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MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

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*Statement showing the Progress of Agricultural Works under execution from the Extraordinary Grant for the quarter ended 31st December 1874*

| Name of Work | Amount of Estimate | Current year's Grant | Expenditure: During the quarter. | Expenditure: During the current year | Total Expenditure | Succinct Account showing the state to which the works have been advanced up to date |
|---|---|---|---|---|---|---|
| *Godavery* Extension of irrigation from Eastern Delta. | RS 14,00,200 | RS. 1,59,300 | RS 16,658 | RS 81,082 | RS 5,43,379 | 1 *Head Sluice* —Estimate Rupees 17,890. Gearing for four shutters under construction |
| | | | | | | 2 *Main Duct* —Estimate Rupees 28,060 0 48 Will be recommended on 1st March , |
| | | | | | | 3 *Cocanada Canal* —Estimate Rupees 1,86,800— |
| | | | | | | Earth-work . 0 86 Nothing done during the month. |
| | | | | | | Masonry ... .. 0 97. Beyond supply of gravel for cattle ramps, neighbourhood of locks being levelled up and gravelled. |
| | | | | | | Distribution .. 0 60 Materials for Chintapully Lock, Tail Bay bridge reconstruction under preparation |
| | | | | | | 4 *Mundapetta Canal.*—Estimate Rupees 74,100— |
| | | | | | | Earth-work ... . 1· 0. No earth-work during the month. |
| | | | | | | Masonry ... .. 0·42. |
| | | | | | | Distribution ... ... 0 31. Matcharam Distribution Channel turfing completed |
| | | | | | | 5 *Land Canal* —Estimate Rupees 2,33,200— |
| | | | | | | Earth-work . 0 11 No earth-work done during the month |
| | | | | | | Masonry .. .. 0 26 Chopella lock completed, with the exception of coping and Tail Bay bridge abutments, materials all collected for [illegible] under prep[illegible] |



| | | |
|---|---|---|
| Distribution . ... | ... | Postponed |
| Compensation .. | | Do |
| 6 *Coringa Canal* —Estimate Rupees 74,300— | | |
| Earth-work .. .. | ... | Arrangements made for commencing earth-work after Pongal feast. |
| Masonry .. | 0 54. | Materials all collected for Alamoor weir, and some under preparation |
| Distribution ... | 0 08 | Minor distribution projects under investigation |
| 7 *Injeram Canal* —Estimate Rupees 28,050— | | |
| Earth-work . .. | 0 06. | Arrangements made for commencing the earth-work after Pongal feast |
| Masonry .. | ... 0 63. | |
| Distribution . . | | Minor distribution projects under investigation |
| 8 *Buccavole Drain* —Estimate Rupees 65,000— | | |
| Earth-work ... | 0 66 | Work of widening the drain commenced in December, widening to full project width will be completed by 22nd January |
| Masonry ... | 0 77 | |
| 9 *Tooliabaga Drain* —Estimate Rupees 1,58,100— | | |
| Earth-work ... .. | 0 54 | Arrangements made for commencing the widening of drains to full project width after the Pongal feast |
| Masonry ... .. | 0 90. | |
| 10 *Takee Main Drain* —Estimate Rupees 2,66,300— | | |
| Earth-work ... | 0 09 | Arrangements made for commencing earth-work after Pongal feast. |
| Masonry .. | 1 64 | Takee surplus weir completed to crest level, piers in progress for turning arches |
| Distribution ... | | Postponed. |

*Statement showing the Progress of Agricultural Works under execution from the Extraordinary Grant for the quarter, &c* —(Continued.)

| Name of Work. | Amount of Estimate. | Current year's Grant | Expenditure | | Total Expenditure. | Succinct Account showing the state to which the works have been advanced up to date. |
|---|---|---|---|---|---|---|
| | | | During the quarter | During the current year | | |
| | Rs | Rs. | Rs | Rs | Rs | |
| | | | | | | 11 *Rest-houses* —Estimate Rupees 10,000 0 86 Middle room ready for thatching, verandah terrace roof in progress for Kottapilly Rest-house and masonry finished, middle room thatched for Jaganadagery Rest-houses |
| | | | | | | 12. *Compensation for lands* —Estimate Rupees 56,800 |
| | | | | | | 13 *Samulcottah Canal* —Estimate Rupees 1,31,200— |
| | | | | | | Earth-work . . 1 16<br>Masonry . .. 0 85<br>Distribution ... .. Distribution sluices sanctioned and supply of materials in progress for same.<br>Compensation . Rupees 8 were spent. |
| | | | | | | 14 *Bheemavaram Escape* —Estimate Rupees 4,200. 0 85. Guard rails for placing on crest of escape under construction in the Workshop. |
| *Godavery* —(Continued.) | | | | | | |
| | | | | | | 15 *Tools and Plant* —Estimate Rupees 86,200 |
| Extension of Irrigation from Western Delta | 14,10,000 | 1,61,000 | 27,142 | 99,652 | 5,96,873 | 1 *Head Sluice, Main Canal* —Estimate Rupees 19,500. Not commenced. |
| | | | | | | 2 *Main Canals*.—Estimate Rupees 49,000— |
| | | | | | | Earth-work ... 0 20. From 2¾ to 4 miles (hard line) deepened and [illegible] |



| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | | 3. *Kakaraparru Canal* —Estimate Rupees 33,000— |
| | | | | | | Earth-work . .. Not commenced, arrangements for land required, 1½ to 6 miles made |
| | | | | | | 4 *Narsapur Canal* —Estimate Rupees 2,09,600— |
| | | | | | | Earth work .. 1 0 Finished<br>Masonry . . 0 64 Peravelly lock and weir finished. Itempudy lock and weir and Kavetum lock and weir finished, and Mogultur lock done, except some copings and weir masonry commenced<br>Distribution ... ... 0 40 Five irrigation sluices and four irrigation dams, one under tunnel, and six irrigation channels finished<br>Compensation for land Rupees 1,139 have been spent |
| | | | | | | 5 *Bank Canal* —Estimate Rupees 1,07,909— |
| | | | | | | Earth-work .. ... 0 12. Channel from surplus weir to Naccala nearly finished<br>Masonry .. .. 0 15 For two locks and one weir materials partly collected; one weir (surplus) up to abutment 3 feet above floor<br>Masonries above drains 0 44 One under tunnel finished. |
| | | | | | | 6. *Venkiah and Weyaru* —Estimate Rupees 11,900— |
| | | | | | | Earth-work .. ... 0 12 Yellurpad channel finished<br>Masonry . .. 0·27. Alterations of Chillarampaud escape finished. Akootagapaud lunka sluice finished. |
| | | | | | | 7 *Undi Canal* —Estimate Rupees 1,10,700— |
| | | | | | | Earth-work .. .. 0 76 Excavation finished, but a little to be done to strengthen banks<br>Masonry ... .. 0 23 Head lock finished, except some copings and bridges<br>Distribution .. .. 0 11 Two minor channels finished<br>Compensation for land. Rupees 145 have been spent. |

*Statement showing the Progress of Agricultural Works under execution from the Extraordinary Grant for the quarter, &c.*—(Continued)

| Name of Work. | Amount of Estimate. | Current year's Grant. | Expenditure: During the quarter. | Expenditure: During the current year. | Total Expenditure | Succinct Account showing the state to which the works have been advanced up to date. |
|---|---|---|---|---|---|---|
| | Rs. | Rs. | Rs | Rs | Rs. | |
| 8 *Atteli Canal*—Estimate Rupees 86,000— | | | | | | |
| Earth-work .. .. | | | | | 0 61 | Excavation finished, except two curves, a small quantity of banks still to be done, and channel from surplus weir which is in progress. |
| Masonry ... ... | | | | | 0 77 | Godicherla lock and weir finished Gunnumpad weir finished, and lock almost finished. Surplus weir in 11 miles, nearly all materials collected. |
| Distribution ... ... | | | | | 0 57. | Amidalapatem under tunnels and two other under tunnels, two irrigation sluices, three irrigation drains, two irrigation channels finished and portion of another over Rajahby head sluice finished. |
| Compensation for land Rupees 74 have been spent | | | | | | |
| 9. *Gostanuddy and Vellar*—Estimate Rupees 1,43,000 | | | | | | |
| Earth-work .. .. | | | | | 0 29 | 14 to 21 miles almost finished. Weir channel at head finished |
| Masonry ... ... | | | | | 0 36. | Head lock and weir opened almost finished; weir across Gostanuddy, most of materials collected |
| Minor masonry works .. | | | | | | Not commenced. |
| 10 *Nakkala Drain*—Estimate Rupees 13,200. Not commenced. | | | | | | |
| 11. *Gostanuddy Outfall and Sluice*—Estimate Rupees 94,000— | | | | | | |
| Earth-work . | | | | | 0 77. | 83,911 cubic yards done. |
| Masonry . ... | | | | | | Not commenced |
| Minor masonry . ... | | | | | | do. |
| 12. *Yenamadurru Drain*—Estimate Rupees 28,800 | | | | | | |
| Earth-work .. | | | | | 0 49 | 133,192 cubic yards done |
| Masonry ... ... .. | | | | | | Not commenced. |
| 13 *Other Drains*—Estimate Rupees 28,200— | | | | | | |
| A—*Bundada and Rudroyacodu*— | | | | | | |
| Earth-work .. | | | | | 0 39. | 65,050 cubic yards done. |
| B—*Caza Drain*— | | | | | | |
| Earth-work .. ... | | | | | 0 60 | 48,476 cubic yards done |
| C.—*Buggesveram Drain*— | | | | | | |
| Earthwork . .. | | | | | 1 0 | Finished |
| D—*Minor Drainages*— | | | | | | |
| Earth-work ... ... | | | | | 0 30 | 23,474 Cubic yards done. |
| 14 *Drain west of Nursapur Canal*—Estimate Rupees 18,320. | | | | | | |
| Earth-work ... .. | | | | | 0 80. | Excavation according to sections finished, but banks to be improved and some outside cuts to be made. |
| Masonry . . | | | | | 1 0 | Finished. |
| Compensation for land. | | | | | | Rupees 679 spent. |

Proceedings of the Madras Government, Public Works Department, 1st April 1875.

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|---|---|---|---|---|---|---|
| | Rs | Rs. | Rs. | Rs. | Rs | |
| | | | | | | 15. *Ellore Canal*—Estimate Rupees 2,43,700 |
| | | | | | | 15-A *Main Canal*—Estimate Rupees 55,000— |
| | | | | | | Earth-work ... 0 33 15th to 20th, 29th, and 30th miles finished |
| | | | | | | Masonry and earth-work for distr but on. 0 60 12 Irrigation sluices and three escapes finished, 102,228 cubic yards earth-work done. |
| | | | | | | Compensation for land. Rupees 35 were spent |
| | | | | | | 15 B. *Mid Level Channel*—Estimate Rupees 64,180— |
| | | | | | | Earth-work ... 0 80. 324,068 cubic yards earth-work done |
| | | | | | | Masonry ... 0 85. Head sluice, six bridges, six drops, one undertunnel one escape, three village sluices finished; three village sluices nearly finished, regulating bridge at 9¼ and 11¼ miles finished; escape at 11¼ milestone finished, except raising walls in vents |
| | | | | | | Compensation for land. Rupees 253 were spent. |
| | | | | | | 15 C. *Low Level Channel*—Estimate Rupees 19,200— |
| | | | | | | Earth-work ... 0 89 Low level channel itself finished, but a distributary channel not in original estimate being charged to it by order. |
| | | | | | | Masonry ... 0 81. Four drops, one escape, two bridges, three village sluices finished. Head sluice and bridge and drop at Muddapuram built and pulled down, as part of channel became jungle canal |
| | | | | | | 15-D. *Punlicodu Drain*—Estimate Rupees 59,530— |
| | | | | | | Earth-work ... 0 89 300,451 cubic yards earth-work done |
| | | | | | | Masonry ... Finished |
| | | | | | | 15-E. *Drain from 9½ miles*—Estimate Rupees 24,000— |
| | | | | | | Earth-work ... 0 66 165,336 cubic yards done, work finished except a little trimming |
| | | | | | | Masonry ... Finished |
| | | | | | | 15-F *Drainage Diversion*—Estimate Rupees 21,700— |
| | | | | | | Earth-work ... 0·78 212,522 cubic yards done |
| | | | | | | Masonry ... 0 76 Finished, except part of fixing of one foot-bridge and Cumanandracolla channel sluice |
| | | | | | | 16 *Rest-houses*—Estimate Rs. 23,200 All finished, except one. |
| | | | | | | 17. *Restoring Navigation with Weyaru*—Estimate Rupees 72,700 |
| | | | | | | Earth-work ... 0·56 Canal finished, but an Irrigation channel not provided for in estimates is now being charged to the savings in this estimate |
| | | | | | | Masonry ... 0·90 Finished, except a little coping to Muddapuram lock. |
| | | | | | | 18. *Additional Surplus Weir near the head of the Ellore Canal.*—Estimate Rupees 14,000 |
| | | | | | | Masonry ... ... ... ... ... ... 0 83. Finished |
| | | | | | | 19. *Tools and Plant*—Estimate Rupees 1,05,360— |
| | | | | | | *Widening Pulleru from Pamarru to Cowtram Lock*—Estimate Rupees 17,500. |
| | | | | | | Earth-work ... ... ... ... ... ... 1 00 |
| | | | | | | *Widening Pullerus from Marrivada to Pamarru*—Estimate Rupees 31,250 |
| | | | | | | Earth-work ... ... ... ... ... ... ... 0 99 |
| | | | | | | *Sloping the banks of Masulipatam Canal from 1st to 4th mile.*—Estimate Rupees 10,100. |
| | | | | | | Earth-work ... ... ... ... ... ... ... ... 0 75. |
| *Kistna.* | | | | | | |
| Improving Masulipatam Section of the Kistna Delta | 1,87,990 | 2,645 | 7 | 7,831 | 1,70,260 | |
| | | Deduct Recovery ... | | 244 | | |
| | | | | 7,587 | | |

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| Name of Work. | Amount of Estimate | Current year's Grant | Expenditure: During the quarter | Expenditure: During the current year | Total Expenditure | Succinct Account showing the state to which the works have been advanced up to date. |
|---|---|---|---|---|---|---|
| | Rs. | Rs. | Rs. | Rs | Rs. | |
| | | | | | | *Enlarging Masulipatam Canal from 4th to 12½ miles*—Estimate Rupees 65,000 |
| | | | | | | Earth-work ... ... ... ... ... ... 0 94 |
| | | | | | | *Enlarging Pulleru from Kankipaud Lock to Marrivada.*—Estimate Rupees 27,900 |
| | | | | | | Earth-work ... ... ... ... ... ... 0 99 |
| | | | | | | *Constructing Regulating Sluice across Pulleru at Pamarru*—Estimate Rupees 7,000 |
| | | | | | | Masonry ... ... ... ... ... ... ... 1 00 |
| | | | | | | *Re-constructing a Bridge in Junction Canal near Pamarru.*—Estimate Rupees 1,350 |
| | | | | | | Masonry ... ... ... ... ... ... 1 00 |
| | | | | | | *Constructing a Calingulah at Weyaru.*—Estimate Rupees 5,600 |
| | | | | | | Masonry ... ... ... ... ... ... 1 00 |
| | | | | | | *Constructing Iron Punt*—Estimate Rupees 6,100 |
| | | | | | | Iron ... ... ... ... ... ... 1 00 |
| | | | | | | *Minor Branches and Sluices*—Estimate Rupees 5,000 |
| | | | | | | Masonry ... ... ... ... ... ... 0 04 |
| | | | | | | Earth-work ... ... ... ... ... ... 0 94 |
| | | | | | | Masonry ... ... ... ... ... ... 0 49 |
| | | | | | | Revetment ... ... ... ... ... ... 0 22 |
| | | | | | | Roads ... ... ... ... ... ... 0 90 |
| Widening the head of Masulipatam Canal | 1,13,530 | 31,327 | 1,196 | 18,598 | 82,540 | |
| Enlarging the South Main Canal from Sectanagram to Dugirala. | 2,76,404 | 29,254 | 3,416 | 28,725 | 2,68,907 | Earth-work ... ... ... ... ... 0 98 |
| | | | | | | Masonry ... ... ... ... ... 1 00 |
| Enlargement and improvement of Ryves' Canal and its branches. | 4,14,193 | 38,000 | 6,816 | 22,621 | 2,80,564 | *Head Sluice and Bridge*—(Revised) Estimate Rupees 19,250 |
| | | | | | | Masonry ... ... ... ... ... ... 0 99 |
| | | | | | | *Excavating Canal*—Estimate Rupees 2,79,880. |
| | | | | | | Earth-work ... ... ... ... ... ... 0 72 |
| | | | | | | *Enlarging and improving Ryves' Channel from the 2nd mile to Pullaru near Marrivada.*—Estimate Rupees 58,180 |
| | | | | | | Earth-work ... ... ... ... ... ... 0 75 |
| | | | | | | *Enlarging and improving Gudivada branch of Ryves' Channel*—Estimate Rupees 26,800 |
| | | | | | | Earth-work ... ... ... ... ... 0 09 |
| | | | | | | *Constructing three accommodation bridges on Ryves' Branch Channel*—Estimate Rupees 3,780 |
| | | | | | | Masonry ... ... ... ... ... ... 0 66 |
| | | | | | | *Constructing Iron Punt.*—Estimate Rupees 6,100 |
| | | | | | | Iron ... ... ... ... ... ... 0 75 |
| | | | | | | *Minor Branches and Sluices*—Estimate Rupees 5,000. |
| | | | | | | Masonry ... ... ... ... ... ... 0 20 |
| | | | | | | Earth-work and masonry ... ... ... ... ... ... 0 94 |
| Extending Commamore Channel. | 5,280 | 250 | ... | 250 | 1,76,240 | |
| | 1,95,770 | | Deduct. | 27 | | |
| | | | | 223 | | |
| Constructing a bridge across Commamore Channel at Kolakalore ... ... | 8,030 | .. | ... | ... | 15,335 | *Rapid at Dugirala* |
| | 16,060 | | | 423 | | Earth-work ... ... ... ... ... ... 1 00 |
| Excavating a channel along west side of Masulipatam Canal from Kunkepaud to Aukamurru. | 49,860 | 423 | ... | 250 | 49,184 | Revetment and masonry ... ... ... ... ... ... 1 00 |
| | | | Deduct. | | | Masonry ... ... ... ... ... ... 1 0 |
| | | | | 164 | | Paid for works done |
| Constructing an under tunnel at Iyumpudy. | .. | .. | .. | .. | 914 | Works in progress Funds will be applied in Statement of Savings and Demands. |

*Statement showing the Progress of Agricultural Works under execution from the Extraordinary Grant for the Quarter, &c* —(Continued)

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|---|---|---|---|---|---|---|
| *Nellore* | Rs. | Rs | Rs | Rs. | Rs | |
| Improvements to the Suriapully Channel. | 4,20,000 | 22,774<br>Deduct. | 2,138<br>194 | 18,943 | 3,97,865 | *Head sluice* —Estimate Rupees 18,000 .. 0 72<br>*Regulating sluice at the head of Jaffer Sahib's Channel* —Estimate Rupees 4,720 —1 09 Completed<br>*Deepening the Suriapully New Cut and improving old Kamareddy Channel* —Estimate Rupees 95,500.<br>Earth-work .. . . 1 01<br>Masonry .. .. ... 0 94 Completed with the exception of<br>Rubble pitching . . 0 73 one Irrigation sluice<br>Gravel backing . .. 0 80.<br>Miscellaneous ... ... . 1 75<br>*Suriapully Channel* —Estimate Rupees 1,26,500<br>Earth-work . ... ... ... .. .. 0 88<br>Masonry .. . ... . .. 1 08<br>Drainage .. . . . . . .. 0 99<br>Miscellaneous ... . . .. .. .. 2 21<br>Survey operations .. .. ... .. . . Rupees 315<br>*Main Reserve* —Estimate Rupees 1,14,000.<br>Earth-work .. . ... . ... ... 1 03 Completed<br>Laterite revetment . ... ... ... 0 84<br>Gravel backing .. .. .. .. 0 80<br>Masonry . ... ... . ... .. 1 15. Do<br>Miscellaneous .. . .. .. 1 05<br>Drainage .. .. ... ... . Rupees 271.<br>*Idayal Channel* —Estimate Rupees 53,440<br>Earth-work . ... . 0 90. Nearly completed. |
| *Tanjore.* | | | | | | |
| Regulators for the principal branches of the Vennaur river. | 2,05,106 | 7,330 | 1,967 | 4,292 | 2,02,790 | |
| *Amount debitable to Local Funds* | Rs | | | | | |
| Pandavyar bridge .. | 7,950 | 13,955 | 1,868 | 771 | 3,378 | 17,465 |
| Vellayaur do. | 6,005 | | | | | |
| | | | | | | Masonry .. ... . ... ... .. 1 19 Completed<br>Drainage . ... . Rupees 114.<br>Miscellaneous . . ... . . 0 11<br>*Vellaur Branch* —Estimate Rupees 27,840<br>Earth-work . . ... ... .. 1 19. Completed<br>Masonry . . .. ... ... . 1 02. Do<br>Miscellaneous ... .. ... .. .. 0 11<br>*Dam across the Vennaur at the Vettaur Head* —Estimate Rs 95,676.<br>*Vennaur Sluices*<br>Brick-in-chunam. .. ... ... .. .. .. 1·00<br>Stone-in-do. .. . .. ... .. . ... 1 00<br>Shutters .. ... . ... ... 1 00<br>Earth-work ... ... .. ... ... ... 1 00<br>Miscellaneous . .. .. .. ... .. .. 1 00<br>*Vettaur Sluices.*<br>Brick-in-chunam ... ... ... .. . ... ... 1 00<br>Stone-in-do. ... ... . ... . .. . 1 00<br>Shutters .. .. ... . .. ... . ... 1·00<br>Earth-work do. .. ... . ... .. . .. 1 00<br>Miscellaneous .... ... ... . . .. 1 00<br>*Dam across the Pamanyaur and Corayaur Heads* —Estimate Rupees 65,775.<br>Earth-work .. .. ... .. ... . . 0 95<br>Brick-in-chunam ... .. .. .. . ... ... 1 00<br>Shutters ... . .. ... . .. .. .. 0 66<br>Earth-work .. ... .. .. ... ... ... ... 0 90<br>Miscellaneous ... ... . .. ... .. .. 0 74<br>*Dam across the Pandaryaur and Vellayaur* —Estimate Rs. 57,610<br>*Pandavyaur Dam.*<br>Brick-in-chunam . ... ... .. ... ... ... 1 00<br>Stone-in-do .. .. ... ... . . ... 1 00<br>Shutters do. . .... ... ... ... ... ... 1·00<br>Earth-work .. . ... ... .. .. . 1 00<br>Miscellaneous .. .. .. ... ... ... ... 1 00 |

Proceedings of the Madras Government, Public Works Department, 1st April 1875.

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|---|---|---|---|---|---|---|
| | | | During the quarter | During the current year | | |
| | Rs. | Rs | Rs. | Rs | Rs | |
| | | | | | | *Vellayar Dam* |
| | | | | | | Brick-in-chunam ... ... ... ... ... ... 1 00 |
| | | | | | | Cut stone-in-do ... ... ... ... ... ... 1 00 |
| | | | | | | Shutters ... ... ... ... ... ... ... 0 93 |
| | | | | | | Earth-work ... ... ... ... ... ... ... 1 00 |
| | | | | | | Miscellaneous ... ... ... ... ... ... ... 0 97 |
| Fixing bench mark stones along both banks of Coleroon, and incidental expenses connected with the Augunda-Cauvery and Coleroon Survey. | 1,205 | 267 | 104 | 441 | 1,177 | Expenditure ... ... ... ... ... ... ... 1 17 |
| *South Arcot.* | | | | | | |
| | | | | | | *Anicut* |
| Anicut across the Vellaur river at Pelandoray. | 2,00,555 | 20,000 Deduct | 1,116 200 | 16,887 | 2,05,744 | Brick-in-chunam ... ... ... ... ... ... ... 1 20<br>Concrete ... ... ... ... ... ... ... Completed.<br>Cut stone, dressed ... ... ... ... ... ... ... 0 91<br>Do undressed ... ... ... ... ... ... ... 1 03<br>Do rough stone ... ... ... ... ... ... ... 0 90<br>Painting in the cut stone flooring ... ... ... ... ... ... 0 70<br>Head sluice ... ... ... ... ... ... ... Completed.<br>Main channel ... ... ... ... ... ... ... 0 94<br>Branch Channels A, B, C, D, F, G, H, L, M, and N ... ... Completed<br>Improvements to Policmcottah tank ... ... ... ... Do<br>Two culverts of two arches of twelve feet span each on 9th and 10th miles ... ... ... ... Completed.<br>Sixteen minor distribution sluices ... ... ... ... Do<br>One do. do. ... ... ... ... In progress.<br>Three Irrigation sluices at the head of Branch Channels F, G, and L, and one supply sluice to Nundocjary tank and diversion sluice in the same ... ... Nearly completed.<br>Tunnel in the 95th furlong for Nagarapaudy channel ... Do. |
| | | | 216 | | | |
| *Tinnevelly.* | | | | | | |
| | | | | | | Distribution sluices at 92nd and 89th furlongs in the main channel Do<br>Masonry fall at 86th furlong in main channel ... ... Do.<br>Supply sluice to Venkaramari tank ... ... Do<br>Three tunnels in Branch Channels B, C, D ... ... Do.<br>Masonry fall at Razandrapatam, 48th furlong ... ... 0 88<br>Bridge at Vattagoody, 42nd furlong ... ... ... 0 90<br>Do at Koorookathencherry, 20th furlong ... ... ... 0 99<br>Supply sluice to Razandrapatam tank at the head of Branch Channel A ... ... Completed<br>Do to Koonamungalum tank at the head of Branch Channel B ... ... ... ... Do<br>Calingulah at 65th furlong ... ... ... ... 0 80 |
| Streeviguntum Anicut ... | 10,40,480 | 72,093 | 3,395 | 13,099 | 8,48,494 | *Anicut and Head Works* —Estimate Rupees 2,07,506<br>Earth-work ... ... ... ... ... ... ... Completed<br>Masonry ... ... ... ... ... ... ... 0 97<br>Miscellaneous ... ... ... ... ... ... ... 0 99<br>*Channels and Works south side of river* —Estimate Rupees 1,97,679<br>Earth-work ... ... ... ... ... ... ... Completed.<br>Masonry ... ... ... ... ... ... ... 0 98<br>Miscellaneous ... ... ... ... ... ... ... 0 97<br>*Channels and Works north side of river.*—Estimate Rupees 3,73,021<br>Earth-work ... ... ... ... ... ... ... Completed<br>Masonry ... ... ... ... ... ... ... 0 95<br>Miscellaneous ... ... ... ... ... ... ... 0 22<br>*Small Channels* —Revised Estimate Rupees 29,000 ... 0 99<br>*Do. Sluices* — Estimate 18,600 ... ... 0 83<br>*General Sundries.*— Do 39,777 ... ... 0 99<br>*Compensation.*— Do 40,000 ... ... 0 86 |

Proceedings of the Madras Government, Public Works Department, 1st April 1875.

*Proceedings of the Madras Government, Public Works Department*

**1st April 1875.**

*Statement showing the Nature and Progress of all Irrigation Projects and Enquiries under prosecution in connection with such Irrigation Projects that are to be carried out from Loans Funds for operations during the year 1875.*

| Districts. | Name of Project. | Particulars of Progress of Investigation. |
|---|---|---|
| Ganjam ... ... | Rooshikoolia Project | Papers with Chief Engineer for Irrigation. |
| Do. .. .. | Vamasandara River or Chicacole Project | |
| Godavery ... | Central Delta do. ... ... | Plans and estimates of irrigation and drainage works of Eastern section with Chief Engineer for Irrigation. |
| Do ... | Varamahooka do. ... ... | The anicut-head works and other subsidiary works of Eastern Delta Project is nearly done. Eastern Delta Project is nearly done. Financial Instructions, &c, are under preparation. |
| Kistna .. ... | Surveying and levelling operations. | |
| Do .. . | Eastern Delta Project ... | |
| Do. ... ... | Western do ... | Irrigations and drainages of the Main Nagarjuna and Lank Canals have been proved to be useless to cultivators. The other schemes are under consideration. |
| Tinnevelly .. | Nambiar River Irrigation ... | Nambiar Engineer's preliminary report received. The Chief Engineer for Irrigation has visited the place recently, and soon the detailed project will thereby ordered for preparation. |
| Do .. ... | Improvement and extension of irrigation under the Tambraparny and its subsidiaries | Papanasam Reservoir Project held in abeyance by order of Chief Engineer for Irrigation. |
| Madura ... ... | Periyaur Project ... ... | Estimate submitted to Government. |

No. 99.

ORDER THEREON, 1st April 1875, No. 808.

| IRRIGATION, No. 1. |
|---|
| *Account.* |

ORDERED that the foregoing statements be forwarded to the Government of India.

(True Extract.)

Colonel,

*Secretary to Government.*

To the District Engineers concerned.
" Chief Engineer for Irrigation.

Ext. W. J. Lewis.
Spare Copies

Order thereon 1st April Month 1875 - No. 808

| Irrigation No. |
|---|
| Account |

Ordered that the foregoing statements be forwarded to the Government of India

Colonel

To
The District Engineers concerned ✓
" Chief Engineer for Irrigation ✓

Docket No. 867 87.

Copy of the above forwarded to the Secretary of State in Despatch No. 1056 dated 10-5-75

Dr. Ganjam - ✓
Godavery - ✓
Kistna - ✓
Nellore - ✓
South Arcot - ✓
Tanjore - ✓
Tinnevelly - ✓

Despd - 5-6-75

Govt. of Gujarat

PUBLIC WORKS.

*Proceedings of the Madras Government, Public Works Department,*
31*st March* 1875.

Read the following letters:—

No. 651. From Lieutenant-Colonel J. GODDARD, R.E., District Engineer, Presidency, to Colonel G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Fort St. George, 17th February 1875, No. 6,253.

WITH reference to the orders of Government as per margin, I have the honor to submit, for consideration and selection, two plans, estimates, and specification reports for widening the General Hospital Bridge, one amounting to Rupees 53,200, and another to Rupees 1,27,800.

G O, No. 1,756, dated 8th July 1873
,, ,, 1,855-A, ,, 10th July 1874.

2 Plans
2 Abstract Estimates.
2 Specification Reports.

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No. 652. From the same Officer, dated Fort St. George, 5th March 1875, No. 6,546.

I HAVE the honor to submit a revised estimate, amounting to Rupees 1,15,000, accompanied by a plan and specification report, for widening the General Hospital Bridge, in which the centre arch is retained in obedience to verbal orders.

1 Plan.
1 Abstract Estimate.
1 Specification.

2. It will probably be found, when executing the work, that the temporary bridge provided for in the estimate may be dispensed with consequent upon the retention of the centre arch.

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No. 653. ORDER THEREON, 31st March 1875, No. 852.

CIVIL WORKS, No. 39.

IN accordance with the Orders of the 8th July 1873, and 10th July 1874, Nos. 1,756 and 1,855-A, the District Engineer, Presidency, submits designs and estimates for the improvement of the bridge over Cochrane's Canal near the General Hospital. On consideration of the several proposals brought forward, His Excellency the Governor in Council resolves, looking to the present condition of the Provincial finances, to sanction the lowest of the estimates, amounting to Rupees 53,200, which provides for widening the existing bridge with masonry on the present plan.

2. A sum of Rupees 25,000 has been provided for the work in the Budget of 1875-76, and the District Engineer will accordingly lose no time in putting it in hand.

(True Extract.)

Colonel, R.E.,
*Secretary to Government.*

To the District Engineer, Presidency.
,, Consulting Engineer for Railways.
,, Controller of Public Works Accounts.
,, Financial Department.

Exd. S. T. Austin.

Spare Copies

No 165 Read the following letter from Lieutenant-Colonel W H HORSLEY, Chief Engineer, to J D SIM, Esq, Acting Secretary to Government, dated Chepauk, 26th November 1860, No 7,333 —

SIR,

1 In paragraph 5 of my predecessor's letter, No 7,150, dated 11th November 1859, it was reported that Plans and Estimates for repairing, or more properly improving, the Bridges over Cochrane's Canal near the General Hospital and the Basin, were called for by this Office These Plans and Estimates were forwarded by the late Civil Architect on the 12th January and 11th February last, but owing to the restriction on expenditure it was considered inexpedient to send them up for sanction at that time, and I have now the honor of submitting them to Government for entry in the Budget of 1861-62, if approved of

1 Letter from the District Engineer, Presidency (late Civil Architect), No 29, 12th January, 1860
1 Abstract Estimate Rupees 17,100
1 Letter from the late Civil Architect, No 138, dated 11th February 1860
1 Abstract Estimate Rupees 17,950
1 Plan of General Hospital Gate Bridge
1 Plan of the Basin Bridge

2 Of the accompanying two Estimates, one amounting to Rupees 17,100, provides for widening the General Hospital Road Bridge from 25 to 40 feet, and reducing the slope of the two approaches to 1 in 40 feet, and the other amounting to Rupees 17,950, for widening the Basin Bridge from 17¾ to 40 feet, and reducing the slope of the approaches to the same extent All that has been said in the letter above quoted, respecting the traffic on the Elephant Gate Bridge, and the danger to which the public are exposed by the narrowness of its roadway and the steepness of its approaches, is applicable to the bridges for the improvement of which estimates are now submitted. The traffic over the Hospital Bridge is believed to be even greater, while a large portion of the traffic coming down the canal is carried over the bridge at the Basin I, therefore, consider the proposed improvements, for widening their roadway and reducing the steepness of their approaches, to be very necessary, and I would recommend them to be carried into effect The Estimate for the improvement of the Elephant Gate Bridge, amounting to Rupees 15,330 was sanctioned by Government in their orders No. 2,735, dated 23rd November 1859

3 The want of additional waterway to these bridges has been very perceptible during a heavy monsoon and especially since the construction of the Lock and Calingulah at Shadiencoopum, by which the escape of the flood water to the north is obstructed. I have, therefore, allowed for increasing the two side arches from 20 to 32 feet with proportionate elevation

4 The Plans and Estimates now submitted have undergone the usual scrutiny and examination in this Office, and, with the Estimate for the Elephant Gate Bridge, have been entered in the Budget for 1861-62, for which I have to request the sanction of Government

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No. 166 ORDER THEREON, 12th December 1860, No 2,559

The Governor in Council approves of these works, but considers that they may with propriety be executed from the proceeds of that portion of the Madras Income Tax collections which is to be devoted to public works. The Estimates will therefore be excluded from the Budget

(Signed) J D SIM,
*Acting Secretary to Government.*

## *Proceedings of the Madras Government, Public Works Department, 2nd October* 1862.

No. 31 Read the following letter from Captain E. HEMERY, R E, Acting Deputy Chief Engineer, Central Circle, to Colonel W I BIRDWOOD, R E, Secretary to Government, Public Works Department, dated Chepauk, 25th September 1862, No 259 :—

SIR,

1 Letter from the District Engineer, Presidency, No 1,312, dated 15th September 1862
1 Letter from the District Engineer, Presidency, No 894, dated 30th July 1862
1 Abstract Estimate
1 Plan
1 Comparative Statement

1 I have the honor to submit for sanction a revised estimate amounting to Rupees 21,900 for widening the General Hospital Bridge

2 The original estimate amounting to Rupees 17,100 was approved of by Government in their Order No. 2,559 of the 12th December 1860 It bears date the 12th January preceding, but owing to the rise in the price of materials during the past two years, the District Engineer, Presidency, has taken the precaution of revising it prior to the commencement of the work.

3 The excess of the revised over the original estimate, Rupees 4,500, as shown in the accompanying Comparative Statement, is chiefly in the items for centerings, coffer dam, and removing masonry, Lieutenant-Colonel Hitchins also proposes to plaster with three instead of two coats as originally intended, the former process being in his opinion the more economical for buildings within two or three miles of the sea.

4. In the Budget of 1862-63, Rupees 10,000 have been entered for expenditure on this bridge, and a similar sum is sanctioned for widening the Elephant Gate Bridge, distant about half a mile from the former These works have now been transferred to the Local Fund Budget and the allotment for each reduced to 5,000 Rupees

5 Lieutenant-Colonel Hitchins points out the very great inconvenience that will be caused by closing both bridges at the same time, and suggests that the total amount allotted for the two works should be expended in widening one bridge only. I am of opinion that his request may be complied with, more especially since the sanctioned amount for this year has been so much reduced that little progress could be made on either work with its small allotment.

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No 32 ORDER THEREON, 2nd October 1862, No. 2,361.

1 Under the explanation afforded the Government sanction the revised estimate amounting to Rupees 21,900 for widening the General Hospital Bridge.

2. The suggestion contained in paragraph 5 is approved.

* Rs 15,330

3 The Government would wish to be informed whether the estimate* for the Elephant Gate Bridge is likely to be exceeded, and if so, by what amount.

(Signed) W. I. BIRDWOOD, Colonel, R. E,
*Secretary to Government.*

## *Proceedings of the Madras Government, Public Works Department, 8th May* 1863.

No. 132. Read the following letter from Lieutenant-Colonel H W. HITCHINS, R. E., Acting Deputy Chief Engineer, Central Circle, to Colonel W I BIRDWOOD, R E., Secretary to Government, Public Works Department, dated Chepauk, 23rd April 1863, No 609 —

SIR,

1 Estimate
1 Specification
1 Plan.

1 I have the the honor to forward a revised Plan and Estimate amounting to Rupees 11,070, for widening the General Hospital Bridge and improving the road-way over the same and its approaches.

2 The present road-way being considered insufficient for the very heavy traffic that passes over the bridge and the gradient too steep, it is proposed to widen the bridge 2½ feet on each side by laying granite slabs 6½ feet long and substituting a line of cast iron railing similar to that put up at the Government House Bridge in lieu of the present parapet walls, so that there may be a space of 3½ feet nearly for a foot-path on each side in addition to the present width of the road way, viz., 25 feet It is also proposed to reduce the gradient by raising the present road way to a slope of 1 in 50 feet and re-metalling the whole.

3 The old plan for widening the bridge and which was estimated to cost 21,000, sanctioned by Government in October 1862, provided also for increasing the water-way to a great extent and which is now considered unnecessary

No. 133 ORDER THEREON, 8th May 1863, No 1,169.

1. The Government approve of the plan for widening the General Hospital Bridge. They accordingly sanction the revised Estimate of Rupees 11,070, received with the foregoing letter, in supersession of the one sanctioned in Proceedings dated 2nd October 1862, No 2,361.

2 The Superintending Engineer 4th Division is requested to report from what funds it is proposed to execute the work, and how much of the 10,000 Rupees made available for it in the current year has been laid out and in what manner

(Signed) W. I BIRDWOOD, Colonel, R. E.,
*Secretary to Government*

*Proceedings of the Madras Government, Public Works Department, 19th February 1873.*

Read the following papers —

No. 441. From the President of the Municipal Commission, Madras, to the Secretary to Government, Public Works Department, dated Madras, 4th February 1873, No 1,107.

I HAVE the honour to bring to your notice that the only work now remaining to be done in completing the system of pipes for the water-supply of Madras is the carrying of one of the mains across Cochrane's Canal at the General Hospital Bridge, but, before submitting for your sanction a plan of the method proposed for accomplishing this, I should very much wish the consideration of the following subject by Government.

2 In 1868* I addressed Government, and in 1869† the Consulting Engineer for Railways, on the desirability of widening the General Hospital Bridge, and adduced the location of the new Railway terminal buildings as a powerful reason for not deferring the work any longer. So far back as 1863, with a very limited traffic, this bridge was pronounced too narrow, and Government sanctioned foot-ways, 4 feet wide, to be constructed on each side, so that the whole of the road-way over the arches may be available for heavy traffic, but it has long been felt that even this improvement was not sufficient to accommodate the rapidly increasing traffic over this road, and it is but fair to infer that, on the opening of the new passengers' station, an enormously increased wheeled traffic will be drawn towards it

* In letter No 375, dated 23rd April 1868
† " " —— " 13th July 1869

3 I therefore think the time has arrived for Government to take the subject in hand, and, as the bridge cannot be widened on the south side without interfering with the water-main, I beg to be favoured with the orders of Government, so that the proposed crossing of the Municipal water-main may be so planned as not to necessitate the work being re-done on the bridge being widened.

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No 442. From the President of the Municipal Commission, Madras, to the Secretary to Government, Public Works Department, dated Madras, 15th February 1873, No. 1,164

WITH reference to my letter No 1,107, dated 4th February 1873, about the widening of the General Hospital Bridge, I have now the honour to forward a plan showing the road-way over the bridge and the breadth of the approaches, from which it will be observed that the space between the walls of the General Hospital and the Railway Station is nearly 100 feet.

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No 443 ORDER THEREON, 19th February 1873, No 550

CIVIL WORKS, No. 23

THE subject of this letter will be taken up by the Inspecting Engineer for Buildings, in the absence of the Inspecting Engineer for Communications, who will ascertain from the District Engineer what, if anything, has been done in the way of planning an extension of the width of the Hospital bridge in conformity with verbal orders given to the Superintending Engineer, 4th Division, by His Excellency the late Governor. He will then proceed

*Proceedings of the Madras Government, Public Works Department,*
*19th February* 1873.

Read the following papers —

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* In letter No 375, dated 23rd April 1868
† " " —— " 13th July 1869

3. I therefore think the time has arrived for Government to take the subject in hand, and, as the bridge cannot be widened on the south side without interfering with the water-main, I beg to be favoured with the orders of Government, so that the proposed crossing of the Municipal water-main may be so planned as not to necessitate the work being re-done on the bridge being widened

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---

No 443 ORDER THEREON, 19th February 1873, No 550

CIVIL WORKS, No. 23.

THE subject of this letter will be taken up by the Inspecting Engineer for Buildings, in the absence of the Inspecting Engineer for Communications, who will ascertain from the District Engineer what, if anything, has been done in the way of planning an extension of the width of the Hospital bridge in conformity with verbal orders given to the Superintending Engineer, 4th Division, by His Excellency the late Governor. He will then proceed

without delay to a further investigation of the subject, and determination of the exact width to be given, and of the details of the manner in which it shall be worked out, consulting the Municipal Commissioners, the Consulting Engineer for Railways, and the officials connected with both railways on the subject

2 The result of their consultations will be communicated to Government, who will then be in a position to authorize the Inspecting Engineer for Communications to proceed with detailed plans and estimates for carrying out such proposals as may be approved.

(True Extract)
(Signed) G. W. WALKER, Colonel, R.E.,
*Secretary to Government.*

To the Inspecting Engineer for Buildings
" " " for Communications
" Consulting Engineer for Railways
" District Engineer, Presidency
" President of the Municipal Commission.
" Public Department.



No. 231. Read the following endorsement of the Consulting Engineer for Railways, dated Madras, 6th September 1873, No. 471 :—

From J T. FISHER, Esq, Agent and Manager of the Carnatic Railway Company, to Lieutenant-Colonel J H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, dated Madras, 5th September 1873, No 280.

With reference to your endorsement, No. 243, dated the 1st instant, covering the Order of Government, dated the 20th August 1873, No 2,071, on the subject of the re-construction of the Hospital bridge, I venture to trouble you with some additional observations upon this subject which, if you deem opposite, I request you will be good enough to submit to Government, and to urge that they may be pleased to reconsider their decision upon this matter

2 As you are doubtless aware the Commissioners of the Municipality at a recent meeting unanimously resolved to solicit His Excellency in Council to adopt measures for improving the gradient of the bridge solely on account of the very serious inconvenience which is now and must increasingly continue to the road traffic

3. As respects the Railway Terminus you will probably agree with me that, in the absence of some improvement in the gradient of the approaches to the proposed new station, it will most likely be necessary that passengers will have to descend from the booking offices to the railway platforms, the inconvenience of which I think can scarcely be exaggerated, and in these circumstances it will become a grave question whether it would be worthwhile erecting a building of so handsome a character as that proposed in the design prepared by Mr. Chisholm

4 Apart, however, from the consideration of the Railway Terminus, I trust I may not be deemed to be transgressing beyond my province in venturing to express an opinion different from that assigned in the Government Order, as to the inconvenience likely to be occasioned to boats navigating the canal by a reduction of the head-way of the bridge. I am of opinion, and I trust you will agree with me, that even with all the reduction in the head-way asked for, barges loaded with an article of as light and bulky a nature as hay or straw might be passed through without inconvenience, and such can only be required to pass on rare occasions, and further if I am correctly informed there is another bridge over the canal higher up with less head-way than the Hospital bridge; I believe, moreover, that it will be found quite practicable by an alteration in the design to reduce the crown of the bridge without materially diminishing the head-way.

5. I would instance further a case in England where barges are navigated on one of the main canal arteries of the country, viz, the Huddersfield and Manchester Canal, through a tunnel about three miles long, where there is only head-way sufficient to admit of the boats being propelled by the bargemen lying on their backs and pushing with their feet against the top of the tunnel, and I think it will be conceded that if the trade of a Canal Company in England can so be carried on, there can be no difficulty in passing barges through a bridge with limited head way only 60 feet wide in this country, and if I am not much mistaken the head-way of the Hospital bridge is much higher than canal bridges generally are in England.

No. 124. Read the following letter from Lieutenant-Colonel W. FAREWELL, Inspecting Engineer for Ports and Communications, to Colonel G. W. WALKER, R.E, Secretary to Government, Public Works Department, dated Camp at Cochin, 12th June 1873, No. 100 A. —

With reference to G. O., No. 550, dated 19th February 1873, I have the honour to report nothing has been done by this department in the way of planning an extension of the width of the Hospital Bridge in conformity with verbal orders said to have been given to the Superintending Engineer of the 4th Division by His Excellency the late Governor, regarding which the District Engineer of the Presidency states nothing whatever is known in his office.

No 1.—Survey of Bridge site.
" 2.—Plan of Bridge.
" 3.—Plan of borings
" 4.—Letter from the Consulting Engineer for Railways with three enclosures
" 5.—Letter from the President, Municipal Commission, Madras, with Plan
" 6.—Return of traffic taken on the Hospital and Government House Bridges in February 1873.

2 The project of extending the width of the Hospital Bridge is by no means a new one; so far back as 1860 Government in their Order No. 2,559, of the 12th December of that year, approved of an estimate submitted by Colonel Horsley, R.E., amounting to Rupees 17,400, for widening the hospital bridge from 25 to 40 feet, this estimate was revised by Captain Hemery, R.E, and Government in their Order No 2,361, of 2nd October 1862, sanctioned the amount, viz, Rupees 21,900; the work was taken in hand by the then District Engineer, Colonel Hitchens, R.E, who appears to have found great difficulty in clearing the foundations of water, upon which he spent Rupees 2,734-10-2, and then recommended the work should be abandoned, submitting a project for merely extending the footways, the estimate for which amounted to Rupees 11,070, which on the 8th of May 1863, in G. O, No. 1,169, was sanctioned by Government, and carried out to completion

3. Having, as directed, consulted the Consulting Engineer for Railways and the Municipal Commissioners for the town of Madras as to the exact width to be given to the bridge, I enclose their replies, by which you will observe that all concerned agree that the width of the bridge, including footways, should not be less than 60 feet, or a little under double what it is at present.

4. The bridge as it stands gives a carriage road-way of 25 feet and trottoirs for passengers on either side of 3' 6", making a total of 32 feet between side rails at the centre of the bridge; in the original plan the bridge is shown to be constructed on wells of 6 feet diameter and sunk only 8 feet, the enclosed plan of borings made at my suggestion shows that 35 feet below water line only sand and black mud are met with.

5. With the other papers submitted, I beg to forward a plan of the mode in which the Municipal Commissioners propose to take the city water-supply main across the canal at the bridge site; the design, in my opinion, is both unstable and unsightly.

6. Should Government direct that the extension of the bridge be carried out, by adding to it a rib or ribs of the same description as the existing structure,

would justify the large expenditure necessary to build an over-bridge with its long and steep approaches, which would very seriously affect public access to our property [illegible] yard, at one side of which one of the approaches would run.

4 I am not, as a rule, in favour of level crossings in the middle of a town, like Madras, and eventually I believe that as the railway traffic [illegible] one, if not both, of the over-bridges proposed to be done away with will have to be built. I am also aware that if works will be more economically executed after the opening of the railway, as I was enabled to have [illegible] selection of the best points at which to place the bridges and [illegible] I fear there is little to be less costly to execute after the railway is opened, because [illegible] the embankments of the bridge approaches can then be run up [illegible] the absence of a line of rail, having to be carted.

5. The leaving of this work over for the present will also [illegible] for the works which are absolutely required before the railway can be opened.

6 From your No. C 330-1134, I note that the Municipality of Madras consider a clear width of 30 feet sufficient for the river-side road, that [illegible] along the side of the river Cooum between it (the river) and the line of railway up to the north end of Colonel Ivan's Bridge.

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From Lieutenant-Colonel J. H. M. SHAW STEWART, R.E., Consulting Engineer for Railways, to J. C. LOCH, Esq., President of the Municipal Commission, Madras, dated Madras, 25th October 1873, No. 1,027.

WITH reference to our conversation of to-day, when I had the pleasure of meeting you and Mr Logan, the Chief Engineer of the Carnatic Railway Company, I have the honour to send a copy of the Proceedings of Government, dated the 16th instant, No. 2,524, and to request that you will let me know whether there would be any objection on the part of the Municipality to the suggestion made in the second paragraph of the Order of Government, viz., that Sydenham's road should, for the present at least, be carried across the line of railway by means of a level crossing, instead of by an over-bridge, as at first proposed. Should the level crossing be approved of the Railway Company will of course undertake to replace it by an over-bridge, if hereafter the latter is considered desirable; but you will remember that Mr. Logan explained that the level crossing would tend to the general convenience of the public in several ways, as, for instance, (1) by allowing the traffic along the Poonamallee Road and Sydenham's Road to be carried at present, instead of being subjected to an ascent and descent of some 16 feet; (2) by causing no interference with the free circulation of air, such as would inevitably result from the high earthen rampart which an over-bridge would necessitate; (3) by allowing free access from the high ground to the south-west corner of the People's Park, which the other arrangements would interfere with; (4) by not obstructing the approach to the Napier Water Pandal; (5) by [illegible] the tramway to get to Law's Bridge, &c., &c. I do not anticipate that the [illegible] to the road traffic which would result from a level crossing at this point will be nearly so great as that which we have already experienced at the Egmore Station [illegible] the Madras Railway; in the first place because the traffic along Sydenham's road is not [illegible] so great as that along the People's Gate Road, and, in the second place, because the [illegible] along the railway will not be so frequent as upon the Madras Railway.

2. I also beg that you will let me know whether, in the event of the Government sanctioning the substitution of a level crossing for an over-bridge to carry Whannell's road across the railway, there would be any objection on the part of the Municipality to the arrangement. The whole traffic along Whannell's road is, as you know, very light; and you will remember that Mr. Logan explained that an over-bridge at this point, with its long inclines at gradient, would most seriously affect the public in the approach to the Carnatic goods yard. In this case also the Company would of course engage to replace the level crossing by an over-bridge should it hereafter be found desirable.



3 I have also to request that you will let me know whether, in the interests of the Municipality, you consider that a minimum width of 30 feet will be sufficient along river side road. The wheeled traffic along this road is very light, and, as explained by Mr Logan, every additional foot in the width of the road will render heavy expenditure necessary in reclaiming land from the bed of the Cooum river.

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From J. C. LOCH, Esq., President of the Municipal Commission, Madras, to Lieutenant-Colonel J. H. M. SHAW-STEWART, R.E., Consulting Engineer for Railways, dated Madras, 8th November 1873, No. 338.

I HAVE the honour to acknowledge the receipt of your letter, No. 1,027, of the 25th ultimo, giving cover to a copy of the Proceedings of Government in the Public Works Department, dated the 16th idem, No. 2,524, and inquiring whether I was of opinion that there would be any objection on the part of the Municipality to the suggestion made in the 2nd paragraph of the Order of Government, and to two others put by you with reference to other matters.

2 With regard to the proposal of Government that Sydenham's road should be carried across the line of railway by means of a level crossing instead of by an over-bridge, I do not think the Commissioners will object to this being done, on the understanding, of course, that if it is found inconvenient to the public in practice it will be replaced by an over-bridge.

3 The substitution of a level crossing for an over-bridge to carry Whannell's road across the railway will be a decided improvement in the opinion of our Executive Engineer, and in this I fully concur with him; but I do not share his further opinion that in the event of this being so arranged the Carnatic Company should construct an over-bridge at the next crossing westwards from Whannell's road.

4. I have to apologize for not having sent you a reply to your letter before now, but Mr Lee, our Executive Engineer, has been very unwell and absent from Madras until yesterday, and I was anxious to consult him before writing it.

---

No. 430vv ORDER THEREON, 29th December 1873, No. 3,031cc.

RAILWAY, No. 53.

His Excellency the Governor in Council sanctions the substitution of level crossings for over-bridges at Sydenham's road and Whannell's road at the points where the railway crosses those roads, on the condition that the level crossings shall be replaced by over-bridges should the change at any future time be considered necessary.

(True Extract.)

(Signed) G. W. WALKER, Colonel, R.E.,

*Secretary to Government.*

To the Consulting Engineer for Railways.

Exd. S. T. Austin.

Spare Copies.

Pier

Specification to accompany a design for widening the [illegible] Bridge over Bradda.

Amount of Estimate £8115.0.0

Widening Road always over the Bridge is 28 feet wide the new wall has to be 4 feet in width. The width of road will be increased by widening 15 feet on each side as shewn in the Plan. Widening archway to Renscad

Abutments on each side is to be built on ground of the best quality to be obtained immediate by and one with the Pier and there will be 4 ends of the two Girders of the Bridge there are to be three on each side, each 6 feet 9½ inches in depth. The length of the girder is to be 52 feet of the clear Bay. Girder to be in three grounds. They will be of Cast iron 10" inches in diameter and all one inch in thickness. Their top will be flanch and secured in the manner

The shoe ends of the Girders will rest on the Abutments &c.

There will be Cross girders running from the existing bridge to the latter and all of which are to be 8 feet from Centre to Centre. The top of all these Girders will be on the same level over them will be placed Elm wood planking 6 inches in thickness over this planking will be laid four Girders timber and along side each latter Girder and another 8 feet from the for the purpose of forming the Roadway for foot passengers. The whole of the ironwork

will be carried and be over the Roadway as
the Plan 13½" inches of said Gallery and
the Cast Iron Columns
Girders are to have Cast Iron Caps
in thickness

All the masonry work to be done
with Cut Stone as shown in the Plan

The Retaining walls are to be of Rubble
Regular and of the dimensions given in the
Plan.

The old Abutments to be cut down
in Steps as to be three feet below the
16 feet above Low Water line to receive the ends of the
Girders. The Lamp posts will be placed where
they are to be found and the Brackets

Temporary Arches to be turned
to admit of Excavating and Building upon
for the Foundations of the New Piers
ments and Wing walls.

Approved 2nd May 1876

Inspector

Chas Dick Esqr
Chief Engineer
Board of Works
Dublin

Contractor

Witness

Witness

*Abstract of Estimate No. 42 of 187-75.*

PRESIDENCY DISTRICT.

*Road No. 1 Construction Cement Metalled Bridge*

| Quantity. | Description of Works. | Price. | Amount. | Total. |
|---|---|---|---|---|
| 2700 | Cft Dry Brick Work in Cement Mortar | | | |
| 7035 | No Cement Plastering in Cement | | | |
| | Extra Work in Blasting Rock and other Excavation | | | |
| | Extra Work Complete | | | |
| | Centering Temporary Arches and Chases Complete | | | |
| | Extra for Plastering with Cement Mortar | | | |
| | Extra for Pointing Joints in Cement | | | |
| | Centering Foundations Filling in Do Abutment | | | |
| | Centering Launching Ways Complete | | | |
| 10 | No Cast Iron Plates Complete | | | |
| | No Iron Bolts and Nuts of Different Sizes | | | |
| | No Iron Dowels | | | |
| | No Cast Iron Chairs of Different | | | |
| | No Cast Iron Cramps | | | |
| | No Cast Iron Wedges | | | |
| | No Cast Iron Screw Bolts | | | |
| | No Cast Iron Screw Bolts with Nuts | | | |
| | No Cast Iron Screw Bolts with Nuts | | | |
| | No Cast Iron Screw Bolts with Nu

| Quantity | Description of Works. | Price | Amount | Total |
|---|---|---|---|---|
| | Brought forward | | | |
| | | | | |
| | | | | |
| |

Rec'd 1875 Jan 7th
No: 1505

The Secretary of State
for War

The Chief Inspector of
R.M.

Dated 5th January 1875
Recd 6th January 1875

No: 6526
Ends 3

Submits Estimate for
widening the Canal
Hospital Bridge
and for the Approaches

feet at base and
10 feet.

The new portion of Tower will measure 12 feet in diameter and 10 feet in height.

The Quoin walls at three remaining angles will be 6 feet in diameter and 12 feet in height including the Cap.

Wing walls to be at right angles to the abutments. Their thickness at bottom will be 7 and 6 feet at top and of 3 feet on the inner face and the height 25 & 24 feet respectively together with buttresses.

The face walls will be 3 feet in thickness and raised into the arches.

Blocking Course or Cordon round throughout will be one foot high.

The Parapet walls will be 2½ feet thick and 3 feet high.

The Soffits and Face to receive two Coats of Plaster and lined to Courses.

The Pavement and Drain walls to be set on the Sunderland Dwarf iron Cradle Sheet piles filled in with Stones and Covered over with 8 granite Slabs.

A Cut granite Stone Sill 9 inches by 9½ feet broad to extend all along the line of Parapet at the Bridge

I Road to the Land wells Laterite jelly and 8 wells 9 inches thick and well rammed

Drains will be Constructed to admit of laying foundations

The Bridge to be built of brick by Chinaman.

Jno. Groom Lieut. Colonel
Distrct Engineer Peshawar

Dy Asst Engrs Office
Fort Saint George
17 February 1876
Collated by [illegible]

Compd [illegible]

to a depth of 8 feet excavating and sinking
well for the foundations of new piers
& abutments and wing walls.

Jno. Gorman Lieut Col RE
District Engineer Officer

Dy Asst Engineers Office
Fort Saint George
17th February 1875
Checked by CRB
Compd by [illegible]

will rest on new abutments and the arches
ends on the piles which sustain the
Centre bay.

All the Cross girders and to be
plate iron 1 foot 1½ inches in depth. The
top of all these girders will be on the
same level. Over them will be placed
teakwood planking 6 inches in thickness
Over this planking will be placed four
Fender timbers, and along side each platform
girder and another 8 feet from the former
to support 8 forming a footway for foot
passengers. The whole of the wood work
will be tarred and over the planking will
be placed 1¾ inches of asphalte and which
will be laid the whole of the Road.

The platform girders and the
above teakwood Curbings 1 inches in
thickness.

All the Masonry work
is to be faced with Cut Stone as shown
in the plan.

Retaining walls are to be
of brick and Mortar and of the dimensions
given in the plan.

The arched abutments which
are of brick in Mortar to be rectangular
to the extent of 15 inches and each side

The lamp posts with Cast iron
lamp posts are to be placed and the
same as

Temporary dams to be (continued

| Quantity. | Description of Work. | Price. | Amount. | Total. |
|---|---|---|---|---|
| | 1 Wrought Iron [illegible] | [illegible] | [illegible] | [illegible] |
| | Cutting Excavation [illegible] | [illegible] | [illegible] | [illegible] |
| [illegible] | Laying Brick Work in [illegible] | [illegible] | [illegible] | [illegible] |
| | Stone Filling and Pavement | [illegible] | [illegible] | [illegible] |
| | Carried over | | | [illegible] |
| | Total of Contingent & Temporary Bridges | | | [illegible] |
| | [illegible] | [illegible] | [illegible] | [illegible] |
| | [illegible] | [illegible] | [illegible] | [illegible] |
| | [illegible] | [illegible] | [illegible] | [illegible] |
| | [illegible] | [illegible] | [illegible] | [illegible] |

| | | | | | |
|---|---|---|---|---|---|
| 1/16 | Do Teakwood Sundries with Screws & Screw Eyes | | | | |
| 360 | Do Do Do | M | | 15 00 | |
| 7000 | Lbs Keying materials Steel & Iron Anchors & Bolts | 35 | | 245 00 | |
| | Covering & Coating bottoms of Pontoons | | | 116 40 | |
| | | | | | 1976 40 |
| 16 | Do Oak wood Timber for the Carriageway | 700 | | 11200 | |
| 14 | Do Do Do Steel Rolled Joists | 230 | | 1600 | |
| 11 | Do Sal Balks | 75 | | 300 | |
| 16 | Do Sawn Steps & Risers | 20 | | 350 | |
| 12 | Do Sawn Scantling with Reserve Scantling | 56 | | 1020 | |
| 1 | Do Sets of Braces between Scantling | 50 | | 200 | |
| 5 | Pairs Fishing Hinges complete | 18 | | 360 | |
| 2 | Do Wrought Iron Rolled Joist Girders | 1350 | | 2700 | |
| 100 | Do Do Do Cross Do | 300 | | 18000 | |
| 2 | Do Do Do Main Cotter | 1600 | | 3200 | |
| 1 | Do Do Do Land Do | 950 | | 3800 | |
| | Carried Over | 12260 | | 60020 | |
| | | | | | |
| | | | | | |
| | | | | | |

*Abstract of Estimate No. 440 of 1874-75.*

PRESIDENCY DISTRICT.

*Name of Work* Construction of Temporary Gauge & Wooden Bridge

| Quantity | Description of Works | Price | Amount | Total |
|---|---|---|---|---|
| 2916 | Cubic Feet Teakwood Timber in Pontoons & Footways | | | |
| 72 89/144 | Do Do Timber in Carriageway | | | |
| 96 | Do Sawing Main Brackets Side Braces & Main Joists | 2 | 192 00 | |
| | River Foundations & Foundations | 50 | 4800 | |
| | Constructing Temporary Dams and Jamming Gunnies | | | |
| | round Piles and Shoring up Banks & Islands | | 2000 | |
| | Letting in Sheeting for Sanitary Works | | 1000 | |
| | Excavating Foundations and Filling in the Abutments | | 350 | |
| | Demolishing the existing Centre Pier & Piers & | | | |
| | Piles and Shoring & Piers for Middle Pier | | 862 40 | |
| | | | | 32712 40 |
| 3020 Sft | Boarded Flooring with Teakwood & Sound Yellow | | | |
| | Pine Scantlings over the Roadways | 3 | 1208 16 | |

No. 6203

From,

The District Engineer
Presidency.

To,

The Chief Engineer, and
Secty. to Govt. Ind.

Sir

With reference to the orders of Govt. as per margin ×, I have the honor to submit for consideration and selection 2 plans, estimates, and specifications, reports for widening the General Hospital Bridge, one amounting to Rs 33,200, and another to Rs 127,800.

I have the honor to be
Sir,
Your most obedient
Servant
Illegible
District Engineer
Presidency

4

G.O. No 552 dt 31-8-75
P.W. 1998/75
3

Dated 17th February 75

Read 3rd

Public Works
Revised Estimate
for widening General
Hospital Bridge

Amounting to Rs 127,800

G.O. No 1756 dt 8 July 1875.
" No 1855-R dt 19 July 1875.

Rule 6
2 Plans.
2 Estimates.
2 Specifications & reports.

Fort St. George
17 July 1875.

Geol
YJ

Public Works Department.

PROCEEDINGS of the MADRAS GOVERNMENT.

Under date the

READ the following:—

From

The District Engineer
Cuddapah—

do do

brought forward His Excellency the Governor in Council resolves, looking to the present condition of the Provincial finances, to sanction the lowest of the estimates, amounting to Rs 53,200, which provides for widening the existing bridge with masonry, on the present plan—

A sum of Rs 25,000 has been provided for the work in the Budget of 1875-76, and the District Engineer will accordingly have notice in putting it in hand—

Govt.

Rs
6

Lt. Engr. Resident
12 Conc. Engrs for Rs
Controller of Stores with 150 £ V
Asst. Engr V
Recd 1-4-75

47

Improvement of the Seaward Hospital Bridge—

Four Designs & Estimates have been submitted for this work—

No 1. Rs 1,46,600, for removal of the present Stone Bridge, & replacing it with an Iron Superstructure—This Arrangement was rejected by the Chief Engineer, as unnecessarily expensive in the existing stone Arches only requiring widening, not replacing—

No 2 - Rs 1,27,800, which provides for replacing the centre Arch by a wider Iron Structure, & widening the Land arches with Masonry This is in accordance with para 3 of G.O. 11 - 1855 - A of 10th July 1874—

No 3. Rs 1,15,000, capable of reduction to Rs 85,000, for

: rules for widening the existing structure by 2 ms. wings on each side supported on Screw Pile Piers -

No 4. £ 53,200 pounds for widening the existing bridge with masonry on the present piles.

Both Nos 3 & 4 are in accordance with G.O. No 1758 of 8th July 1873 - And in the present state of the Government finances, the adoption of No 4 is a simple necessity, although it does involve a difficulty about the foundations which stopped the attempt to widen the bridge three years ago. The difficulty in 1862-63 was met in the case of the P.W. Dept by the piles being driven with the greatest care, and the difficulty will be overcome without fail -

C. Marshall Lt R.E.
Chief Engr D.P.W.

8.3.75.

+ Under the circumstances we have to have no alternative & plan 4 must be adopted - H.S.E.

Or must adopt plan No 4 HVL 5/3

No 2 is the old plan
No 1 was re-designed
Nov 1875 HVL

1098
1205

Publ. at U.S.C. Bldgs.

PUBLIC WORKS.

Encl 6

852

Rec'd 3/26/45

Hospital Buildings

Estimate amounting to
$2240 for materials
authorized, and
Engineer Branch
to carry out the
work.

6/27/45