

(1) Number of pages 3

(2) Date of repair \_\_\_\_\_

(3) Initials of the Referencer \_\_\_\_\_

# MADRAS RECORD OFFICE.

Government of Madras.

*Public Works* DEPARTMENT.

G.O. No. 3954

Press  
Mis.

Dated 18-12- 1868.

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,  
18th December 1868.*

No. 439. Read the following letter from the Superintending Engineer, 1st Division, to the Secretary to Government, Public Works Department, dated Dowlaishweram, 21st November 1868, No. 170 :—

- 1 Sketch Map.
- 1 Abstract Estimate.
- 1 Specification.
- 1 Statement of masonry works.
- 1 Traffic Return.
- 1 Copy of Collector's letter.

1. I have the honor to submit estimates, amounting to Rupees 35,000, for the improvement of the road from Ankapilly (on the Trunk Road) to Vizagapatam. See sketch map.

2. Captain Beatty's estimate amounted to Rupees 45,000, but seeing that the traffic is at present small, and not likely to become heavy till a bridge across the backwater at Vizagapatam is built, I propose that only Rupees 35,000 be laid out on the road now. The reduction is effected by diminishing the thickness of gravelling to six inches, where nine is allowed by Captain Beatty, and to four and a half where six is allowed, also by giving up some of the turfing to side slopes. No reduction has been made in the bridging; and I believe that, when the bridges provided in this estimate are built, the waterway for cross drainage will be ample.

3. A copy of the Collector's letter\* approving of the work, and concurring in the proposed reduction of immediate outlay on the road, accompanies this.

\* No. 841 dated 17th November 1868.

From the Collector of Vizagapatam, to the Superintending Engineer, 1st Division, dated Camp at Vizianagram, 17th November 1868, No. 841.

1. I have the honor to return the estimate received with your letter of the 6th instant, No. 147, duly countersigned, and with regard to the proposal in your 4th paragraph, to state that I concur with you as to the advisability of reducing the estimate, as suggested by you, to Rupees 36,408.

2. The importance of this road would be considerable, and would demand the full outlay recommended by Captain Beatty, were there any prospect of the bridge over the backwater, connecting it with Vizagapatam, being completed, but as there are no means at present to provide for this very costly work, I think your reduced estimate is sufficient for the present, as until a bridge is constructed over the backwater, I do not think that very heavy traffic on this road can be expected.

No. 440. ORDER THEREON, 18th December 1868, No. 3,954.

CIVIL WORKS, No. 49.

The Government approve of the estimate of Rupees 35,000 for improvements to the road from Ankapilly on

Trunk Road No. 1 to Vizagapatam, but as funds are required for works of a more pressing character, the execution of the proposed improvements to the road in question must be deferred till a more favorable time.

(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,  
Secretary to Government.

To the Superintending Engineer, 1st Division.

Ecd. S. T. Augustin.

Govt. of 1868 Madras

PUBLIC WORKS.

THE SUPERINTENDING ENGINEER.

1st Division.

Dated December, 1868.

Recd. \_\_\_\_\_

G. O. 18th December 1868. No. 3,903.

DECEMBER.

Nos. 439-440

Road.—Estimate of Rupees 35,000 for improvements to the road from Ankapilly on Trunk Road No. 1 to Vizagapatam, approved.

Statement showing the masonry works on the branch road from Ankapilly to Vizagapatam & the alterations & additions now proposed.

| Number<br>Survey | Bridges &<br>Already<br>built      | Number | Road Dams<br>Converted<br>into Tunnels | Number | Entirely<br>new Tunnels            | Number |
|------------------|------------------------------------|--------|----------------------------------------|--------|------------------------------------|--------|
| 1                | Tunnel of 3 $\frac{1}{2}$ ft. span | 1      |                                        |        |                                    |        |
| 2                | Sluice of 1 $\frac{1}{2}$ ft. do   | 2      |                                        |        |                                    |        |
| 3                | Do of do                           | 3      |                                        |        |                                    |        |
| 4                | Tunnel of 3 $\frac{1}{2}$ ft. do   | 4      |                                        |        |                                    |        |
| 5                | Do do                              | 5      |                                        |        |                                    |        |
| 6                | Do do                              | 6      |                                        |        |                                    |        |
| 7                | Bridge of 4 of 10 ft. do           | 7      |                                        |        |                                    |        |
| 8                | Tunnel of 4 $\frac{1}{2}$ ft. do   | 8      |                                        |        |                                    |        |
| 9                | Bridge of 2 of 10 ft. do           | 9      |                                        |        |                                    |        |
| 10               |                                    |        |                                        |        | Sluice of 2 $\frac{1}{2}$ ft. span | 1      |
| 11               | Tunnel of 3 $\frac{1}{2}$ ft. do   | 10     |                                        |        |                                    |        |
| 12               |                                    |        |                                        |        | Tunnel of 3 $\frac{1}{2}$ ft. do   | 2      |
| 13               |                                    |        |                                        |        | Do of do                           | 3      |
| 14               | Tunnel of 3 $\frac{1}{2}$ ft. do   | 11     |                                        |        |                                    |        |
| 15               |                                    |        |                                        |        | Do of do                           | 4      |
| 16               |                                    |        |                                        |        | Do of 9 ft. do                     | 5      |
| 17               |                                    |        |                                        |        | Sluice of 2 $\frac{1}{2}$ ft. do   | 6      |
| 18               |                                    |        |                                        |        | Do do                              | 7      |
| 19               |                                    |        |                                        |        | Do do                              | 8      |
| 20               |                                    |        |                                        |        | Tunnel of 3 $\frac{1}{2}$ ft. do   | 9      |
| 21               |                                    |        | Tunnel of 9 ft. span                   | 1      |                                    |        |
| 22               | Tunnel of 2 of 6 ft. do            | 12     |                                        |        |                                    |        |
| 23               | Do of 9 ft. do                     | 13     |                                        |        |                                    |        |
| 24               |                                    |        | Bridge of 15 ft. do                    | 2      |                                    |        |
| 25               | Sluice of 2 $\frac{1}{2}$ ft. do   | 14     |                                        |        |                                    |        |
| 26               |                                    |        |                                        |        | Sluice of 2 $\frac{1}{2}$ ft. do   | 10     |
| 27               |                                    |        |                                        |        | Bridge of 20 ft. do                | 11     |

| No. | Description                                                         | Span |
|-----|---------------------------------------------------------------------|------|
| 28  | Tunnel of 9 ft span                                                 | 5    |
| 29  | Road Dam of 70 ft long, but the channel will be turned into 6 ft do | 15   |
| 30  | Bridge of 15 ft do                                                  | 4    |
| 31  | Road Dam of 45 ft do                                                | 16   |
| 32  | Tunnel of 9 ft span                                                 | 5    |
| 33  | do do of 54 ft do                                                   | 17   |
| 34  |                                                                     |      |
| 35  | Bridge of 15 ft do                                                  | 5    |
| 36  |                                                                     |      |
| 37  | Tunnel of 2 1/2 ft do                                               | 18   |
| 38  |                                                                     |      |
| 39  | Tunnel of 3 ft do                                                   | 19   |
| 40  |                                                                     |      |
| 41  | Bridge of 2 of 15 ft do                                             | 20   |
| 42  | do of 3 of 6 ft do                                                  | 21   |
| 43  |                                                                     |      |
| 44  | do of 3 of 9 ft do                                                  | 22   |
| 45  |                                                                     |      |
| 46  |                                                                     |      |
| 47  | Sluice of 1 1/2 ft do                                               | 23   |
| 48  | Bridge of 2 of 15 ft do                                             | 24   |
| 49  | Tunnel of 9 ft do                                                   | 25   |
| 50  | do of 2 of 9 ft do                                                  | 26   |
| 51  | Sluice of 2 ft do                                                   | 27   |
| 52  | Tunnel of 2 of 5 ft do                                              | 28   |
| 53  |                                                                     |      |
| 54  |                                                                     |      |
| 55  | Bridge of 12 ft span                                                | 7    |
| 56  | Road Dam of 22 ft do                                                | 29   |
| 57  | Tunnel of 6 ft do                                                   | 8    |
| 58  | do of 3 ft do                                                       | 9    |
| 59  | Sluice of 2 ft do                                                   | 10   |
| 60  | Tunnel of 2 of 7 ft do                                              | 30   |

Co. Engr's Office  
Waltham  
10 September 1868  
Dep't of War  
Boston Mass

Matt. Apple R.R.  
Executive Engineer  
Troy at Alton

Add one arch to two 2 x 15' x 3'  
three arches 3 x 6' x 3'  
two arches 3 x 9' x 3'

10, 2 ft sluices.  
No. 41 in the 10<sup>th</sup> mile of Runway  
18' 4 1/2" " 11' 3" "  
J. C. Carter  
Sept 11. 68

Statement of  
 masonry work  
 done in 1888  
 2nd Quarter 1888  
 for the 1st 1/2 years  
 12 months to the  
 Secretary to the  
 Board.

89/8444.18.18

No 6  
 Statement showing  
 the masonry works on the  
 branch road from the  
 Kapilly to the Agapata  
 & the alterations & additions  
 now proposed.

# Return of Traffic taken on the Kapilly Road.

| Month and<br>Date | Day    |           | Night  |           |        |           |
|-------------------|--------|-----------|--------|-----------|--------|-----------|
|                   | Baudin | Bullbrook | Baudin | Bullbrook | Baudin | Bullbrook |
| 1888              |        |           |        |           |        |           |
| May               | 45 25  | 8         | 14     |           |        |           |
| 5                 | 5 41   | 10        | 18     | 14        |        |           |
| 6                 | 16     | 8         | 13     |           |        |           |
| 7                 | 22     | 9         | 14     | 8         |        |           |
| 8                 | 27     | 19        | 15     |           |        |           |
| 9                 | 22     | 14        | 13     | 2         |        |           |
| 10                | 35 12  | 14        | 19     | 2         |        |           |
| 11                | 46     | 22        | 3      |           |        |           |
| 12                | 21     | 7         | 2      |           |        |           |
| 13                | 84     | 56        | 15     | 10        |        |           |
| Total             | 339 12 | 169 12    | 126    | 36        |        |           |

This part is shown that  
 this line of road is  
 not of much importance

Agapata and Comp. 1888  
 Engineer Office  
 17th Street  
 27th October 1888

R. B. Batty  
 Resident Engineer 1888

|      |                                    |    |       |      |       |
|------|------------------------------------|----|-------|------|-------|
| 22 9 | 485 of 2000 stone apron<br>in rear | 10 | 04 13 | 14 2 | 24 20 |
|------|------------------------------------|----|-------|------|-------|

8994142

Exels mick 170  
 1813218  
 from the 1813218  
 to Division 1813218  
 clearing 1813218  
 1813218

4

1813218

Department Communication Improvements  
 Abstract Estimate  
 Talugue Ankapilly & Kizhagapattam  
 District Kizhagapattam  
 Work. Improving the Ankapilly branch road

| Quantity  | Description of work                                                         | Rate      | Per Item | Amount    | Total |
|-----------|-----------------------------------------------------------------------------|-----------|----------|-----------|-------|
| 7639 1/4  | Cyds of Earthwork                                                           | 1         | Cyds     | 177 1/4   | 7 5   |
| 34758     | do of Graveling                                                             | 76        | do       | 16292 1/3 |       |
| 102500    | Cyds of Turfing                                                             | 8         | Cyds     | 5520 1/5  | 14    |
| 1568      | do of clearing prickly pears                                                | 2         | do       | 196       |       |
|           | Cutting trees & bushes                                                      |           |          | 300       |       |
|           |                                                                             |           |          | 27084 3/4 |       |
|           | Contingencies                                                               | 5         | do       | 1425 10/3 |       |
|           | Superintendence                                                             | 2 8       | do       | 710 2     |       |
|           | Desert for resection of ground                                              | 157 634 7 |          | 29220     |       |
|           | to the place where soil is laid on the road, raised, very much above ground | 2830      |          | 10070     | 19150 |
|           | <u>Masonry works</u>                                                        |           |          |           |       |
| 1         | Bridge of arch of 20 feet span                                              |           |          |           |       |
| 360 14/27 | Cyds of Rough stone in chunam                                               | 12        | Cyds     | 620 14/6  |       |
| 28        | do of arch work                                                             | 4 10      | do       | 104 12    |       |
| 9 4/9     | do of Concrete work                                                         | 1 8       | do       | 14 2 8    |       |
| 29 3/8    | Sqrs of plastering with 3 coats of chunam                                   | 3 5       | Sqrs     | 97 5 2    |       |
| 22 2/9    | Cyds of Loose stone apron in lean                                           | 10        | Cyds     | 13 14 2   |       |
|           |                                                                             |           |          |           | 29220 |

|   |                                          |   |    |      |     |    |    |   |       |
|---|------------------------------------------|---|----|------|-----|----|----|---|-------|
| 4 | Guard stones                             | 2 | .. | Each | 8   | .. | 16 | 0 | 24120 |
| 1 | Centring                                 |   |    |      | 30  | .. |    |   |       |
|   | Excavating foundation & filling in wings |   |    |      | 40  | .. |    |   |       |
|   |                                          |   |    |      | 969 | .. | 6  |   |       |
|   | Contingencies                            | 5 | .. | Oct  | 51  | 8  | 6  |   |       |
|   | Superintendence                          | 2 | 8  | ..   | 25  | 7  | .. |   |       |
|   | Total                                    |   |    |      |     |    |    |   | 1046  |

### 3 Bridges of 1 arch of 15 feet span

|           |                                           |    |    |     |      |     |    |    |  |
|-----------|-------------------------------------------|----|----|-----|------|-----|----|----|--|
| 336 1/2   | Cyds of Rough stone in Chunam             | 1  | 12 | ..  | Oct  | 588 | 11 | .. |  |
| 5 5/6     | Do of Brick in Chunam                     | 2  | 14 | ..  | Do   | 13  | 6  | 2  |  |
| 2 1/2     | Do of Arch work                           | 4  | 13 | ..  | Do   | 117 | 11 | 6  |  |
| 7         | Do of Concrete work                       | 1  | 8  | ..  | Do   | 10  | 8  | .. |  |
| 30 48/100 | Sqrs of plastering with 3 Coats of Chunam | 3  | 5  | ..  | Sq   | 100 | 15 | 5  |  |
| 14 22/27  | Cyds of Loose stone apron                 | 10 | .. | Oct | 9    | 4   | 1  |    |  |
| 8         | Guard Stones                              | 1  | 8  | ..  | Each | 12  | .. |    |  |
|           | Centring                                  |    |    |     | 25   | ..  |    |    |  |
|           | Excavating foundation & filling in wings  |    |    |     | 44   | ..  |    |    |  |
|           |                                           |    |    |     | 926  | 14  | 2  |    |  |
|           | Contingencies                             | 5  | .. | Oct | 49   | 10  | 10 |    |  |
|           | Superintendence                           | 2  | 8  | ..  | 24   | ..  |    |    |  |

Total for One Bridge 1000 ..  
 Do for three Do 3000 ..

23,190  
 33,206

|           |                                           |   |    |     |      |     |    |    |        |
|-----------|-------------------------------------------|---|----|-----|------|-----|----|----|--------|
| 2         | Bridges of 1 arch of 12 ft span           |   |    |     |      |     |    |    | 332 26 |
| 192       | Cyds of Rough stone in Chunam             | 1 | 12 | ..  | Oct  | 337 | 5  | 7  |        |
| 17 1/2    | Do of Arch work                           | 4 | 13 | ..  | Do   | 84  | 3  | 6  |        |
| 3 1/3     | Do of Concrete work                       | 1 | 8  | ..  | Do   | 5   | .. |    |        |
| 22 25/100 | Sqrs of plastering with 3 Coats of Chunam | 3 | 5  | ..  | Sq   | 75  | .. | 5  |        |
| 8         | Guard Stones                              | 1 | 8  | ..  | Each | 12  | .. |    |        |
| 1         | Centring                                  |   |    |     |      | 15  | .. |    |        |
|           | Excavating foundation & filling in wings  |   |    |     |      | 30  | .. |    |        |
|           |                                           |   |    |     |      | 557 | 3  | 11 |        |
|           |                                           |   |    |     |      | 585 | 9  | .. |        |
|           | Contingencies                             | 5 | .. | Oct | 28   | 5   | 1  |    |        |
|           | Superintendence                           | 2 | 8  | ..  | 13   | 7   | .. |    |        |

Total for One Bridge 600 ..  
 Do for two Do 1200 ..

### 6 Tunnel of 1 Kank of 9 feet span

|            |                                           |   |    |     |      |     |    |    |  |
|------------|-------------------------------------------|---|----|-----|------|-----|----|----|--|
| 123 17/216 | Cyds of Rough stone in Chunam             | 1 | 12 | ..  | Oct  | 216 | 3  | 2  |  |
| 14         | Do of Arch work                           | 4 | 13 | ..  | Do   | 67  | 6  | .. |  |
| 3 1/3      | Do of Concrete work                       | 1 | 8  | ..  | Do   | 5   | .. |    |  |
| 13 28/100  | Sqrs of plastering with 3 Coats of Chunam | 3 | 5  | ..  | Sq   | 43  | 15 | 0  |  |
|            | Excavating foundation & filling in wings  |   |    |     |      | 25  | .. |    |  |
| 4          | Guard Stones                              | 1 | 8  | ..  | Each | 6   | .. |    |  |
| 1          | Centring                                  |   |    |     |      | 9   | .. |    |  |
|            |                                           |   |    |     |      | 372 | 3  | 7  |  |
|            | Contingencies                             | 5 | .. | Oct | 18   | 4   | 1  |    |  |
|            | Superintendence                           | 2 | 8  | ..  | 9    | 3   | .. |    |  |

Total for 1 Tunnel 400 ..  
 Do for 6 Do 2400 ..

2300 ..  
 2400 ..

3 Tunnel of 1 Kent of object space

|                                     |                                            |   |    |    |          |     |    |
|-------------------------------------|--------------------------------------------|---|----|----|----------|-----|----|
| 88 <sup>159</sup> / <sub>216</sub>  | Cy of Roughstone in Churnaw                | 1 | 12 | .. | Cy 155   | 5   | 10 |
| 9 <sup>1</sup> / <sub>3</sub>       | do of Arch work                            | 4 | 13 | .. | do 144   | 14  | 8  |
| 2                                   | do of Concrete work                        | 1 | 8  | .. | do 3     | "   | "  |
| 866 <sup>100</sup> / <sub>100</sub> | Sqrs of plastering with 3 Coats of Churnaw | 3 | 5  | .. | Sqrs 28  | 10  | 11 |
|                                     | Excavating foundation & filling in wings   |   |    |    |          | 18  | "  |
| 4                                   | Guardstones                                | 1 | .. | .. | Perch 4  | "   | "  |
|                                     | Centring                                   |   |    |    |          | 6   | "  |
|                                     | Contingencies                              | 5 | .. | .. | Perch 13 | "   | 7  |
|                                     | Superintendence                            | 2 | 8  | .. | do 7     | "   | "  |
|                                     | Total for Tunnel                           |   |    |    |          | 280 | 2  |
|                                     | do for 5 do                                |   |    |    |          |     |    |

12 Tunnels of 18 each of 5 feet span

|        |                            |    |    |      |   |    |
|--------|----------------------------|----|----|------|---|----|
| 68 1/2 | Cy of Roughstone in Chumaw | 12 | "  | 119  | 1 | 5  |
| 5 5/8  | do of arch work            | 4  | 13 | 27   | 1 | 1  |
| 1 1/3  | do of Concrete work        | 1  | 8  | 2    | " | "  |
| 7 3/4  | Sq of plastering with      | 3  | 5  | 23   | 4 | 10 |
| 100    | 3 Coats of Chumaw          |    |    |      |   |    |
|        | Excavating foundation and  |    |    | 10   | " | "  |
|        | filling in wing walls      |    |    |      |   |    |
| 4      | Guard Stone                | 1  | "  | 4    | " | "  |
| 1      | Centering                  |    |    | 6    | " | "  |
|        |                            |    |    | 19   | 6 | 11 |
|        | Contingencies              | 5  | "  | 10   | 8 | "  |
|        | Superintendence            | 2  | 8  | 5    | 1 | 1  |
|        | Total for 1 Tunnel         |    |    | 207  | " | "  |
|        | do for 127 do              |    |    | 2484 |   |    |

10 Pluices of 2 feet span

|    |                  |                                                                       |   |    |      |    |    |      |
|----|------------------|-----------------------------------------------------------------------|---|----|------|----|----|------|
| 26 | $\frac{8}{27}$   | Cyrs of Rubble masonry—                                               | 1 | 12 | Cyrs | 46 | "  | 4    |
| 3  | $\frac{11}{100}$ | Sqrs of plastering w <sup>th</sup> 3<br>Coats of Chuna <sup>m</sup> — | 3 | 5  | Sqrs | 10 | 1  | 1    |
| 21 |                  | Covering slabstones—                                                  | " | 12 | Each | 15 | 12 | "    |
|    |                  | Excavating foundation<br>& filling in wings—                          |   |    |      |    | 1  | " "  |
|    |                  |                                                                       |   |    |      |    |    |      |
|    |                  |                                                                       |   |    |      |    | 72 | 13 5 |
|    |                  | Contingencies—                                                        | 5 | "  | set  | 3  | 2  | "    |
|    |                  | Superintendence—                                                      | 2 | 8  | " do | 1  | "  | 7    |

Total for 1 Slice  
— Do — for 10 — Do —

Widening a Gluice of  $1\frac{1}{2}$  ft.  
span across Nullah's bed.  
3,75,476

|                    |                                            |   |    |   |    |    |    |    |
|--------------------|--------------------------------------------|---|----|---|----|----|----|----|
| 9 $\frac{5}{12}$   | Cyos of Rubble Masonry                     | 1 | 12 | " | Cy | 16 | 1  | 10 |
| 1 $\frac{15}{100}$ | Sqrs of plastering with 3 coats of Chuanam | 3 | 5  | " | Sq | 3  | 13 | "  |
| $\frac{7}{12}$     | Cyos of Archwork brick in Chuanam          | 4 | 13 | " | Cy | 2  | 12 | 11 |
| 4                  | Guardstones                                | 1 | 4  | " | S  | 5  | "  | "  |
|                    | Excavating foundation & filling in wings   |   |    |   |    |    |    | 12 |
|                    | Pulling down the parapet wall              |   |    |   |    | 2  | "  |    |
|                    | Contingencies                              | 5 | "  | " | at | 1  | 5  | 3  |
|                    | Superintendence                            | 2 | 8  | " | do | "  | 3  | "  |

Total for 1 Glucose

Total for 3 Pieces

Widening a Tunnel of 3 ft span across Vallab 801  
4, 5, 11, 8 14

88 1/2

9 1/3

2 15 283

8 6 10 25 45

|                                          |   |    |    |    |       |
|------------------------------------------|---|----|----|----|-------|
| Cyrt of Rubble Masonry                   | 1 | 12 | 02 | 27 | 9 1/2 |
| Do of arch work brick in chunam          | 4 | 13 | 00 | 2  | 8 1/4 |
| Top of plastering with 3 coats of chunam | 3 | 5  | 00 | 4  | 7 10  |
| Guardstones                              | 1 | 4  | 00 | 5  | -     |
| Excavating foundation                    |   |    |    |    | 14    |
| Centring                                 |   |    |    |    | 2 8   |

|                 |   |   |    |    |       |
|-----------------|---|---|----|----|-------|
| Contingencies   | 5 | - | -  | 02 | 2 3 8 |
| Superintendence | 2 | 8 | 00 | 1  | 2     |

Total for 1 Tunnel 40 " "  
Do for 4 do 184 " "

Widening a Tunnel of 3 arches of 3 ft span across Vallab 801

7 1/2

1 9 10

|                                          |   |    |    |    |     |
|------------------------------------------|---|----|----|----|-----|
| Cyrt of rough stone in chunam            | 1 | 12 | 02 | 46 | 1 9 |
| Do of arch work brick in chunam          | 4 | 13 | 00 | 7  | 8 4 |
| Top of plastering with 3 coats of chunam | 3 | 5  | 00 | 14 | 2 1 |
| Centring                                 | 5 | -  | -  | 15 | "   |
| Guardstones                              | 1 | 4  | 00 | 5  | "   |
| Excavating foundation & filling in wings |   |    |    |    | 2 8 |
| Pulling down the present parapet wall    |   |    |    |    | 1 4 |

412 410  
415 500  
31 500

|                 |   |   |    |    |     |
|-----------------|---|---|----|----|-----|
| Contingencies   | 5 | - | -  | 02 | 4 7 |
| Superintendence | 2 | 8 | 00 | 2  | 10  |

Total Rupees 98 " "

Widening a Tunnel of 1 1/2 ft span across Vallab 801

|                                          |   |    |    |    |      |
|------------------------------------------|---|----|----|----|------|
| Cyrt of Rubble Masonry                   | 1 | 12 | 02 | 33 | 9 8  |
| Do of arch work in chunam                | 4 | 13 | 00 | 4  | 2    |
| Top of plastering with 3 coats of chunam | 3 | 5  | 00 | 6  | 15 1 |
| Centring                                 |   |    |    |    | 3 -  |
| Guardstones                              | 1 | 4  | 00 | 5  | "    |
| Excavating foundation & filling in wings |   |    |    |    | 2 -  |
| Pulling down the present parapet         |   |    |    |    | 2 -  |

|                 |   |   |    |    |     |
|-----------------|---|---|----|----|-----|
| Contingencies   | 5 | - | -  | 02 | 3 - |
| Superintendence | 2 | 8 | 00 | 1  | 7   |

Total Rupees 61 " "

Widening a Sluice of 1 ft span across Vallab 801

|                                          |   |    |    |   |       |
|------------------------------------------|---|----|----|---|-------|
| Cyrt of Rubble Masonry                   | 1 | 12 | 02 | 7 | 3 1/2 |
| Top of plastering with 3 coats of chunam | 3 | 5  | 00 | 1 | 14 3  |
| Covering stones                          |   | 8  | 00 | 3 | "     |
| Guardstones                              | 1 | 4  | 00 | 5 | -     |
| Excavating foundation & filling in       |   |    |    |   | 8     |

17 12 1/2 413 99  
407 58

|                 |   |    |    |    |   |    |    |    |       |
|-----------------|---|----|----|----|---|----|----|----|-------|
| Contingencies   | 5 | .. | Rs | 2  | 1 | 17 | 12 | 11 | 41329 |
| Superintendence | 2 | 8  | .. | Rs | 1 | .. | .. | .. | 1663  |
| Total Rupees    |   |    |    |    |   |    |    |    | 18    |

Widening a Sluice of 2 ft span across Nullah No 51.

|                                                |   |    |    |      |   |    |    |
|------------------------------------------------|---|----|----|------|---|----|----|
| 4 $\frac{7}{144}$ Cys of rough stone in chunam | 1 | 12 | .. | Rs   | 7 | 1  | 11 |
| Do of arch work                                | 4 | 13 | .. | Rs   | 2 | 5  | 5  |
| 9 $\frac{25}{72}$ Sgs of plastering with 3     | 3 | 5  | .. | Rs   | 2 | 9  | 8  |
| Coats of chunam                                |   |    |    |      |   |    |    |
| 4 Guardstones                                  | 1 | 14 | .. | Each | 5 | .. | .. |
| Excavating foundations & filling in            |   |    |    |      |   | 8  | .. |

|                 |   |    |    |    |   |    |    |    |
|-----------------|---|----|----|----|---|----|----|----|
| Contingencies   | 5 | .. | Rs | 2  | 1 | 17 | 12 | 11 |
| Superintendence | 2 | 8  | .. | Rs | 1 | .. | .. | .. |

Total Rupees 18

Widening a Tunnel of 2 arches of 5 ft span across Nullah No 52

|                                              |    |    |      |      |    |    |    |    |
|----------------------------------------------|----|----|------|------|----|----|----|----|
| 80 $\frac{7}{18}$ Cys of Rubble Masonry      | 1  | 12 | ..   | Rs   | 14 | 0  | 10 | 11 |
| 4 $\frac{12}{144}$ Do of arch work in chunam | 4  | 13 | ..   | Rs   | 2  | 1  | 2  | 7  |
| 10 $\frac{25}{100}$ Sgs of plastering with 3 | 3  | 5  | ..   | Rs   | 3  | 4  | 2  | .. |
| Coats of chunam                              |    |    |      |      |    |    |    |    |
| 20 Cys of Loose stone apron                  | 10 | .. | Rs   | 2    | 5  | .. | .. | .. |
| 2 Centings                                   | 5  | .. | Each | 10   | .. | .. | .. | .. |
| 4 Guardstones                                | 1  | 14 | ..   | Each | 5  | .. | .. | .. |
| Excavating foundations & filling in          |    |    |      |      |    | 3  | .. | .. |
| Pulling down the 2 parapets                  |    |    |      |      |    | 2  | .. | .. |

|                 |   |    |    |    |   |    |    |    |
|-----------------|---|----|----|----|---|----|----|----|
| Contingencies   | 5 | .. | Rs | 12 | 8 | 24 | 1  | 8  |
| Superintendence | 2 | 8  | .. | Rs | 6 | .. | .. | .. |

Total Rupees 260

Widening a Tunnel of 2 ft span across Nullah No 60

|                                                     |    |    |    |      |    |    |    |    |
|-----------------------------------------------------|----|----|----|------|----|----|----|----|
| 8 $\frac{23}{24}$ Cys of Rubble Masonry             | 1  | 12 | .. | Rs   | 14 | 3  | 6  | 10 |
| 7 $\frac{2}{24}$ Do of arch work                    | 4  | 13 | .. | Rs   | 3  | 5  | 1  | 5  |
| 12 $\frac{25}{100}$ Sgs of plastering with 3        | 3  | 5  | .. | Rs   | 4  | 1  | 13 | 9  |
| Coats of chunam                                     |    |    |    |      |    |    |    |    |
| 27 $\frac{7}{9}$ Cys of Loose stone apron in chunam | 10 | .. | Rs | 1    | 7  | 5  | 9  | .. |
| 2 Centings                                          | 5  | 8  | .. | Each | 11 | .. | .. | .. |
| 4 Guardstones                                       | 1  | 14 | .. | Each | 5  | .. | .. | .. |
| Excavating foundations & filling in                 |    |    |    |      |    | 6  | .. | .. |

|                 |   |    |    |    |   |   |    |    |
|-----------------|---|----|----|----|---|---|----|----|
| Contingencies   | 5 | .. | Rs | 13 | 2 | 3 | .. | .. |
| Superintendence | 2 | 8  | .. | Rs | 7 | 2 | .. | .. |

Total Rupees 280

Widening a Tunnel of 1 ft span across Nullah No 65

|                                             |   |    |    |      |   |    |    |    |
|---------------------------------------------|---|----|----|------|---|----|----|----|
| 53 $\frac{25}{100}$ Cys of Rubble Masonry   | 1 | 12 | .. | Rs   | 9 | 3  | 5  | 7  |
| 3 $\frac{25}{72}$ Do of arch work           | 4 | 13 | .. | Rs   | 1 | 6  | 6  | .. |
| 9 $\frac{45}{100}$ Sgs of plastering with 3 | 3 | 5  | .. | Rs   | 3 | 1  | 4  | 10 |
| Coats of chunam                             |   |    |    |      |   |    |    |    |
| 1 Centing                                   |   |    |    |      |   | 5  | .. | .. |
| 4 Guardstones                               | 1 | 14 | .. | Each | 5 | .. | .. | .. |

|                 |   |    |    |    |    |    |    |    |
|-----------------|---|----|----|----|----|----|----|----|
| Contingencies   | 5 | .. | Rs | 7  | 10 | .. | .. | .. |
| Superintendence | 2 | 8  | .. | Rs | 3  | 5  | 7  | .. |

Total Rupees 162

Enlarging a Bridge of 3 arches  
of 9 ft span height of abut-  
ments 3 ft & rise  $1\frac{3}{4}$  ft across  
Nullah No. 44.

42137

|                       |                                           |    |    |      |     |      |
|-----------------------|-------------------------------------------|----|----|------|-----|------|
| 8 $\frac{143}{54}$    | Cy of Roughstone in chunam                | 12 | Cy | 143  | 2   | 3    |
| 20                    | Do of archwork brick in chunam            | 13 | Do | 125  | 2   |      |
| 0 $\frac{2}{3}$       | Do of Concrete work                       | 1  | 8  | Do   | 10  |      |
| 4 15 $\frac{92}{100}$ | Sqrs of plastering with 3 coats of chunam | 3  | 5  | Sq   | 49  | 12 7 |
| 14 $\frac{22}{27}$    | Cy of Loose stone apron                   | 10 | Cy | 9    | 4   | 1    |
| 4                     | Guard stones                              | 1  | 4  | Each | 5   |      |
| 2                     | Centring                                  | 8  |    | Do   | 10  |      |
|                       | Excavating foundation & filling in pits   |    |    |      | 12  |      |
|                       |                                           |    |    |      | 370 | 4 10 |
|                       | Contingencies                             | 5  |    | Do   | 19  | 11 1 |
|                       | Superintendence                           | 2  | 8  | Do   | 10  |      |
|                       | Total Rupees                              |    |    |      |     | 400  |

Enlarging a Bridge of 2  
arches of 15 feet span height  
of abutments 3 ft & rise  $1\frac{3}{4}$  ft  
across Nullah No. 41

|                        |                                           |    |    |      |     |      |
|------------------------|-------------------------------------------|----|----|------|-----|------|
| 202 $\frac{27}{216}$   | Cy of Roughstone in chunam                | 12 | Cy | 354  | 2   | 5    |
| 20                     | Do of archwork                            | 4  | 13 | Do   | 96  | 4    |
| 7                      | Do of Concrete work                       | 1  | 8  | Do   | 10  | 8    |
| 10 20 $\frac{11}{100}$ | Sqrs of plastering with 3 coats of chunam | 3  | 5  | Sq   | 66  | 9 11 |
| 10 $\frac{2}{3}$       | Cy of Loose apron in rear                 | 10 | Cy | 6    | 10  | 8    |
|                        | Excavating foundation & filling in pits   |    |    |      | 18  |      |
| 8                      | Guard stones                              | 1  | 8  | Each | 12  |      |
| 1                      | Centring                                  |    |    |      | 20  |      |
|                        | Pulling down the wing walls               |    |    |      | 2   |      |
|                        |                                           |    |    |      | 586 | 2 7  |
|                        | Contingencies                             | 5  |    | Do   | 29  | 9 5  |
|                        | Superintendence                           | 2  | 8  | Do   | 14  | 4    |
|                        | Total Rupees                              |    |    |      |     | 620  |

Enlarging a Bridge of 3 arches  
of 9 ft span height of abut-  
ments 2 ft & rise  $1\frac{1}{2}$  ft across  
Nullah No. 42.

43508  
43167  
42437

|                     |                                           |    |    |      |     |      |
|---------------------|-------------------------------------------|----|----|------|-----|------|
| 104 $\frac{7}{16}$  | Cy of Rubble masonry                      | 1  | 12 | Cy   | 183 | 7 4  |
| 28                  | Do of archwork                            | 4  | 13 | Do   | 134 | 12   |
| 6                   | Do of Concrete work                       | 1  | 8  | Do   | 9   |      |
| 17 $\frac{74}{100}$ | Sqrs of plastering with 3 coats of chunam | 3  | 5  | Sq   | 58  | 11 5 |
| 15 $\frac{7}{9}$    | Cy of Loose stone apron                   | 10 | Cy | 9    | 11  | 5    |
| 4                   | Guard stones                              | 1  | 4  | Each | 5   |      |
| 3                   | Centring                                  | 5  |    | Do   | 15  |      |
|                     | Excavating foundation & filling in pits   |    |    |      | 20  |      |
|                     |                                           |    |    |      | 435 | 10 2 |
|                     | Contingencies                             | 5  |    | Do   | 23  | 10   |
|                     | Superintendence                           | 2  | 8  | Do   | 11  | 5    |
|                     | Total Rupees                              |    |    |      |     | 470  |

Improving a Tunnel of 3 feet  
span across Nullah No. 1

|                 |                                                            |   |    |      |    |      |
|-----------------|------------------------------------------------------------|---|----|------|----|------|
| 2 $\frac{2}{3}$ | Cy of brick in chunam for rebuilding parapet walls         | 2 | 14 | Cy   | 1  | 14 8 |
| 100             | Sqrs of plastering to parapet walls with 3 coats of chunam | 3 | 5  | Sq   | 1  | 15 9 |
| 4               | Guard stones                                               | 1 | 4  | Each | 5  |      |
|                 | Pulling down the present parapets                          |   |    |      | 1  | 8    |
|                 |                                                            |   |    |      | 10 | 6 5  |
|                 | Contingencies                                              | 5 |    | Do   | 7  |      |
|                 | Superintendence                                            | 2 | 8  | Do   | 2  | 7    |
|                 | Total Rupees                                               |   |    |      |    | 11   |

43508  
43167  
42437

Improving a Bridge of 4 arches  
of 10 feet span across Nullah  
No. 7

|                                   |                                              |      |      |    |   |     |
|-----------------------------------|----------------------------------------------|------|------|----|---|-----|
| 12 <sup>10</sup> / <sub>27</sub>  | Cyrs of brick in Chunam                      | 2 11 | Cyrs | 36 | 3 | 3   |
| 10 <sup>10</sup> / <sub>100</sub> | Lgts of plastering with 3 coats<br>of Chunam | 3 5  | Lgts | 53 | 8 | 6   |
| 8                                 | Guard Stones                                 | 1 4  | Each | 10 | " | "   |
|                                   | Pulling down the present parapets            |      |      | 2  | " | "   |
|                                   | Contingencies                                |      |      | 10 | 1 | 19  |
|                                   | Superintendence                              | 5    | "    | 5  | 4 | 3   |
|                                   |                                              | 2 8  | "    | 3  | " | "   |
|                                   | Total Rupees                                 |      |      |    |   | 110 |

Improving a Bridge of 2 arches  
of 11 feet span height of abut-  
ments 3 feet across Nullah  
No. 9

|                                   |                                              |      |      |    |    |    |
|-----------------------------------|----------------------------------------------|------|------|----|----|----|
| 11 <sup>13</sup> / <sub>27</sub>  | Cyrs of brick in Chunam                      | 2 11 | Cyrs | 36 | "  | 2  |
| 12 <sup>46</sup> / <sub>100</sub> | Lgts of plastering with 3 coats<br>of Chunam | 3 5  | Lgts | 41 | 4  | 5  |
| 8                                 | Guard Stones                                 | 1 4  | Each | 10 | "  | "  |
|                                   | Pulling down the present parapets            |      |      | 1  | 8  | "  |
|                                   | Contingencies                                |      |      | 88 | 12 | 7  |
|                                   | Superintendence                              | 5    | "    | 4  | 3  | 5  |
|                                   |                                              | 2 8  | "    | 2  | "  | 5  |
|                                   | Total Rupees                                 |      |      |    |    | 96 |

Improving a Tunnel of 2 arches  
of 6 ft span across Nullah  
No. 12

|                                  |                                              |      |      |   |    |    |
|----------------------------------|----------------------------------------------|------|------|---|----|----|
| 2 <sup>14</sup> / <sub>27</sub>  | Cyrs of brick in Chunam                      | 2 11 | Cyrs | 7 | 3  | 10 |
| 1 <sup>70</sup> / <sub>100</sub> | Lgts of plastering with 3 coats<br>of Chunam | 3 5  | Lgts | 5 | 10 | "  |

and stones 1 4 " Each 5 " " 43 653  
Pulling down the present parapets 1 8 " 43 671

Contingencies 5 " " 1 " " 43 676  
Superintendence 2 8 " " 10 " " 43 686

Total Rupees 21 " " 43 707

Improving a Tunnel of  
1/2 span across Nullah  
No. 23

Use of Rubble masonry  
on retaining walls to 200 ft  
stone apron  
Lgts of plastering with 3 coats  
of Chunam

Use of Loose Stone apron " 10 " Cyrs 12 8 "  
Guard stones 1 4 " Each 5 " " 12 8 "  
excavating foundation 1 4 " " 12 9 "  
Pulling down the present parapets 2 " " 12 11 "

Contingencies 5 " " 2 10 10  
Superintendence 2 8 " " 2 " " 12 12 "

Total Rupees 110 " " 12 13 "

Bridge of 3 arches of 9 ft span  
cross Nullah No. 44

Use of Rough stone in Chunam  
for retaining walls  
apron  
Lgts of plastering with 3  
coats of Chunam  
Guard stones

1 12 " Cyrs 18 2 4  
3 5 " Lgts 8 9 9  
1 4 " Each 12 " " 18 2 4



N<sup>o</sup> 5

Abstract Estimate  
of Earth and Mason  
ry works on the Anko-  
pilly branch road

Al. C. C. C. C.

P. M. 14688/68

Encls in a letter 12/17/80  
from Mr. C. C. C. C.  
to Mr. C. C. C. C.  
C. C. C. C.

Camp Vizianagram.

17<sup>th</sup> November 1868.

N<sup>o</sup> 841

From,

The Collector of  
Vizagapatam.

To,

The Superintending Engineer, <sup>1<sup>st</sup></sup> Div.  
Pondicherry.

Sir,

I have the honor to return the estimate  
received with your letter of the 6<sup>th</sup> Instant,  
N<sup>o</sup> 147, duly countersigned, and with regard  
to the proposal in your 4<sup>th</sup> Para, to state that  
I concur with you as to the advisability of re-  
ducing the estimate as suggested by you to  
Rs. 36,408.

2. The importance of this road would be  
considerable, and would demand the full outlay  
recommended by Captain Beatty, were there any  
prospect of the Bridge over the Backwater, con-  
necting it with Vizagapatam being completed,  
but as there are no means at present to provide  
for this very costly work, I think your reduced  
estimate is sufficient for the present, as until  
a bridge is constructed over the Backwater, I do  
not think that very heavy traffic on this road  
can be expected.

I have the honor to be  
Sir,

(True Copy)

Dowlaiswaram  
21<sup>st</sup> November 1883

*L. R. Jones Capt. R.E.  
Supt. Engineer 1st Div.*

Copy of Virginia  
Letters

Q. R. 4688/88

Lucio in Oct 1788  
 asked Eli to send  
 from the ship  
 H. & J. & the  
 deen long to you

1. *Project*  
 2. *1. Statistical Data*  
 3. *2. World Climate*  
 4. *3. Specifications*  
 5. *4. Statement of*  
*measures of work*  
 6. *5. Traffic Pattern*  
 7. *6. Copy of Collection*  
 8. *7. Other*

170

1940

Captain J. C. Ryner. D. R.

Superintending Engineer, <sup>11</sup>/<sub>6</sub>

Colonel C. A. Orr, Jr.

Secretary to Genl. F.W.D.

• *Neobea* ✓

Have the honor to submit es-  
timated amounting to \$3,500. for the  
improvement of the road from Baker-  
-field (on the Truck Road) to Vizcarra-  
-patam. See sketch map-

2. Captain Beatty's estimate was  
-ed to \$4,500. but seeing that the  
traffic is at present small, and not  
likely to become heavy till the bridge  
across the backwater at Nizagaputun  
is built, I propose that only \$3,500  
be laid out on the Road now. The re-  
-duction is effected by diminishing the  
thickness of gravelling to 6 inches where

9 is allowed, by Captain Beatty, & to  
4½ where 6 is allowed - also by giving  
up some of the turfing to side slopes -  
reduction has been made in the  
bridging; and I believe that, when  
the bridges, provided in this Estimate  
are built, the waterway for cross drain-  
age will be ample.

3. A Copy of the Collector's letter,  
approving of the work and concurring  
in the proposed reduction of immediate  
outlay on the road, accompanies this.

\* No. 841 dated  
17<sup>th</sup> Nov 1868.

Yours very truly

W. R. Jones Capt. R.E.  
Superintending Engineer, P.W.D.

improvements to the  
road

Public Works 1868 Department  
Recd. Govt. Secy. 18 Dec 68

From

The Superintending  
Engineer

& the Secretary to Govt.  
S. P. W.

Dated 21 November 1868

As per 25<sup>th</sup> Dec

No. 30<sup>th</sup> Dec  
Encl. No. 170

Submits estimates  
amounting to Rs. 35,000  
for the improvement of  
the road from Ankapilly  
to Vizagapatnam.

No. 3954 18 Dec 68

21 Dec 68 A. 11/68

Public Works Department  
No. 3954

Proceedings of the Madras Government

Under date the 18<sup>th</sup> Dec 68

Read the following

From The Superintending Engineer

H. E. O. No. 170 dated 21<sup>st</sup> November 68

The Government  
approve of the estimate  
of Rs. 35,000 for im-  
provements to the road  
from Ankapilly on  
Trunk Road - Vol. 1 to  
Vizagapatnam, but as  
funds are required  
for works of a more  
pressing character, the  
execution of the proposed  
improvements to the  
road

road in question must  
be deferred till a more  
favorable time

W.H.

S. Eng. 1<sup>st</sup> Dist. Santa  
+ Control Unit are specified  
+ check book - Recd. 19/12/68  
- 24/12/68

Cup 4658

Govt. of 1868: Madras.

PUBLIC WORKS.

*Plan*

*of the*

*road*

Date

Road

Page

G. O. No. 1868, Nov 954

No. 409-444

Road Estimate of Rs 35,000 for  
improvements to the road from  
Ankajully on Trunk Road  
to Vajajapalan, approx