19.

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION

**THIS SHEET NOT A PART OF CONTRACT PLANS**

**OVERHEAD SIGNS-TRUSS TWO POST TYPE**

**QUANTITIES** | **12**

spec des br std/sign/m/arch/sht12.dgn

12/27/04