

- (1) பக்கங்களின் எண்ணிக்கை 22  
 (2) புதுக்கித் திருப்பிய நாள் 8/9  
 (3) ஆதாரங்குறிப்பவர் சுருக்கொப்பம் 69

தமிழ்நாடு ஆவணக் காப்பகம்.

தமிழ்நாடு அரசு

(33)

P. W. ① துறை

|                                       |               |                  |
|---------------------------------------|---------------|------------------|
| அரசாணை எண்.<br>மு. கோப்புத் தாள் எண். | 1131          | அச்சகம்<br>பலவகை |
| நாள் :                                | 23 - 4 - 1891 | 198              |

மடிக்கலோ கண்டயடி கையாளலோ கூடாது

11.8 sheets  
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PUBLIC WORKS DEPARTMENT, BURMA.

COMPARATIVE COST OF CERTAIN SELECTED BUILDINGS.

Abbreviations.—P denotes pukka; K P, kutcha pukka; K, kutcha; F M, flat mud; T, terraced; Pl, planked; P T, pent tiled; P S, pent slated; P Sh, pent shingled; P Sp, Sh, pent split shingled; R, rubble; D S, dry stone; C, concrete; B F, brick flat; Fl, flagged; Dhj, dhajji, i.e., timber frame-work filled in with mud and stone masonry; C I, 22" corrugated iron; 22 B.W.G., 16, inner; O, outer; Up, upper; Gr, ground.

| Division. | Locality.  | Name of building.                           | Single or double storied. | DESCRIPTION AND HEIGHT OF WALLS, &c. |         |                               |       |        |                | Cost. | Area.    | Rate per superficial foot. |        |
|-----------|------------|---------------------------------------------|---------------------------|--------------------------------------|---------|-------------------------------|-------|--------|----------------|-------|----------|----------------------------|--------|
|           |            |                                             |                           | Foundation.                          | Plinth. | Walls (to top of wall plate). | Roof. | Floor. |                |       |          |                            |        |
| Rangoon.  | Cantonment | R. A. Barrack No. 1                         | Single                    | P.                                   | Ft. In. | Ft. In.                       | Pl.   | In.    | Sh.            | ...   | Rs.      | 6,525                      | 2 0 0  |
|           | do         | Do No. 4                                    | Double                    | P.                                   | 2 0     | 1 0                           | Pl.   | 13 0   | do             | ...   | 13,500   | 14,256                     | 3 0 0  |
|           | do         | Armourer's shop                             | Single                    | P.                                   | 3 0     | ...                           | P.    | 13 0   | Cor. 24        | ...   | 39,648   | 720                        | 10 0 0 |
|           | do         | R. A. Barrack, unit                         | Double                    | P.                                   | 2 0     | 1 0                           | P.    | 10 0   | Single         | ...   | 7,282    | 2,356                      | 4 0 0  |
|           | do         | Sergeants' mess                             | Single                    | P.                                   | 3 0     | 2 0                           | Pl.   | 15 0   | Sh.            | ...   | 9,840    | 4,665                      | 2 0 0  |
|           | do         | Quarter-guard and lock-up, B.I.             | Double                    | P.                                   | 3 0     | 2 0                           | P.    | 18 0   | 1" teak        | ...   | 22,305   | 6,904                      | 3 0 0  |
|           | do         | Station hospital, No. 1 block               | Double                    | P.                                   | 3 0     | 1 9                           | Pl.   | 17 0   | 1" teak        | ...   | 27,661   | 9,561                      | 4 0 0  |
|           | do         | Medical Subordinates' quarters              | Single                    | P.                                   | 2 0     | 0 6                           | P.    | 8 0    | do             | ...   | 21,387   | 5,624                      | 4 0 0  |
|           | do         | No. 1 Commissariat godowns                  | do                        | P.                                   | 3 6     | 0 16                          | P.    | 8 0    | do             | ...   | 18,589   | 6,837                      | 3 0 0  |
|           | do         | do                                          | do                        | P.                                   | 1 6     | 2 6                           | Pl.   | 15 0   | do             | ...   | 37,561   | 9,861                      | 4 0 0  |
|           | Town       | Native Infantry, No. 1 barrack              | Double                    | P.                                   | ...     | 2 6                           | P.    | 15 0   | T.             | ...   | 159,353  | 15,990                     | 10 0 0 |
|           | do         | Customs buildings                           | do                        | P.                                   | ...     | 1 6                           | P.    | 14 0   | Corr. iron     | ...   | 19,375   | 2,850                      | 3 10 3 |
|           | do         | Customs Inspectors' quarters, China street. | Three-storied             | P.                                   | ...     | 3 0                           | P.    | 16 0   | Terraced C. I. | ...   | 1,30,000 | 14,824                     | 8 12 3 |
|           | do         | Currency Office                             | Double                    | P.                                   | ...     | 2 0                           | P.    | 16 0   | do             | ...   | 37,385   | 14,525                     | 1 14 2 |
|           | do         | Town lock-up                                | do                        | P.                                   | ...     | 2 0                           | P.    | 19 0   | Terraced       | ...   | 4,74,501 | 1,22,500                   | 3 14 0 |
|           | do         | Government public buildings                 | do                        | P.                                   | ...     | 4 0                           | P.    | 17 0   | Tile           | ...   | 1,80,309 | 19,205                     | 9 6 0  |
|           | do         | Law Court                                   | do                        | P.                                   | ...     | 2 6                           | P.    | 15 0   | Terraced       | ...   | 2,87,378 | 38,250                     | 1 4 3  |
|           | do         | General Secretariat                         | Three-storied             | P.                                   | ...     | 2 0                           | P.    | 15 0   | do             | ...   | 68,700   | 2,550                      | 10 6 3 |
|           | do         | General Secretariat Press                   | Double                    | P.                                   | ...     | 1 6                           | P.    | 22 0   | do             | ...   | 68,700   | 6,010                      | 10 6 3 |
|           | do         | Town Church                                 | Single                    | P.                                   | ...     | ...                           | P.    | ...    | Terraced C. I. | ...   | 68,700   | 6,010                      | 10 6 3 |

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COMPARATIVE COST OF CERTAIN SELECTED BUILDINGS—continued.

| Division. | Locality.                   | Name of building.                                        | DESCRIPTION AND HEIGHT OF WALLS, &c. |                     |         |                                                    |                               |                            |                       | Cost.               | Area.                 | Rate per super-<br>ficial foot. |
|-----------|-----------------------------|----------------------------------------------------------|--------------------------------------|---------------------|---------|----------------------------------------------------|-------------------------------|----------------------------|-----------------------|---------------------|-----------------------|---------------------------------|
|           |                             |                                                          | Single or<br>double-<br>storied.     | Foundation.         | Plinth. | Walls (to top of wall-plate).                      | Roof.                         | Floor.                     |                       |                     |                       |                                 |
| Toungoo.  | Toungoo                     | Executive Engineer's office                              | Single                               | P.                  | 4 0     | 12 0                                               | P. Sp. Sh.                    | Asphalte and<br>con-crete. | Rs. 5,663             | 1,631               | Rs. A. P.<br>3 7 7    |                                 |
|           | do                          | Dak bungalow                                             | do                                   | Pyingado<br>posts.  | 3 0     | 15 4                                               | do                            | Pl.                        | 6,211                 | 3,189               | 1 15 2                |                                 |
|           | do                          | Post office                                              | Double                               | Posts               | 1 0     | 13 5                                               | do                            | Pl.                        | 2,388                 | 1,024               | 2 8 5                 |                                 |
|           | do                          | Telegraph office                                         | Single                               | do                  | 3 0     | 14 0                                               | do                            | Pl.                        | 4,707                 | 2,400               | 1 15 4                |                                 |
|           | do                          | E. I. barracks                                           | do                                   | do                  | 3 0     | 9 0                                                | do                            | Pl.                        | 8,000                 | 10,332              | 0 12 4                |                                 |
| Henzada.  | Henzada                     | Circuit-house                                            | Double                               | Posts and<br>cells. | 3 0     | 25 0                                               | P. Sp. Sh.                    | C. and Pl.                 | 8,373                 | 1,848               | 4 5 3                 |                                 |
|           | do                          | Deputy Commissioner's court-<br>house.                   | Single                               | do                  | ...     | 12 0                                               | do                            | Pl.                        | 9,239                 | 4,075               | 2 2 6                 |                                 |
|           | Zalun                       | Court-house and thara                                    | do                                   | do                  | ...     | 12 0                                               | do                            | Pl.                        | 6,270                 | 2,460               | 2 58                  |                                 |
|           | Ma-ubin                     | New jail wards                                           | Part double                          | do                  | ...     | 20 0                                               | C. I. 240                     | T. & Pl.                   | 12,270                | 3,420               | 3 58                  |                                 |
|           | Kyauklai                    | Bazaar at Kyauklai                                       | Single                               | P.                  | 3 9     | 15 9                                               | do                            | T.                         | 16,040                | 8,260               | 1 94                  |                                 |
| Akyab.    | Akyab                       | New telegraph office                                     | do                                   | Pyingado<br>posts.  | 4 0     | 8' in veran-<br>dah and<br>14' in<br>main<br>room. | Sh.                           | Pl.                        | 17,534                | 5,184               | 3 38                  |                                 |
|           | do                          | Servants' quarters for<br>Myook's court-house            | do                                   | do                  | 4 0     | 8 0                                                | P. Sp. Sh.                    | Pl.                        | 967                   | 480                 | 2 0 0                 |                                 |
| Bassein.  | Bassein                     | Customs House and Master<br>Attendant's Office.          | do                                   | P.                  | 2 0     | 21 0                                               | T.                            | Asphalte                   | 4,524                 | 8,576               | 5 4 0                 |                                 |
|           | do                          | Deputy Commissioner's court-<br>house, upper story only. | do                                   | Pile                | ...     | 15 0                                               | P. Sp. Sh.                    | Pl.                        | 15,638                | 7,245               | 2 2 0                 |                                 |
| Amherst.  | Ngaputaw                    | Court-house                                              | do                                   | do                  | ...     | 9 0                                                | do                            | Pl.                        | 3,000                 | 1,720               | 1 11                  |                                 |
|           | Chuangzon                   | Myook's court-house                                      | do                                   | Posts               | ...     | 15 0                                               | do                            | Pl.                        | 3,386                 | 1,600               | 2 11                  |                                 |
|           | Thaton                      | Police Officers' quarters                                | Double                               | do                  | ...     | 15 0                                               | do                            | Pl.                        | 4,134                 | 1,296               | 3 18                  |                                 |
|           | do                          | Post and Telegraph office                                | Single                               | do                  | ...     | 15 0                                               | do                            | Pl.                        | 3,909                 | 1,152               | 3 39                  |                                 |
|           | Taung<br>Moulemin<br>Mergui | Bazaar<br>Witness-shed<br>Post office                    | do<br>do<br>do                       | do<br>do<br>do      | ...     | ...                                                | C. I. 220<br>P. Sp. Sh.<br>do | Asp. & Pl.<br>Pl.<br>Pl.   | 5,001<br>800<br>1,836 | 2,356<br>400<br>768 | 2 53<br>2 0 0<br>2 39 |                                 |
| Pegu.     | Pegu                        | Dispensary                                               | Double                               | P. and posts        | 3 0     | 1st 13 0<br>2nd 10 0                               | do                            | Pl. and P.                 | 7,966                 | 2,571               | 3 09                  |                                 |
|           | do                          | Bazaar                                                   | Single                               | P.                  | 1 0     | 15 0                                               | Sh.                           | C.                         | 47,398                | 19,586              | 2 42                  |                                 |
|           | do                          | Quarters for Deputy Commis-<br>sioner.                   | Double                               | P.                  | 2 0     | 12 0                                               | P. Sp. Sh.                    | Pl. & C.                   | 15,361                | 3,115               | 4 93                  |                                 |
|           | do                          | School-house                                             | do                                   | P.                  | 1 9     | 1st 13 0<br>2nd 13 0                               | do                            | do                         | 21,410                | 3,468               | 6 17                  |                                 |
|           | do                          | Deputy Commissioner's court-<br>house.                   | do                                   | P.                  | 1 9     | 1st 13 0<br>2nd 15 0                               | do                            | do                         | 98,366                | 15,511              | 6 34                  |                                 |
|           | do                          | Post office                                              | do                                   | Posts               | ...     | 1st 9 0<br>2nd 9 0                                 | do                            | Pl. & C.                   | 2,943                 | 888                 | 3 31                  |                                 |
|           | do                          | Lock-up                                                  | do                                   | do                  | 1 0     | 1st 9 0<br>2nd 9 0                                 | do                            | do                         | 5,619                 | 3,004               | 1 87                  |                                 |



COMPARATIVE COST OF CERTAIN SELECTED BUILDINGS—continued.

| DESCRIPTION AND HEIGHT OF WALLS, &c. |                                                           |                          |                                                                                        |                                                                                    |                                                                                                                                                                                                                                                                                                                                           |                               |                                             |        |        |               |                            |
|--------------------------------------|-----------------------------------------------------------|--------------------------|----------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------|---------------------------------------------|--------|--------|---------------|----------------------------|
| Division.                            | Locality.                                                 | Name of building.        | Single or double-storied.                                                              | Foundation.                                                                        | Plinth.                                                                                                                                                                                                                                                                                                                                   | Walls (to top of wall-plate). | Roof.                                       | Floor. | Cost.  | Area.         | Rate per superficial foot. |
| SECOND CIRCLE—concluded.             |                                                           |                          |                                                                                        |                                                                                    |                                                                                                                                                                                                                                                                                                                                           |                               |                                             |        |        |               |                            |
| Chindwin.                            | Monywa                                                    | Post office              | Double                                                                                 | C. blocks and straps for teak posts.                                               | Ft. In. 2 0 C.                                                                                                                                                                                                                                                                                                                            | Ft. In. 21 0 P. Sh.           | C.                                          | ...    | 7,615  | 1,920         | 4 0 0 per sq. ft.          |
|                                      | Do                                                        | Military police barracks | Single                                                                                 | Teak posts.                                                                        | 4 0 Teak post... 9 0 { Pl. In. Pl. O.                                                                                                                                                                                                                                                                                                     | 12 6 } P. Sh. 7 6 }           | Pl.                                         | ...    | 12,175 | 4,248         | 2 14 0 per sq. ft.         |
| Fert C.                              | Half company barracks for British Infantry, five erected. | Single                   | Posts sunk in ground supported on 6' concrete.                                         | 4 9 Ground to 13 0 1' planking floor to wall-plate.                                | 17 0 Shingle                                                                                                                                                                                                                                                                                                                              | 1' planking                   | ...                                         | ...    | 37,747 | 10,000        | 3 12 5                     |
|                                      | District court-house, Upper Burma.                        | Double                   | Broken stone concrete in which iron straps are embedded which take posts of buildings. | 2' x 2' Stone masonry 2 1/2' x 2' high filled in with 1 1/2' sand and 9' concrete. | Walls of lower floor 12' from plinth to upper floor; walls of upper floor 10' 9" from upper floor to ceiling; outer wall-plate 9' from floor; upper and lower walls of main building of 1" T and G teak planks. At ends there are two towers 18' 15" inside masonry walls; lower upper masonry lower walls 4 1/2' high with planks above. | 17 0 P. Sh.                   | Upper 1" T and G teak, lower piece concrete | 34,616 | 8,262  | 4 7 0 nearly. |                            |
| THIRD CIRCLE.                        |                                                           |                          |                                                                                        |                                                                                    |                                                                                                                                                                                                                                                                                                                                           |                               |                                             |        |        |               |                            |

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|                    |        |                                                           |                    |                            |                                          |     |                               |                                                         |        |        |        |
|--------------------|--------|-----------------------------------------------------------|--------------------|----------------------------|------------------------------------------|-----|-------------------------------|---------------------------------------------------------|--------|--------|--------|
| Shwebo.            | Shwebo | Police hospital; no ceiling                               | Lower storey open. | Posts                      | Plank                                    | ... | Shingle                       | 1" plank floor, lower is laterite.                      | 9,944  | 4,896  | 2 0 6  |
|                    | do     | Lock-up                                                   | Double             | Concrete                   | Batten planking, lower of stone masonry. | ... | Corrugated iron with ceiling. | 1" plank floor.                                         | 15,403 | 4,914  | 3 2 0  |
|                    | do     | Magazine, military police                                 | Single             | do                         | Stone masonry.                           | ... | Brick arch                    | Concrete                                                | 1,021  | 198    | 5 2 0  |
| Mandalay           | do     | Half company barrack for British Infantry, Rangoon type   | Double             | Posts on concrete footing. | ...                                      | ... | Teak shingles                 | 1" teak floor                                           | 40,921 | 10,080 | 4 0 1  |
|                    | do     | Half company Barrack for British Infantry, Mandalay type. | do                 | do                         | ...                                      | ... | do                            | do                                                      | 32,805 | 10,000 | 3 4 8  |
|                    | do     | Native Infantry barracks                                  | do                 | do                         | ...                                      | ... | do                            | do                                                      | 21,270 | 7,200  | 2 15 7 |
| Mandalay Garrison. | do     | Station Hospital                                          | do                 | do                         | ...                                      | ... | do                            | do                                                      | 40,356 | 9,996  | 4 0 5  |
|                    | do     | Native Infantry Hospital                                  | do                 | Posts on concrete.         | ...                                      | ... | do                            | do                                                      | 31,298 | 6,800  | 3 2 2  |
|                    | do     | Deputy Assistant Commissary of Ordnance's quarters.       | do                 | Concrete                   | Brickwork.                               | ... | do                            | Concrete in ground-floor; 1" teak floor in upper story. | 3,780  | 1,956  | 3 9 3  |
| Mandalay Garrison. | do     | Conductor's quarters, Ordnance Department.                | do                 | do                         | ...                                      | ... | do                            | Upper floor 1" teak; ground-floor concrete.             | 3,250  | 1,024  | 3 2 10 |
|                    | do     | Officers' two unit quarters                               | do                 | do                         | ...                                      | ... | do                            | do                                                      | 6,438  | 1,536  | 4 3 0  |
|                    | do     | Do three do                                               | do                 | do                         | ...                                      | ... | do                            | do                                                      | 9,235  | 2,304  | 4 0 1  |
| Mandalay Garrison. | do     | Do four do                                                | do                 | do                         | ...                                      | ... | do                            | do                                                      | 12,000 | 3,072  | 3 14 4 |
|                    | do     | B. Infantry Sergeants' mess                               | do                 | do                         | ...                                      | ... | do                            | do                                                      | 1,2007 | 5,104  | 2 5 8  |
|                    | do     | Soldiers' Institute                                       | do                 | do                         | ...                                      | ... | do                            | do                                                      | 21,863 | 43,099 | 2 0 0  |
| Mandalay Garrison. | do     | Latrine for double company of B. I.                       | Single             | do                         | ...                                      | ... | do                            | do                                                      | 1,495  | 996    | 1 6 7  |
|                    | do     | Do for Native Infantry                                    | do                 | do                         | ...                                      | ... | do                            | do                                                      | 1,060  | 889    | 1 3 0  |
|                    | do     | Cook-house for do                                         | do                 | Brickwork.                 | ...                                      | ... | do                            | R. dry brick, mud mortar.                               | 2,113  | 1,825  | 1 2 6  |

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COMPARATIVE COST OF CERTAIN SELECTED BUILDINGS—continued.

| COMPARATIVE COST OF CERTAIN BUILDINGS |           |                                                   |                           |                         |         |                                |               |                                                                      |        |       |                            |  |  |
|---------------------------------------|-----------|---------------------------------------------------|---------------------------|-------------------------|---------|--------------------------------|---------------|----------------------------------------------------------------------|--------|-------|----------------------------|--|--|
| DESCRIPTION AND HEIGHT OF WALLS, &c.  |           |                                                   |                           |                         |         |                                |               |                                                                      |        |       |                            |  |  |
| Division.                             | Locality. | Name of building.                                 | Single or double-storied. | Foundation.             | Plinth. | Walls (to top of wall-plate).  | Roof.         | Floor.                                                               | Cost.  | Area. | Rate per superficial foot. |  |  |
| THIRD CIRCUIT—continued.              |           |                                                   |                           |                         |         |                                |               |                                                                      |        |       |                            |  |  |
| Mandakay Garrison—concl.              | do        | Soldiers' canteen, B. I.                          | Single                    | Brickwork               | ...     | 1" teak walling                | Teak shingle. | Sagging stone flagging.                                              | Rs.    | 8,600 | Rs. A. F.                  |  |  |
|                                       | do        | Quarters for Bandmaster and Sergeant-Major, B. I. | Double                    | do                      | do      | do                             | do            | Gravel floor asphalted over concrete, and upper floor 1" teak plank. | 6,304  | 1,792 | 3 8 3                      |  |  |
|                                       | do        | Medical Subordinates' quarters.                   | Single                    | Posts driven in ground. | ...     | do                             | do            | 1" teak plank.                                                       | 5,011  | 2,150 | 2 12 10                    |  |  |
|                                       | do        | Guard-house at City Gate                          | do                        | Posts on concrete.      | ...     | 1" teak walling, rest pointed. | do            | 1" teak plank.                                                       | 1,180  | 576   | 2 0 6                      |  |  |
| Mandakay Garrison—concl.              | do        | R. I. Quarter-guard and cells.                    | Double                    | do                      | do      | do                             | do            | do                                                                   | 21,207 | 6,312 | 3 9 9                      |  |  |
|                                       | do        | N. I. do                                          | do                        | do                      | do      | do                             | do            | do                                                                   | 2,394  | 768   | 3 0 6                      |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
| Mandakay Garrison—concl.              | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
| Mandakay Garrison—concl.              | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
| Mandakay Garrison—concl.              | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
| Mandakay Garrison—concl.              | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
| Mandakay Garrison—concl.              | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
| Mandakay Garrison—concl.              | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
| Mandakay Garrison—concl.              | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
| Mandakay Garrison—concl.              | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
| Mandakay Garrison—concl.              | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
| Mandakay Garrison—concl.              | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
| Mandakay Garrison—concl.              | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
| Mandakay Garrison—concl.              | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
| Mandakay Garrison—concl.              | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
| Mandakay Garrison—concl.              | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
| Mandakay Garrison—concl.              | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
| Mandakay Garrison—concl.              | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
| Mandakay Garrison—concl.              | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
| Mandakay Garrison—concl.              | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |
|                                       | do        | do                                                | do                        | do                      | do      | do                             | do            | do                                                                   | ...    | ...   | ...                        |  |  |

$$\frac{1131}{26}$$

Memorandum of Construction and Cost of Bridges exceeding 50 feet in length in Burma—continued.

| Executive division. | Name of bridge or of nulla and situation.                                         | Date of completion. | Description of bridge.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Kind and depth of foundation.                                                                                                                                                                                                                                                                                                                                               | Number and size of spans. | Width of roadway between parapets or railings. | Height of roadway above foundations or river-bed.                                                                           | Total length of bridge. | Total cost. | Cost per 100 feet of length.                                                                                                                                                                       | Remarks. |
|---------------------|-----------------------------------------------------------------------------------|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|-------------------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|
|                     |                                                                                   |                     | FIRST CIRCLE—continued.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                             |                           |                                                |                                                                                                                             |                         | Rs.         | Rs.                                                                                                                                                                                                |          |
|                     | Bridge No. 24 over the Akka chaur on the Myingbue-Myo-haing road, Akyab district. | March 1888.         | The superstructure is of jarul timber, the abutments are of jarul piles, three to each abutment with half-sawn logs at the back to support the approaches. The piers are of iron screw piles 4 inches in diameter with 2 feet 3 inches in diameter flanged foot-screws. There are two iron piles to each pier; these piles are braced together with horizontal and diagonal bracing and are further protected by 12-inch diameter wooden fender piles braced to the piers. The iron pier piles are fitted with cast iron caps 12 inches in diameter; jarul cross-beams are bolted to these caps and to abutment piles. Over these cross-beams are bolted four lines of cantilever beams (11 inches x 6 inches) projecting 5 feet on each side of the cross-beam; on these cantilevers run four lines of 12 feet 6 inches jarul longitudinal girders. These girders carry a 3-inch plank flooring of jarul. There are two lines of hand-rails and wheelguards on the two faces of the bridge. | The foundation of abutments consists of three wooden piles, each 12 inches in diameter, driven 15 feet into the ground with half-sawn logs at the back as a bracing supporting the earth-work. The piles consist of 4-inch diameter wrought iron piles with cast iron foot-screws, 2 feet 3 inches diameter, screwed 13½ feet into the bed of the stream, which is of clay. | 3 spans of 25 feet each.  | 16 feet 6 inches above river bed.              | Total length of bridge 85 feet from end to end of plank-ing, which latter extends 5 feet beyond abutment piles at each end. | 3,964                   | ...         | All the bridges in the Akyab division of any great length are being built on the plan as detailed for these two bridges. They may therefore be taken as a type of bridges adopted in the division. |          |

|                                                      |             |                                                                                                         |                                                                                                                                                                                                                                                                                                                                                                             |                                         |         |                           |                          |          |       |                                                                                                                                                    |                                                                                                                                                |
|------------------------------------------------------|-------------|---------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------|---------|---------------------------|--------------------------|----------|-------|----------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| Bridge over Thuyè creek at Taunkhaw, Akyab district. | March 1889. | The bridge is of the same general details as the above as regards piers, abutments, and superstructure. | Wooden abutments; piles, 6 inches diameter, driven 8 feet into the ground; wrought iron screwed piles, 4½ inches diameter, having 2½ inch diameter screw flanges, screwed 10 feet into the bed of stream and stiffened by angle iron diagonal bracing. The four midstream iron piles are further protected by 12 inch diameter wooden fender piles strongly braced to them. | 6 spans of 25 feet each.                | 10 feet | 14 feet                   | 23½ feet at centre span. | 160 feet | 7,800 | 45,625                                                                                                                                             | This bridge has all its material at site and is about half completed and its cost pretty accurately known, though not yet completely finished. |
| Nalmaw bridge over Pantanaw chaung.                  | March 1878. | Posts and ordinary structures                                                                           | Piles driven 15 feet under water.                                                                                                                                                                                                                                                                                                                                           | 10 of 20 feet spans 2 of 10 feet spans. | 10 feet | 23 feet above river-bed.  | 240 feet                 | 5,786    | 2,411 | Locality has much to do with cost. The cheapest bridges are those nearest headquarters or in a locality where timber is readily procured or grown. |                                                                                                                                                |
| Daga bridge on Daga chaung.                          | June 1884   | Posts and ordinary structures                                                                           | Piles driven 12 feet average.                                                                                                                                                                                                                                                                                                                                               | 6 of 20 feet spans.                     | 10 feet | 13½ feet above river-bed. | 120 feet                 | 3,125    | 2,604 |                                                                                                                                                    |                                                                                                                                                |
| Simathè bridge on Simathè chaung.                    | June 1884   | Posts and ordinary structures                                                                           | Piles driven 12 feet average.                                                                                                                                                                                                                                                                                                                                               | 3 of 20 feet spans.                     | 10 feet | 15 feet above river-bed.  | 60 feet                  | 1,972    | 3,286 |                                                                                                                                                    |                                                                                                                                                |

HEMZADA DIVISION.

HENZADA DIVISION.

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Memorandum of Construction and Cost of Bridges exceeding 50 feet in length in Burma—continued.

| Executive division.                              | Name of bridge or of nulla and situation.                            | Date of completion. | Description of bridge.                                                                                                                                                                                                                        | Kind and depth of foundation.                                                 | Number and size of spans.                             | Width of roadway between parapets or railings. | Height of road-way above foundations or river-bed. | Total length of bridge. | Total cost. | Cost per 100 feet of length. | Remarks. |
|--------------------------------------------------|----------------------------------------------------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|-------------------------------------------------------|------------------------------------------------|----------------------------------------------------|-------------------------|-------------|------------------------------|----------|
| BASSEIN, MAGLAWA SUBDIVISION.                    | Bridge No. 1, Einthabin-Angdo road 10th mile.                        | ...                 | First Circle—concluded.<br>Girder bridge ...                                                                                                                                                                                                  | On pyingado piles ...                                                         | 4 of 25 feet each.                                    | ...                                            | ...                                                | 100 feet                | Rs. ...     | Rs. ...                      | ...      |
|                                                  | Pagale bridge, 1st section, Pegu and Taungoo road, Pegu subdivision. | March 1882.         | Teak wood girders resting on pyingado piles with teak flooring, walling, and cross-bracing.                                                                                                                                                   | Pyingado wood piles driven by pile machine 9 feet below the bed of the creek. | 3 spans of 20 feet each.                              | 8 feet                                         | 60 feet                                            | ...                     | 2,587       | 4,811                        | ...      |
|                                                  | Mokungyi creek between Kyeikpading and Nekhan, Pegu subdivision.     | March 1885.         | Pyingado wood girders supported by corbels and piles with pyingado wood flooring, walling, and bracing.                                                                                                                                       | Pyingado wood piles driven 10 feet below the bed of creek.                    | 6 spans of 20 feet each.                              | 20 feet                                        | 120 feet                                           | ...                     | 4,092       | 4,160                        | ...      |
|                                                  | Sinodi bridge across branch canal on 4th mile, Pegu subdivision.     | March 1884.         | Throughout of pyingado wood and spans, solid road-way beams supported on piles, central span truss formed with tie beams, rafters, straining beam, queen posts, and truss with the usual iron straps and rods supported on corbels and piles. | Pyingado wood piles driven 10 feet below the bed of creek.                    | 2 side spans of 20 feet each, 1 central span 60 feet. | 14 feet                                        | 100 feet                                           | ...                     | 4,418       | 4,418                        | ...      |
| HONGYI on Hongyi and Kaw road, Pegu subdivision. |                                                                      | October 1887.       | Wrought iron girder pyingado wood floor supported on brick masonry, abutment, and piers.                                                                                                                                                      | 5 feet concrete.                                                              | 3 spans of 20 feet.                                   | 15 feet                                        | 60 feet                                            | ...                     | 5,776       | 9,630                        | ...      |

Note.—In records of cost of bridges over 50 feet in this division probable rate Rs. 24 per foot timber pile bridge 10 feet wide.

|                   |                                                                     |                |                                                                                                                                                                                                                                                                                                                                                  |                                                                   |                                         |                                 |         |          |     |                                                |        |
|-------------------|---------------------------------------------------------------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|-----------------------------------------|---------------------------------|---------|----------|-----|------------------------------------------------|--------|
| Pegu              | Iron screw pile bridge over Tamyang chaurang, Kyauktan subdivision. | February 1887. | Girders of rolled beams, corrugated iron for abutment and wing, pyingado wood floor supported on 5-inch screw piles.                                                                                                                                                                                                                             | Wrought iron screw piles 14 feet below ground.                    | 5 spans of 20 feet.                     | 10 feet                         | 21 feet | 100 feet | ... | 15,930                                         | 15,980 |
|                   | Bridge over Tsatalin creek, Hlegu and Dabin road, Pegu subdivision. | March 1884.    | The centre span of 60-feet truss framed throughout with teak timber, the two end spans 20 feet, solid beams of pyingado wood supported on pyingado piles and corbels.                                                                                                                                                                            | Pyingado wood piles driven 10 feet below bed of creek.            | 20 spans of 20 feet, 1 span of 60 feet. | 10 feet                         | 20 feet | 100 feet | ... | 4,418                                          | 4,418  |
|                   | Bridge over Pawzo creek, Pegu town.                                 | October 1888.  | Throughout on pyingado wood timber solid wood-way, beam supported on pyingado wood piles and corbels.                                                                                                                                                                                                                                            | Pyingado wood piles 10 feet below the bed of creek.               | 3 spans of 20 feet each.                | 10 feet                         | 15 feet | 60 feet  | ... | 2,333                                          | 3,888  |
|                   | Pegu iron bridge over the Pegu river.                               | In progress.   | The bridge consists of 3 spans, each span braced by 2 pairs of how-string girders, 99 feet 6 inches, supported on cast iron cylinders; the abutment of concrete with a casing of brickwork 20 feet below the girder-level will carry double road-way, each road to be 13 feet wide with a 5-foot path for foot-passengers between the road-ways. | Cast iron cylinders heart-shaped with concrete work 20 feet deep. | 3 spans of 100 feet each.               | 2 of 13 feet each, 1 of 5 feet. | 33 feet | 300 feet | ... | Estimated cost Rs. 1,56,310; work in progress. | 52,103 |
| TOUNGOO DIVISION. | Kaon bridge, 45th mile, 3rd section, Pegu road.                     | 1876 and 1880. | Pyingado piles with teak wood trusses.                                                                                                                                                                                                                                                                                                           | Pyingado piles from 10 feet to 15 feet below bed.                 | 2 of 60 feet and 2 of 40 feet.          | 13 feet 1 1/2 inches.           | 21 feet | 200 feet | ... | 11,454                                         | 5,727  |

Original bridge of 1 span of 60 feet and 1 span of 40 feet was completed in 1876; this being found insufficient water-way and another span of 60 feet was added in 1880.

Memorandum of Construction and Cost of Bridges exceeding 50 feet in length in Burma—continued.

| Executive division.   | Name of bridge or of mulla and situation.                                          | Date of completion. | Description of bridge.                                                                                                                                                                                                                                                                                | Kind and depth of foundation.                  | Number and size of spans.                                 | Width of road-way between parapets or railings. | Height of road-way above foundations or river-bed. | Total length of bridge. | Total cost. | Cost per 100 feet of length. | Remarks. |
|-----------------------|------------------------------------------------------------------------------------|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------|-----------------------------------------------------------|-------------------------------------------------|----------------------------------------------------|-------------------------|-------------|------------------------------|----------|
| TAVOY DIVISION.       | Kawa chaung bridge, 3rd mile, Mindon road.                                         | 1877                | SECOND CIRCULE.<br>Brick abutment in line, mortar, queen post trusses calculated to carry 150 lbs. per square foot, girders 13 inches x 6 inches resting on straining beams of trusses and are herring-bone struts.                                                                                   | Concrete work 3 feet, brickwork 3 feet.        | 1 span 62 feet                                            | 20 feet between railings.                       | 32 feet above river-bed.                           | 70 running feet         | 16,000      | 22,857                       |          |
|                       | Dangbyaw chaung bridge, 10th mile, Mindon road.                                    | 1883                | Pyin-gado piles driven 15 feet into the ground. Planked floor on girders 12 inches x 8 inches and cross-girders 4 inches x 8 inches, posts diagonally braced.                                                                                                                                         | Piles, wooden, driven 15 feet into the ground. | 1 span of 14 feet, 2 spans of 20 feet, 1 span of 18 feet. | 10 feet between railings.                       | 19 feet above river-bed.                           | 76 running feet         | 2,000       | 3,816                        |          |
| TANODWINGYI DIVISION. | Badagan bridge over the Badagan chaung, 3rd mile, Taungdwingyi road.               | 31st March 1888.    | The bridge is constructed of teak posts and teak scantlings; each pier consists of two upright posts resting on bed-plates embedded at a depth of 7 feet below the bed of the channel, braced together by diagonal pieces. The roadway planking is carried directly on the four longitudinal girders. | Rocky foundations 7 feet in depth.             | 3 spans of 30 feet each.                                  | 34 feet between bed of stream.                  | 19 feet above river-bed.                           | 190 running feet        | 3,600       | 4,000                        |          |
|                       | Sodaling bridge constructed over the Sodaling chaung, 2nd mile, Taungdwingyi road. | ...                 | The bridge is supported by abutments and piers made of teak logs. The road is made of teak longitudinal girders carrying teak planks.                                                                                                                                                                 | Rocky foundations 8 feet in depth.             | 10 spans of 20 feet each.                                 | 19 feet between river-bed.                      | 200 feet above river-bed.                          | 200 running feet.       | 7,000       | 3,500                        |          |
|                       | Sakabin bridge constructed over the Sakabin chaung, 14th mile, Taungdwingyi road.  | June 1888           | The bridge is constructed of thuya logs and girders and thuya planks as per standard plan.                                                                                                                                                                                                            | Soft rock 7 feet in depth.                     | 5 spans of 20 feet each.                                  | 15 feet between river-bed.                      | 105 feet above river-bed.                          | 105 running feet.       | 1,800       | 1,800                        |          |

|                    |                                                                                                   |                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                      |                                              |                           |                              |                   |       |       |  |
|--------------------|---------------------------------------------------------------------------------------------------|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|----------------------------------------------|---------------------------|------------------------------|-------------------|-------|-------|--|
| MYINGYAN DIVISION. | Myingyan chaung bridge, 1st mile of Myingyan-Mahlaing road near Myingyan bazaar.                  | October 1887.  | Wooden pile bridge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ...                                                  | 7 spans 20 feet each, 2 spans 17½ feet each. | 16 feet between railings. | 15 feet above river-bed.     | 180 running feet. | 9,105 | 5,060 |  |
|                    | Sunlin chaung bridge, 3rd mile, Myingyan-Mahlaing road.                                           | December 1887. | Wooden pile bridge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ...                                                  | 3 spans 20 feet each, 2 spans 17½ feet each. | 16 feet between railings. | 15 feet above river-bed.     | 100 running feet. | 3,783 | 3,783 |  |
|                    | Sintha chaung bridge, 11th mile, Mahlaing road, 2nd division.                                     | December 1888. | Wooden pile bridge                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ...                                                  | 4 spans of 15 feet and 2 spans of 20 feet.   | 11 feet                   | 16 feet average.             | 100 running feet. | 2,790 | 2,790 |  |
| CHINDWIN DIVISION. | Myinmu bridge                                                                                     | 1887           | Teak wood pile bridge with plank road-way.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Piles 6 feet in depth.                               | 2 spans 20 feet each, 1 span 15 feet.        | 11 feet between railings. | 10 feet above river-bed.     | 55 running feet.  | 1,375 | 2,500 |  |
| BHAMO DIVISION.    | Mansari bridge over Mansari chaung 24 miles south of Bhamo, 400 feet from left bank of Irrawaddy. | July 1888      | THIRD CIRCULE.<br>Teakwood piles 1 foot diameter driven 18 feet below river-bed, walling braces, cross and longitudinal girders of Eng logs. Wallings and braces of 8 inches round logs sawn in two cross-girders 1 foot diameter, round logs, one to each span. Longitudinal girders 8 inches diameter, 5 to each span; abutments of Eng logs sawn in two backed with earthwork. Flooring of 3-inch teak planks; railings 4 feet x 3 inches teak with posts of 6 inches x 6 inches; the whole put together with iron straps and bolts. | Sand mixed with clay at 18 feet below bed of stream. | 10 spans of 20 feet.                         | 16 feet                   | 42 feet above bed of stream. | 200 feet          | 7,822 | 3,911 |  |

Memorandum of Construction and Cost of Bridges exceeding 50 feet in length in Burma—concluded.

| Executive division.      | Name of bridge or of mulla and situation. | Date of completion. | Description of bridge.                                                                                                                                                                                                                                                         | Kind and depth of foundation.                                                                                                                                         | Number and size of spans.                                                 | Width of roadway between parapets or railings. | Height of roadway above foundations or river bed. | Total length of bridge. | Total cost. | Cost per 100 feet of length. | Remarks. |
|--------------------------|-------------------------------------------|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|------------------------------------------------|---------------------------------------------------|-------------------------|-------------|------------------------------|----------|
| SECOND CIRCLE—concluded. |                                           |                     |                                                                                                                                                                                                                                                                                |                                                                                                                                                                       |                                                                           |                                                |                                                   |                         |             |                              |          |
| MANDALAY, C. DIVISION.   | Tada-u bridge, Ava ...                    | January 1888.       | Timber; centre span carried by queen post trusses; side spans carried by longitudinal beams and cross-girders resting on 30 piles in 13 rows of 3 piles each; abutments of brickwork.                                                                                          | Piles average depth 15 feet.                                                                                                                                          | 11 spans of 16 feet each and 1 centre span of 40 feet.                    | 15½ feet                                       | 36 feet in the middle.                            | 226 feet                | 17,194      | 7,608                        |          |
|                          | Ngaleik river                             | August 1887.        | Double row of timber, Trapezoidal trusses of 60 feet span, cross-girders placed 5 feet apart centre to centre on the beam of truss, joists, and planking over cross-girders; piers formed of 12 piles.                                                                         | Piles driven to depths varying from 12 feet to 15 feet.                                                                                                               | 4 spans 60 feet, 10 feet each end of truss; 20 feet roadway all together. | 20 feet                                        | 270 feet                                          | ...                     | ...         | ...                          |          |
|                          | Theingon...                               | January 1889.       | The bridge consists of four rows of longitudinal beams or girders of 20 and 15 feet span supported on corbels bolted to piers forming the piers and abutments; 3-inch planking is nailed across the girders. Hand-rails are bolted to the side-girders to complete the bridge. | Trestles made of piers let 6 feet into ground; a couple of piers required to have the piles driven down as water in the bed would not allow of trestles being put in. | 3 spans of 20 feet, 20 of 15 feet.                                        | 17 feet                                        | 95 feet                                           | ...                     | 2,119       | 2,230                        |          |

( 8 )

|          |               |                |                                                                                                                                                                                                                                                                                |                                                                                                                                                                       |                                                   |         |         |          |       |       |  |
|----------|---------------|----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------|---------|---------|----------|-------|-------|--|
| Meiktila | Loehing Saing | January 1889.  | The bridge consists of four rows of longitudinal beams or girders of 20 and 15 feet span supported on corbels bolted to piers forming the piers and abutments; 3-inch planking is nailed across the girders. Hand-rails are bolted to the side-girders to complete the bridge. | Trestles made of piers let 6 feet into ground; a couple of piers required to have the piles driven down as water in the bed would not allow of trestles being put in. | 3 spans 20 feet, 2 spans 10 feet.                 | 10 feet | 17 feet | 85 feet  | 1,876 | 2,350 |  |
|          | Samón chaung  | February 1888. | This bridge consists of trusses of round logs diagonally braced and having four or five rows of round logs at girders, over which 3-inch planking is nailed.                                                                                                                   | Trestles of posts let 6 feet into ground.                                                                                                                             | 1 span 20 feet, 4 spans 15 feet, 2 spans 10 feet. | 10 feet | 20 feet | 100 feet | 2,500 | 2,500 |  |

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It is requested that in all  
future correspondence on  
this subject the depart-  
ment name, and date may  
be quoted.

No. 3838-1306

Burma.

PUBLIC WORKS DEPARTMENT.

113/11

To

The Secretary to the Government  
of Madras, P.W. Deptt.

Dated Rangoon, the 9<sup>th</sup> April 1891.

SIR,

I am directed to forward for  
information 1, copy each of -  
(a) comparative cost of certain  
selected Buildings in the P.W.  
Department, Burma.

(b) Memorandum of construc-  
tion and cost of Bridges -  
exceeding 50 feet in length in  
Burma.

I have the honor to be,

Sir,

Your most obedient servant

B. Wilson

Em. J. M. G. Asst. Chief Engineer

P.W.C. No. 4161

Ord 16 - 6-91

Enc 2

No. 113154/23 April 18/11

Recorded

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