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GOVERNMENT OF MAHARASHTRA

DEPARTMENT OF AGRICULTURE

**MANUAL**  
*on*  
**LAND DEVELOPMENT**  
*for*  
**IRRIGATION**

IRRIGATION UTILISATION BRANCH

DEPARTMENT OF AGRICULTURE, M. S., POONA.

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## FORWORD

Achieving self-sufficiency in food has been the urgent need since Independence and has received the highest priority in any development programme. Since the land resources are limited the problem can be solved mainly by producing more from the available land. It is wellknown that irrigated farming is the surest means of producing more food...as all inputs give maximum returns with assured water supply. Government have, therefore, invested huge amounts in increasing irrigation potential during the three Five Year Plans. What is now necessary is to utilise the irrigation potential expeditiously so that the investment gives fair returns and the country marches towards achieving self-sufficiency.

The Irrigation Commission has recommended that the period of development of irrigation should be reduced to 8 years from starting of construction work or 5 years from starting of irrigation. This is possible provided action is taken simultaneously with construction work, for development of land in the command area. This would involve a number of steps to be taken in a systematic manner and the same are enumerated in this manual on land development for irrigation for the guidance of the concerned staff.

Additional Director of Agriculture

Manual on Land Development for Irrigation.

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Introduction.

( Whenever construction of any irrigation project is undertaken, action should be taken simultaneously to develop the command area so that fields will become ready to receive irrigation as soon as it becomes available. At the outset, it may be said that all the area under irrigation command will not and should not need the same treatment. Areas with uniform slope upto 2 per cent may not need any levelling but only land grading, field channels and drains, to follow contour furrow irrigation. On the other hand, undulating lands with more than 2 per cent slope may require to be levelled and provided with field channels and drains. Very much cut up lands and low lying fields subject to water-logging may have to be converted into banded fields for growing paddy. Levelling and bunding operations involve considerable earth moving and restoration of soil fertility by green manuring may become necessary. The land development costs in such areas will be much more than that involved in mere digging of field channels and drains. It will thus be observed that no rigid procedure can be laid down for land development in command areas but there are certainly a number of steps which have to be taken in a systematic manner. The first such step would be to carry out a rapid topographical survey of the land from land development and utilisation points of view, followed by preparation of financial estimates for the project as a whole and making money available for land development work. The next step would be to carry out detailed survey of the land under each distributory, prepare plans and estimates and execute the work. Different items of work will be carried out by different agencies and it becomes not only necessary to list the items of work to be carried out but give detailed instructions for the guidance of the land development staff for carrying them out in the best way possible. The various steps involved in land development are mentioned below :

- ✓ (1) Topographical survey of the command area by the Land Utilisation Survey unit.
- ✓ (2) Soil survey of the command area.

- (3) Estimation of financial requirements and the procedure to be followed to get the same from the Maharashtra State Apex Cooperative Land Development Bank through the Agricultural Refinance Corporation.
- (4) A detailed contour survey of the fields coming under the command of each distributory by Soil Conservation Section.
- (5) Preparation of plans and estimates for field channels, diversion boxes, drop structures, channel crossings, Road crossings, drainage ditches, levelling, grading etc..
- (6) Execution of land development work.
- (7) Preparation of recovery statements.

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Topographical survey of the command area by the Land Utilisation Survey Unit.

1.1 As soon as it is decided to undertake topographical survey, the Land Utilization Survey Officer should contact the Executive Engineer of the project and get from him the map showing the command area of the project and its canal system etc.. If 5' contour survey has been carried out by the Irrigation and Power Department, a map of the same may also be obtained. Similarly, if soil survey has been done by the soil survey division of Irrigation and Power Department, a copy of the soil survey map showing Murum Isobaths also should be secured. It is then essential to get the list of villages coming under the command so that land utilisation survey could be undertaken in those villages.

1.2 The Land Utilization Survey Officer should then distribute the villages among the survey parties, each consisting of 1 Agricultural Supervisor, 3 Agricultural Assistants, 1 Tracer and 1 Attendant. The villages should be so distributed among the survey parties that the whole survey and categorisation of land could be completed within stipulated time.

1.3 The Land Utilization Survey Officer should initially demonstrate and train the survey parties under him in land survey so that they can carry out topographical survey and categorisation of land with confidence and accuracy.

1.4 The Agricultural Supervisor/Agricultural Assistants should be asked to get maps of villages to be surveyed from Talathi, Manlatdar of Taluka concerned or District Inspector of Land Records. If the village maps are not available with any of the above officers, the Agricultural Assistants may be asked to trace the village maps from the maps with local Talathis and also prepare from the record of the Talathi, a list of Khatedars, survey numbers and area coming under the command of the irrigation project.

1.5 The Agricultural Assistants should then survey the area by traversing each field and using 'Abney' level for classifying the survey numbers according to slope, in the five following categories :



- (a) Flat lands and lands upto 1 per cent slope.
- (b) Lands having 1 to 2 per cent slope.
- (c) Lands having 2 to 3 per cent slope.
- (d) Lands having more than 3 per cent slope and ravine and cut up lands.
- (e) Rocky, hilly lands unfit for cultivation.

1.6 One Agricultural Assistant should be able to categorise 100 acres every day or 2000 acres per month. When the whole village is surveyed, he should prepare a statement showing (i) names of cultivators, (ii) survey numbers and Pot-hissa numbers, (iii) area surveyed and (iv) category of the land with reference to slope, in the form attached (Land Utilisation Survey Appendix I). He should also prepare a map showing areas under different categories of slope mentioned in the statement along with Survey and Pot-hissas etc., a specimen of which is shown in Land Utilisation Survey map 1. The information shown in maps prepared by the Irrigation Department should be helpful in showing existing bunds, trees, wells and such other important permanent features in the map.

1.7 While carrying out the survey, the Agricultural Assistant should also note down soil depths as observed in borrow pits, cuttings, gullies etc. and mention depth of soil in the remarks column along with any other special feature.

1.8 From the statement in Land Utilisation Survey Appendix I, he should classify cultivators into different groups according to irrigated area held by them (a) upto 5 acres, (b) 5-10 acres, (c) 10-15 acres, (d) 15-20 acres, (e) above 20 acres and submit the information in the statement shown in Land Utilisation Survey Appendix II. In order to know the extent to which sub-division and fragmentation has taken place and judge the urgency of consolidation of holdings, the Agricultural Assistant should mention the total survey numbers and total number of pot-hissas in each village.

1.9 As soon as the survey of a village is completed, the Agricultural Assistant should hand over the village map and village record along with Appendices Land Utilisation Survey I, II and Land Utilisation Survey map 1 to the Agricultural Supervisor.

1.10 The Agricultural Supervisor should physically verify and exercise complete check over all items in at least 30 % area that would be surveyed by his party in a month and submit his check

report every month to the Land Utilisation Survey Officer in the prescribed form Land Utilisation Survey Appendix III.

1.11 The Agricultural Supervisor should verify all areas categorised as unfit for irrigation by his party and correct the categorisation wherever necessary.

1.12 The Agricultural Supervisor should prepare fair copies of statement-s and maps of villages surveyed by his party and submit them to Land Utilization Survey Officer within a week after completion of survey of a village.

1.13 Survey work should preferably be carried out villagewise. As soon as survey of one village is completed by the Agricultural Assistants and verified by the Agricultural Supervisor, he should move the party to next village. He should see that his party is adequately equipped with survey and drawing instruments, stationery articles etc..

1.14 He should submit monthly progress report to the Land Utilization Survey Officer in the prescribed form Land Utilisation Survey Appendix IV.

1.15 The Land Utilization Survey Officer should carry out frequent inspections of the survey work and give necessary guidance to the staff. He should personally carry out physical verification and exercise check over all items in at least 10 % area that would be surveyed by the parties in a month and submit his check report to the Superintending Agricultural Officer with a copy to the Department in the form Land Utilisation Survey Appendix III.

1.16 The Land Utilization Survey Officer should also send a monthly progress report to the Superintending Agricultural Officer with a copy to the Department, giving villagewise abstract of the area surveyed during the month in the form shown in Land Utilisation Survey Appendices I and II.

1.17 After completion of the survey work of the command area of any project, the Land Utilisation Survey Officer should submit to the Department complete record consisting of village maps as per Land Utilisation Survey Map 1, Survey records and a final report giving villagewise abstract in the form of Land Utilisation Survey Appendices I and II and record of any relevant observations.

## CHAPTER II

### Soil survey of the command area

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2.1 Before land development operations are undertaken, it is essential to know (a) the nature of soils, (b) their revenue classification, (c) soil depth, (d) number of wells in the command area and water levels in the wells during summer and rainy seasons. Much of this information can be obtained by the Land Utilization Survey Officer while carrying out topographical survey of the command area of the project. Soil survey division, Poona of the Irrigation and Power Department carries out soil survey of command areas of irrigation projects. The Soils Specialist, Department of Agriculture, Sholapur also carries out soil survey in some areas in every district. This State Government has also recently sanctioned a fullfledged soil survey organisation for undertaking comprehensive soil survey of the State as a whole and it is expected that when it goes in action, soil survey of command areas of irrigation projects would be given first priority in view of the urgency of Area Development Programme. (Necessary information on soil types from the above sources would help in deciding the type of land development work to be undertaken and the crop pattern to be adopted.)

2.2 The Land Utilization Survey Officer should contact the Officer-in-charge of the concerned Soil Survey Division of the Irrigation and Power Department, and obtain map showing classification of soils into (a) light soils with soil cover between 0-18", (b) medium soils with soil cover between 18" and 8' and (c) deep soils with soil cover more than 8' deep, as well as a copy of the report prepared by him. Similarly, he should write to the Soils Specialist, Sholapur to make available a copy of the report in case he has carried out any soil survey in the command area concerned. He should also contact the Officer-in-Charge, Soil Testing Laboratory, College of Agriculture, Nagpur/Poona and get the extracts of the analytical report of the soil samples from the command area concerned. He should also contact the Soil Survey Officer (Padegaon) under the Sugarcane Specialist/Chief Sugarcane Development Officer who is carrying out detailed soil survey of the sugarcane area and get a report from him of the area so surveyed in the project concerned. The Land Utilization Survey Officer should send all these reports to the Department under intimation to the Superintending Agricultural Officer.

2.3 The Land Utilization Survey Officer should contact the Mamlatdar or District Inspector of Land Records and get a copy of the settlement report of the district in which the concerned command area is located and copy any useful information concerning the nature of soil and its revenue classification viz., Mal (Gravelly soil), Barad (sandy loam), Retad (sandy soil), Bagayati (Alluvial or loamy soil), Kali Bhari (clay), Kali Madhyam (Clay loam) etc.. The settlement report also contains other useful information regarding agricultural and industrial development of the area. If it contains any relevant information useful for writing the "Irrigation Utilization and Agricultural Development report" of the project concerned, the same may also be copied and sent to the Department.

2.4 The Land Utilization Survey Officer should also instruct the Agricultural Assistants to collect information about wells in the command area in each village and other relevant information from cultivators at the time of topographical survey such as (a) number of wells in the command area, (b) whether the well is in use or out of use along with the reasons in case it is not in use, (c) whether water is sweet or saline, (d) the water level in the well at the time of his visit, and in summer as ascertained from the owner, (e) cropwise area irrigated, (f) means of irrigation, (g) whether the soil is well drained or waterlogged. The villagewise abstract of information regarding wells should be submitted every month to the Department under intimation to the Superintending Agricultural Officer by Land Utilization Survey Officer in the form shown in Soil Survey Appendix I.

2.5 The Land Utilization Survey Officer in the course of his inspection of topographical survey should observe carefully the general topography of the command area and soil depths as observed in borrow-pits, cuttings, gullies, excavation from wells and send a brief report mentioning the number of spots so observed and the cases in which soil depth was (i) less than 9", (ii) between 9" and 18" and (iii) above 18" and his general impression regarding the depth of soil in the command area, and particularly whether the soils are well drained and the extent to which they can be irrigated without creating waterlogged conditions.

Estimation of financial requirements and the procedure to be followed to get the same from the Maharashtra State Apex Co-operative Land Development Bank, through the Agricultural Refinance Corporation.

3.1 (Land development is one of the costly items to be undertaken by cultivators and it is generally observed that cultivators with small means are not in a position to incur this expenditure on their own.) In order to utilise irrigation water speedily, it is necessary not only to carry out land development work, but to sanction loans for doing the same. For this purpose, certain allotment is sanctioned every year for soil conservation and land development in the budget of the Agricultural Department. Land development is carried out by the Soil Conservation Staff under Land Improvement Schemes Act, by incurring expenditure out of the allotment mentioned above. Cultivators' share of cost is subsequently recovered in suitable instalments with interest. Since a big programme of soil conservation and land development in and outside the command areas has been undertaken, it has become necessary to get additional finance from the Agricultural Refinance Corporation. For this purpose, a suitable scheme for land development in the command area of a particular project is prepared giving financial outlay for land development by the Maharashtra State Apex Co-operative Land Development Bank, and forwarded to the Agricultural Refinance Corporation. The Agricultural Refinance Corporation after satisfying about feasibility of the scheme sanctions loan to that extent, and makes available the amount by floating debentures to the District Land Development Bank in whose jurisdiction the project is located. The District Land Development Bank sanctions loans to cultivators to the extent of expenditure incurred on development of their lands and passes on the amount to the Agriculture Department for reimbursing the expenditure that it has already incurred on land development out of its own allotment. This system has been found to be convenient, both from the execution of work point of view as well as accounts point of view, since it does not hamper organisation and execution of land development programme by the soil conservation staff as well as the sanctioning and subsequent recovery of loan by the District Land Development Bank. Further details about the preparation of recovery statements and their transmission to the Land Development Bank for sanction are given in Chapter VII

"Preparation of Recovery Statement".

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3.2 For preparing the scheme for land development in the command area of a particular project, it is necessary to make as accurate an estimate of financial outlay as possible. Topographical survey and general observations of the soil type etc. carried out by the Land Utilisation Survey Officer are useful for this purpose. These give classification of land in relation to slope and type of soil and of cultivators with respect to size of holdings etc. Other information on crop patterns, financial condition of cultivators, cooperative structure etc. required for preparing the scheme is obtained from the "Irrigation Utilisation and Agricultural Development report" of the concerned project. This material is useful in preparing a fairly accurate estimate of cost of land development.

3.3 In sanctioning loan for land development Agricultural Refinance Corporation and Land Development Bank will charge the economic lending rate of interest. Cultivators will, however, be charged concessional rate of interest. The difference between the economic lending rate and concessional rate of interest would be borne by Govt. Cultivators share of cost of land development would be recovered in suitable number of instalments in the manner prescribed by Govt. from time to time.

A detailed contour survey of fields coming under the command of each distributory by Soil Conservation Section.

4.1 Land development in command area of a project will be carried out by the Soil Conservation Section of the Department of Agriculture. Depending upon the magnitude of work involved in any project a full subdivision or one or two charges of the subdivision working in the area adjoining the command area of the irrigation project will be allotted for this work. The Sub Divisional Soil Conservation Officer will be directly in charge of land development work and will be under the control of the Divisional Soil Conservation Officer. In case bulldozers are required for levelling, he will requisition them through the Divisional Soil Conservation Officer and get the necessary work done as per his instructions. He will keep record of work done by bulldozers in Survey Numbers of individual cultivators and apportion the cost of bulldozing among them for preparing recovery statement. The first step in planning land development work is to carry out detailed contour survey. The Sub Divisional Soil Conservation Officer should contact the Executive Engineer of the project and obtain from him 5' feet contour maps of the command area of the project if available. He should also obtain from him map of the command area values of Bench marks laid by the Irrigation and Power Department, and information of areas coming under command of different distributaries and their water courses with their discharging capacities. Similarly he should obtain village maps showing topographical survey from the Land Utilization Survey Officer on the Directorate of Agriculture. He may hand over these to the Agricultural Supervisors (SC) for further work.

4.2 Detailed contour survey: Since 5' contour maps of command area of a project give only broad idea of the topography of fields, it is necessary to have more details both of the contours as well as permanent existing features viz. survey boundaries, trees, wells, roads, rock out-crops etc. 1' contour maps are, therefore, very essential for preparing land for irrigation. All area under command of an outlet of a distributory/water course should form a block for this purpose. These blocks should be formed by the Agricultural Supervisor (SC) and allotted to the Agricultural Assistants (SC) for obtaining consents of owners of land to the prescribed extent (i.e. 67 %)

in the form attached ( vide appendix L.D. I). In case stipulated percentage of cultivators are willing to get the land development work done, the Agricultural Assistant should prepare a survey estimate at the rate of Rs. 0.50 per acre, in the form attached (vide L.D. appendix II) and submit the same to the Sub Divisional Soil Conservation Officer for approval through the Agricultural Supervisor.

4.3 Base Map : The Agricultural Assistant should prepare from the maps obtained from Agricultural Supervisor (SC) a correct map of the whole area under command of an individual distributory or its minor, called the block in this case, as it is the most important step for further work. It should be enlarged to a scale of 1" = 220'. If the area is too large the map can be drawn in two parts. Locate the details of land features by traversing the area e.g. survey boundaries, pot-hissas, trees, buildings, wells, roads and cart-tracks, rock outcrops, permanent gardens, fencing, river or nalla, large gullies etc. and mark them on the map. This map will be known as the base map. (See L.D. appendix No. 1). One more copy of this should be taken out for preparing the contour map.

As all the development is dependent upon the level at which water from an outlet would be available, it is necessary to have the same datum for levelling work as is taken by the Irrigation and Power Department. Survey work must, therefore, start from the Bench Mark laid by the Irrigation and Power Department.

4.4 Contour Map: Use the copy of the base map for preparing contour map. After obtaining approval to the survey estimate, the Agricultural Assistant (SC) should undertake detailed survey of the block. Survey should be carried out by square method with a grid of 110'. Bench marks should be laid at the rate of one for every 25 acres or part thereof. Starting bench mark must be one of those laid by Irrigation and Power Department for construction of canal, distributaries and value of this Bench Mark should be the same as that derived by that Department. In addition to the levels at each square point, levels should be recorded of gully banks, gully bed, top and bottom of existing bunds and where there is a sudden change in slope of land.



Locations of cart-tracks, temporary and permanent sheds, wells, trees, outcrop of rocks, channels, drains and any other permanent land features as shown on the base map, should be verified and corrected. In fact the map should depict an actual state of affairs existing in the field for incorporating correct design of work, and avoiding modifications at a later stage. Interpolate contours at 1' interval. This map will then be known as contour map ( See L.D. appendix No. 2). It should also show areas that are too shallow and underlain with rock or areas that have levels equal and above that of irrigation outlet sill level. All information on base map is thus available on the contour map along with one foot interval contours. Sill level of the outlet and its discharging capacity should be shown on this map and in addition irrigable command area should be demarcated. One more copy of the contour map should be taken out by the Agricultural Assistant (SC). The contour map should be checked by the Agricultural Supervisor (SC) and then submitted to the Sub Divisional Soil Conservation Officer for preparing the layout map.

4.5 Layout Map: The Sub Divisional Soil Conservation Officer should study the contour map with the help of the Agricultural Supervisor (SC) with reference to ridge and valley lines for water channel and drain alignments and show on it the required irrigation features as directed below. This map will thus show all physical features and contours as shown in the base map and contour map respectively, and also layout of field channels and drains and will be known as 'layout map' (See L.D. appendix No.3):

- (a) Mark field channels in black thick lines from irrigation outlet and verify whether any area cannot be irrigated from the channel and demarcate it by dotted line. The channels should follow ridge lines as far as possible and maximum use of field boundaries should be made while aligning them. There should be only one point from which each individual owner will draw water.
- (b) Mark the locations of turnouts or division boxes on the field channels for every holding. From this division boxes the farmer shall take water and prepare the water distribution system for his fields.



- (c) Mark locations of drop structures, chutes, crossings etc. required.
- (d) Mark individual field drains, collecting drains and main drains in dash and dot lines.
- (e) Mark locations of drop structures, chutes, crossings etc. on the drains.
- (f) Mark by arrows in black lines, directions of land grading required and show bund alignments in black lines.
- (g) Mark diversion drain for diverting outside runoff from un-command area in double line.
- (h) Mark areas by appropriate alphabet to indicate the land development measure as described under a, b, c and odd of para 4.8

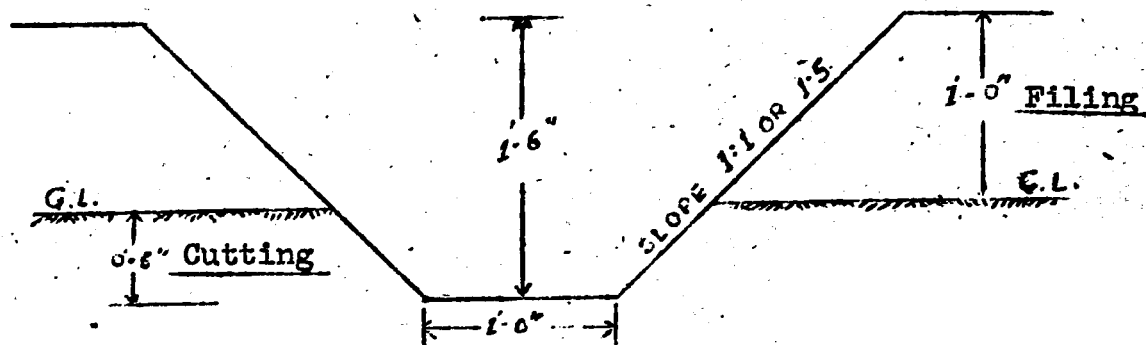
The layout map should be got approved from Divisional Soil Conservation Officer and necessary copies made for the use of field staff.

4.6 The layout map shows the block as it would look after the development work is carried out. In order to have a clear idea of how the locations of field channels, equalisers, bunds serving as permanent guide lines, different structures for efficient irrigation by graded furrow method eliminating the damage due to soil erosion in the field should be laid down, three magnified sketches are shown in L.D. figure 1, 2 and 3. The graded furrows in which the crop will be sown and water let in for irrigation are indicated in dotted lines. These will be governed by the bund lines and will be drawn by the cultivator himself while preparing the seed bed and cultivating and irrigating the crop during its growth period.

4.7 It will be necessary to construct field channels, drains and bunds of different sizes as well as use different types of structures such as outlets, turnouts, drops, diversions, chutes, crossings etc. in land development work. The designs of these are given below :-

(a) Field Channels: All channels including anëillary structures for capacities above half cusec are designed and constructed by Irrigation and Power Department. Field channels to take water to individual fields have to be constructed by

cultivators and are included in the land development programme. Channels should have 1' bottom width, 1 : 1 or 1.5 side slopes according to Soil type and 1.5' depth. It is not necessary to design these channels for different discharging capacities as these will not be required to carry discharge above 1 cusec and for all practical purposes it is not advisable to reduce the section of the channel for smaller discharges to conform to the worked out size. The channel should be 6" in cutting and 1' in filling. (See L.D. Figure 4).



L.D.FIGURE - 4

They should have bed slope of not more than 1 %. Drop structures should be provided at suitable intervals to regulate the bed slope.

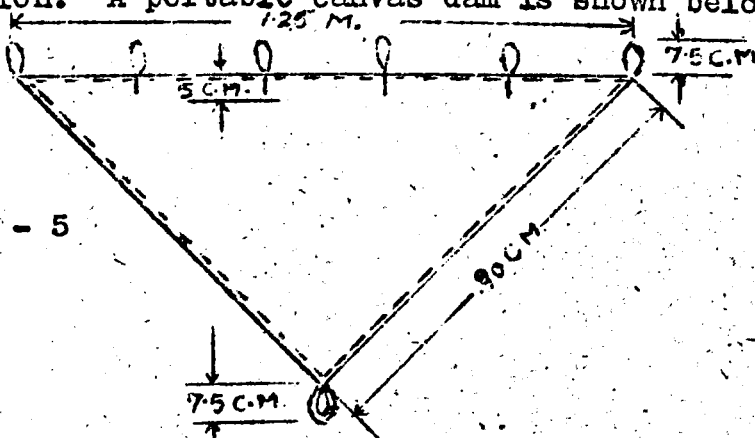
(b) As indicated above there should be only one outlet for each individual holding on main field channel. It will, therefore, be necessary to provide suitable internal distribution channels (equalizers) so that water can be taken to each and every compartment within the holding. These should be 1' deep (6" in cutting and 6" in filling) and 1' wide at the bottom and 1 : 1 or 1.5 side slope according to soil type.

If any cultivator desires to have lined or pipe channels, the cost will be very high and will have to be borne by the cultivator himself and the expenditure will not be shared in common with others.

(c) Turnout or Division box : These would be necessary to divert water in a controlled way from field channel to internal distribution channels. These should be built in stone masonry in mortar or in plain cement concrete. Type plan estimate for

this structure is attached (vide L.D. appendix (a,b,c) III).

(d) Triangular Canvas dams: Portable devices may be constructed to serve the purpose of checks and turnouts for internal distribution. A portable canvas dam is shown below vide figure L.D.5



L.D.FIGURE - 5

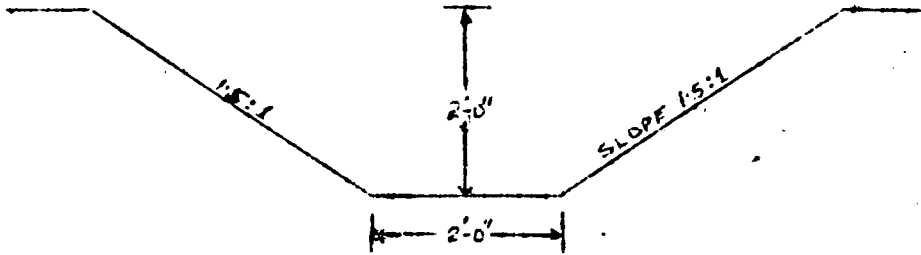
(e) Drop-structures : These structures regulate bed slopes of field channels. Special provision should be made to prevent action of undermining structure on the down stream side. These structures should be in stone masonry in mortar or in concrete. Type plan and estimate attached (vide L.D. appendix IV)a,b,c.)

(f) Chutes : These structures are suitable where the drop is more than 3 feet and should be in stone masonry in mortar or in concrete. Type plan and estimate attached (vide L.D. appendix V).

(g) Crossings : At places a channel will have to pass over a drain, or a cart-track may pass over a channel. At such places suitable crossing will have to be provided. These may consist of pipe crossings. Type plans and estimates of different types of crossings are attached (vide L.D. appendix VI (a,b,&c)).

4.8 Drains : Drains are necessary to carry out excess water from the fields. Such drains should generally be aligned along valley lines and field boundaries. These are classified as upland drains (over 2 % slope ) and flat land drains. Shallow saucer shaped sodded drains with loose rock drops would be suitable to prevent gully formation on uplands. Flat land drains should be deep drains to serve as subsurface drains (open ditch or tile) to prevent waterlogging. Where more than 10' wide strip of land would be occupied by saucer shaped drain, it would be advisable to provide deep drains to save land. In case of medium

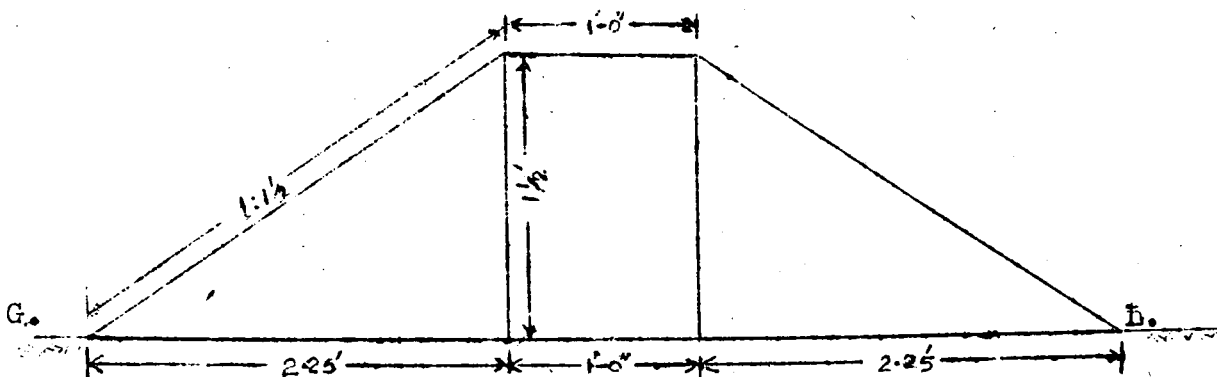
and deep soils the drains should have a bed width of 2', side slope 1.00 to 0.50 and depth 2'. Bed slopes of these drains should not exceed 1 %. These drains should be surplussed in natural water course with adequate outfall (i.e. more than 1'). A type cross section of a drain is shown below:



L.D. FIGURE - 6

#### 4.9 Land Development :

(a) Fields having less than 2 % slope : Align bunds on 0.2 % grade in case of shallow and medium soils and on 0.3 % grade in medium deep and deep soils. Deviations to the extent of 6" on ridge and 1' in gully may be given to avoid excessive seniosity in bund alignments. Bunds should be aligned at a vertical interval of 3' to 4' or horizontal distance of 150' to 225'. Bund should have 1' top-width, 1 : 1.5 side slope and height ~~1~~ 1½ feet (see L.D. Figure 7) in all types of soils. The area in between two bunds should be dressed to have uniform one sided slope between two bunds and a planned grade (i.e. 0.2 % or 0.3 %) to the strip along the bund. If there are any big mounds, they should be levelled and if there are any big gullies, they should be filled in . The land between the two bunds can be irrigated by grade or contour furrow irrigation method.

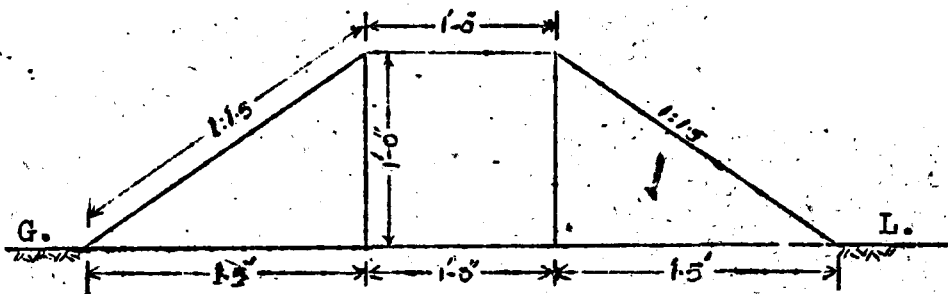


L. D. FIGURE - 7

(b) Border strip method in fields having less than 2% slope:

Align borders on grades of 0.3 % and at a vertical interval of 6" to 9" or horizontal distance of 50' to 66' . Deviation on either side to the extent of 2" may be allowed to avoid excessive seniosity. Border should have a top-width of 1', side slope 1 : 1.5 and height 1' (see L.D. figure 8). The area in between two borders will level itself in due course of time and will have a planned grade of 0.3 %. The land between the two borders may be irrigated by border strip irrigation method.

In soils having depth of more than 36" and slope less than 2 %, border strip method of irrigation can also be followed with advantage.



L. D. FIGURE - 8

(c) Fields having more than 2 % slope:

Align bunds on 0.2% grade in case of shallow and medium soils and on 0.3 % grade, in medium deep and deep soil. Deviation to the extent of 6" on ridge and 1' in gully may be given to avoid excessive seniosity in bund alignment. Bunds should be aligned at a vertical interval of 3' to 4' or horizontal distance of 100' to 130'. Bunds should have 1' top width, 1 : 1.5 side slope and height 1½ in all types of soils. The area in between two bunds should be dressed to have less than 2 % slope which would mean removal of 6" of top soil from higher side and depositing it on the lower side. While doing this knolls, mounds or ridges should be removed and gullies and ditches filled in. The area between two bunds will thus be developed as under 4.9 a with a planned grade of 0.2 % to 0.3 % along the bund for following irrigation by grade or

contour furrow irrigation method. Since the top six inch soil will be removed from half the area, the surface soil will lose its fertility and should be green manured with Sann green manuring to restore the same and give uniform good crop.

(d) Cut up lands and low-lying fields subject to waterlogging:

There are always some fields along the Nalas which are cutup and have deep gullies. There are also low-lying areas which are subject to waterlogging. Such fields should be bunded and converted into paddy fields. The size of a paddy field may vary according to situation and lay of the field but on an average it should be about 8 to 10 gunthas or 66' x 132' or 165'. The bund should have 1' top width 1 : 1.5' side slope and height 2' in all types of soils. These fields will have to be almost dead level so that good crop of paddy followed by gram, peas, maize or wheat could be grown. Since considerable surface soil will be removed, the fields should be green manured with Sann green manuring, at least in the first two seasons to restore their fertility.

4.10 Diversion drains : Run-off water from uncommanded areas situated on top of command areas should be diverted to adjoining water courses by constructing diversion drains as this run off would damage developed land surface, field channel etc.. Sections of diversion drains should be worked out as prescribed under Department Circular No. SCS-4564/E dated 19-7-1965.



Preparation of plans and estimates for field channels etc:

5.1 Having prepared the lay-out map and decided about the locations and numbers of various structures as well as the alignments of channels and drains and fields in which levelling has to be done, the next stage is to prepare plans and estimates of each block separately and get them sanctioned from the competent authority. The plans and estimates should be prepared in a book-let form by the Agricultural Supervisor with the help of Agricultural Assistant and submitted to the Sub Divisional Soil Conservation Officer who should scrutinise them and submit to the Divisional Soil Conservation Officer.

5.2 The guide lines for preparing the cover page leaf which is shown in Appendix Plan and Estimate 1 are given below:-

(a) Index sheet : This should show contents of the estimates file with page numbers as Appendix Plan and Estimate 2.

(b) Site Plan: This should be a copy of the map traced from the map of command area obtained from Irrigation and Power Department. Site plan should be 2" x 2" extract of the above map with the block located in the centre as in Appendix Plan and Estimate 3.

(c) Short note : This should give the location of the block, information on climatic conditions, soil types and details of type of work to be carried out. Extent to which views of cultivators are considered for planning should be indicated in the short note under the heading "General Information" as in Appendix Plan and Estimate 4.

(d) List of Khatedars: This should contain information about land owners, assessment, total area, area to be improved, soil type, estimated cost of work etc. as in Appendix Plan and Estimate 5.

(e) All works such as field channels, drop structures, division boxes, crossings, etc. benefitting more than one cultivator i.e. of common interest should be classified as community works. All other works such as land grading, border stripping paddy bunding etc. in particular survey Nos. which benefit only individual cultivator should be classified as individual works.

- 20 -

(f) Abstract of estimates: This should indicate separately estimated expenditure on community works and individual works as in Appendix Plan and Estimates 6. Actual expenditure on survey for preparing plan and estimate, estimated expenditure on survey during construction and plane table survey should be shown under community works. Establishment charges at  $33 \frac{1}{3} \%$  on the total estimated cost of both community works and individual works should be added to the total estimated cost and cost per acre worked out at the end.

(g) Detailed estimates : These should be in two parts. Part I should be for community works and Part II for individual works. Each of these parts should include details of estimates for both earth work and masonry work benefitting community and individuals.

(h) Bench mark statement. vide Appendix P & E 9.

(i) Check level certificate. -do- P & E 10.

(j) Base map of the project. as in L.D. Map 1.

(k) Contour map of the project. as in L.D. Map 2.

(l) Layout map of the project as in L.D. Map 3.

(m) Longitudinal sections of field channels :

Part I - Community works :- Field channels, drains and masonry works should be numbered serially from head of channel towards its tail and their estimates should be shown in Part I as in Appendix Plan and Estimate 7.

Part II-work in individual Khatedar's holding should show estimated amount of work separately for each holding according to type of work viz landgrading, border stripping, land levelling for paddy bunds and levelling of cut up lands. These estimates should be prepared holding-wise as in Appendix Plan & Estimate 8.

5.3 Land development for graded furrow method of irrigation on land having  $\frac{2}{3} \%$  slope, would not normally involve any levelling work as the lands would be having uniform slope on one side. At the most, mounds and pockets at few spots may have to be levelled by cutting and filling. This work could not involve much expenditure and need not, therefore, be estimated in detail. Estimates for graded bunds should be prepared on the basis of specified bund section and a provision for removal of mounds and filling of pockets may be made on percentage basis i.e. if the estimate for construction of bunds is Rs. 30/- per acre, a provision of Rs. 4.50 at the rate of 15 % of the estimated expenditure on bunds should only be made.

5.4 Quantity of cutting for levelling of (a) border strips, (b) lands with more than 2 % slope and (c) cut up lands and deep gullies should be calculated by adopting following formula for purpose of estimation :-

$$V = \frac{A \times VI}{8}$$

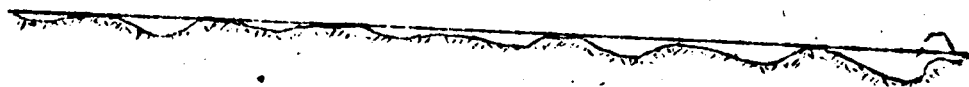
where V = Volume of cutting in cft.

A = Area of border strip in sq. feet.

VI = Vertical interval in feet.

This will be clear from the figures L.D. 9, 10 and 11 shown below :

CUTTING AND FILLING OF FIELD WITH LESS THAN 2 PER CENT SLOPE.



L. D. FIGURE - 9

-X-X-X-X-

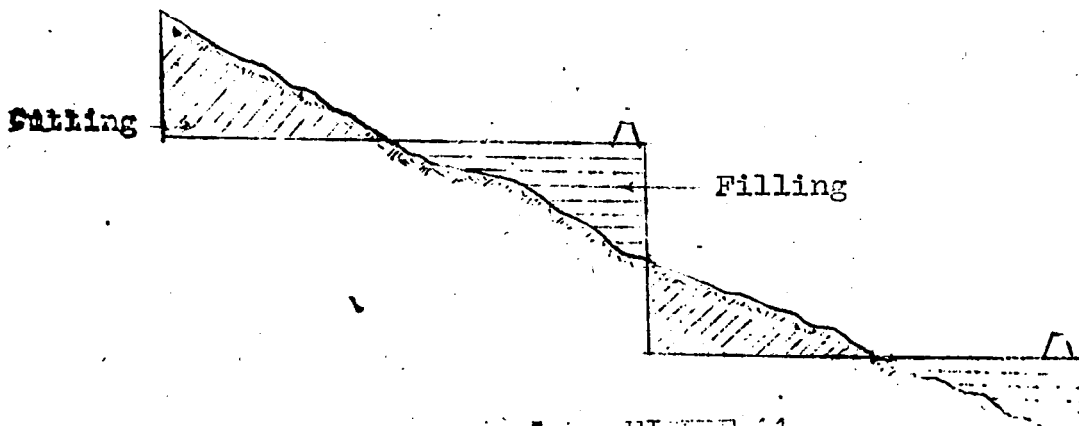
CUTTING AND FILLING OF A FIELD WITH MORE THAN 2 PER CENT SLOPE.



L.D. FIGURE - 10

-X-X-X-X-

CUTTING AND FILLING OF VERY SLOPY AND CUT-UP LANDS.



L. D. FIGURE - 11

5.5 The estimates of field channels and internal distribution channels, drains and levelling work should be prepared at rates mentioned in Schedule of rates given in Plans and Estimates Appendix P & E 13. As these will be only 6" in cutting normally no murrum cutting would be involved.

5.6 After alignments of field channels are fixed, their longitudinal section should be drawn. This would be useful for locating division boxes, drop structures, chutes etc. For this purpose fly levels should be taken along the alignments of channels at every 100' distance and at points where there is sudden change in gradient. This section should be drawn to a scale of 1" = 200' horizontal and 1" = 2' vertical. It is not necessary to draw sections for every field channel but in case of highly sloping land, longitudinal section may be taken as shown in Appendix P & E 11. This may be decided by the Sub-Divisional Soil Conservation Officers by visiting the site.

5.7 Longitudinal section of drains :

It is necessary to draw Longitudinal Sections of drains to design bed-slope and section, and to locate out-fall point and drop structures. Instructions and procedure prescribed for drawing longitudinal section of field channels should be followed for drawing longitudinal sections of drains as shown in Appendix P & E 12.

5.8 Plans and estimates so prepared by the Sub Divisional Soil Conservation Officer should then be submitted to the Divisional Soil Conservation Officer for technical sanction and administrative approval. If the estimated cost is more than Rs. 20,000/- the same should be forwarded to the Department by the Divisional Soil Conservation Officer.

5.9 Rate list :-

A schedule of rates for all items of work involved in land development should be prepared every year in the form vide P & E appendix 13 and got approved from the Department.

5.10 L.I.S. Act Procedure :

Directive under Section 4(1) should be obtained from the District Land Improvement Board for preparing draft schemes as per Appendix P & E 14. Draft schemes of land development for irrigation should be prepared under items (ii) and (v) of Section 4(1) of the Land Improvement Schemes Act (1942) amended. These items provide for improvement of water supply and improvement of methods of cultivation. Draft schemes so prepared in the booklet form should be got approved from the District Land Improvement Board under Section 5(1) of the Act and action to observe all further formalities under the Act should be taken. Forms of notifications under Section 5(2) and 9(2) are attached (vide Appendices Plans and Estimates Nos. 15 & 16).

Execution of Land Development Work :

6.1 Construction work should be undertaken after the scheme has gone through all the provisions of the Land Improvement Schemes Act (1942) amended and after obtaining technical sanction and administrative approval of the competent authority. Field channels, internal distribution channels and drains should be aligned from plan. The lines can be given directly in the field by the Agricultural Supervisor and checked and passed by Sub Divisional Soil Conservation Officer. The Agricultural Assistant can then carry out the work. Construction of channel should start from top to bottom and that of drains from bottom to top. It should be seen that slopes are properly dressed and designed bed slopes are maintained. The slopes should be checked by dumpy level during construction. Special attention should be paid to give designed outfall to drains. Spoil from excavation of drains and channels should be properly deposited on either banks to form bunds which should be dressed. Foundations should be taken upto hard strata and passed by the Agricultural Supervisor (SC) and certified. Specification given in P.W.D. Hand-book for all stone mortar masonry and concrete work should be observed.

6.2 Since the sizes of drop structures, division boxes, and pipe crossings will be the same in different blocks, it will be very convenient to get them pre-fabricated and stock them at suitable places according to requirements. These standard sizes of structures will not only bring uniformity in construction but also save considerable time and enable replacement if and when necessary. If a structure of a special size is required to be built, then only it may be constructed on site. It should be borne in mind that use of pre-fabricated structures should be the common practice as it will speed up the work and achieve the targets in time.

6.3 Agricultural Assistant (SC) should give alignments of all grade bunds in a survey number starting from top. The bund itself should, however, be aligned from the outfall and towards the ridge. He should check these alignments and correct wherever necessary to obtain designed grade. All corrections should be shown on the layout map and the same should be kept up-to-date. Area between

two bunds will form a compartment. Land development should be taken up compartment by compartment. As the land is to be used immediately after land development, no borrowpits should be taken for construction of bunds, levelling of pockets etc. Bunds should be formed by scraping the mounds and ridge portions by Kenis. The spoil from field channels and drains should also be used for construction of bunds, the cross sections which will be 2.5 and 5.25 Sft. Measurement of bunds should be recorded as in case of Keni work. In respect of bunds constructed from spoils of channels and drains, payment should be made only for lead and not for excavation for which payment will be made under excavation for channels and drains.

#### 6.4 Levelling :

Bull-dozers can be used with advantage for speeding up levelling work. Procedure for aligning, execution of work and recording measurements should be the same as prescribed under terracing.

#### 6.5 Work Registers :

Work register for expenditure incurred as per Part I estimates should be separately maintained block-wise. Work register for expenditure incurred as per Part II estimates should be maintained individual holding-wise.

#### 6.6 Completion reports and work slips :

Procedure as already laid down in case of other soil conservation works should be followed. Monthly progress report of work done should be sent in the forms shown in Appendix/L.D. I & II.

CHAPTER - VII

Recovery statements :

7.1 Separate recovery statements should be prepared for community works and for works in individual holding as shown in Appendix Recovery Statement 1 & 2. In case of recovery statements of community works, show number of channels under Column 5, show number of drains under Column 6, and show all structures under Column 7. A remark should be made to the effect that all cultivators in the block would be jointly and severally responsible for the maintenance of works. In case of recovery statements of works in individual holdings show number of bunds under Column 5, drains and channels under Column 7, and other structures under Column 7.

7.2 If the land development work proposed to be carried out from the loan from the Agricultural Refinance Corporation, the recovery statements should be sent to the concerned District Land Development Bank for sanctioning the loan to each individual cultivator and reimbursing the amount spent by the Department of Agriculture. The District Land Development Bank will subsequently be responsible for recovery of the loan. In case the work is carried out from funds of the Agriculture Department, the recovery statements will have to be sent to the Mamlatdar as in case of other soil conservation works.

7.3 An amount equal to  $33\frac{1}{2}$  % of the works cost of each work representing the cost on establishment should be added to the works cost, to be termed as establishment charges to arrive at the total cost of each block.

7.5 The cost of work recoverable from cultivator in each block should be arrived at after deducting the subsidy as above from the total cost. Thus the recoverable cost will be equivalent to 75 percent of the total cost.

7.6 The rate of interest to be charged and the number of instalments in which the cultivators' share of cost should be recovered, will be as per orders of Government issued from time to time.

7.4 A subsidy equal to 25% of this total cost referred to above should be treated as subsidy to the cultivators concerned.



SOIL SURVEY APPENDIX I.

Statement showing information of wells in the villages \_\_\_\_\_ under the  
 command of \_\_\_\_\_ Project, Taluka \_\_\_\_\_ District.

| Sr. No. of the villages. | Name of the villages in the command. | Total No. of wells in the command. | No. of wells in use. | No. of wells not in use. | No. of wells having water level from surface in summer. |                    | No. of wells having saline water. | Cropwise area irrigated. |                 |              |            | Means of irrigation | Remarks.   |
|--------------------------|--------------------------------------|------------------------------------|----------------------|--------------------------|---|--------------------|-----------------------------------|--------------------------|-----------------|--------------|------------|---------------------|--|
|                          |                                      |                                    |                      |                          | Within 20'  | More than 20'      |                                   | Rabi                     | Two sea-son-al. | Hot-weather. | Perennial. |                     |  |
|                          |                                      |                                    |                      |                          | At the time of visit.                                   | During the summer. |                                   |                          |                 |              |            |                     | a) Reasons for wells not in use. Area b) Well-drained or water-logged. |

Agricultural Assistant  
Agricultural Supervisor  
 Land Utilisation Survey Officer.

LAND UTILIZATION SURVEY APPENDIX I.

STATEMENT SHOWING INFORMATION OF SURVEY AND CATEGORIZATION OF LAND  
 IN VILLAGE \_\_\_\_\_ UNDER THE COMMAND OF \_\_\_\_\_  
 PROJECT IN TALUKA \_\_\_\_\_ DISTRICT \_\_\_\_\_

| Sr. No. | Name of cultivator. | Survey Number. | Pot-hissa Number. | Area   | C a t e g o r y    |                      |                 | R e m a r k s. |  |
|---------|---------------------|----------------|-------------------|--------|--------------------|----------------------|-----------------|----------------|--|
|         |                     |                |                   |        | Flat land upto 1%. | Land 1 to 2 % slope. | 2 to 3 % slope. |                | Land having more than 3% slope.          |
|         |                     |                |                   | acres. | acres.             | acres.               | acres.          | acres.         | Rocky, hilly lands unfit for cultivation |

Agricultural Assistant  
Agricultural Supervisor  
 Land Utilisation Survey Officer.

# MAP SHOWING CATAGORIES OF LANDS

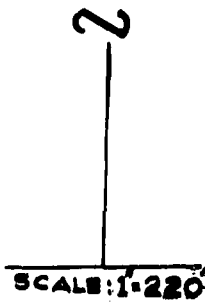
FIT FOR CULTIVATION UNDER THE COMMAND OF GHOD IRRIGATION

PROJECT

VILLAGE:- **KASTI**

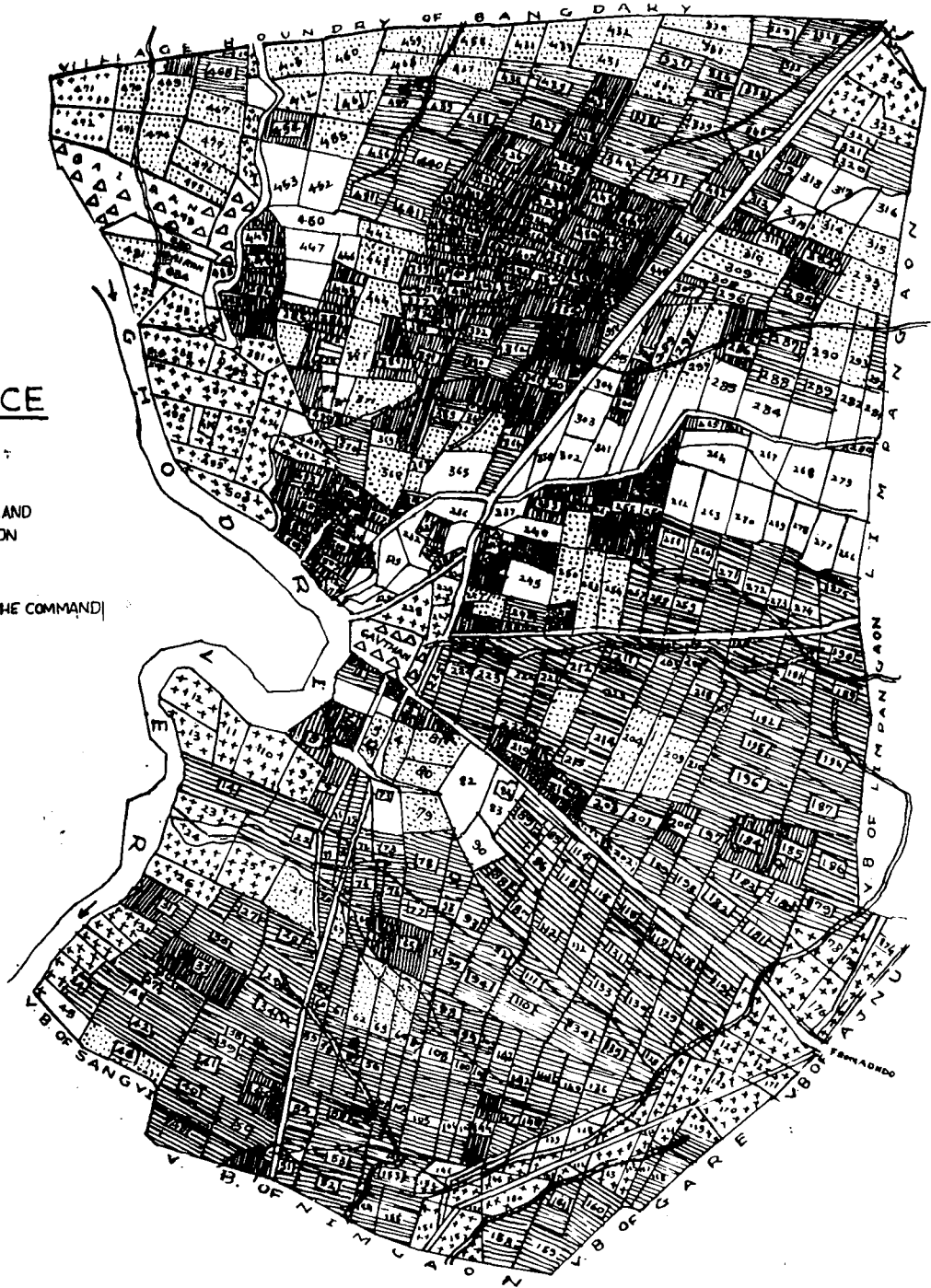
TALUKA:- **SHRIGONDA**

DISTRICT:- **AHMEDNAGAR**



## REFERENCE

- 1. [Solid black box] FLAT LAND
- 2. [Horizontal lines] MEDIUM UNDULATED
- 3. [Vertical lines] HEAVILY UNDULATED
- 4. [Diagonal lines] RAVINE OR CUT UP LAND
- 5. [Dotted pattern] UNFIT FOR IRRIGATION
- 6. [Wavy lines] DISTRIBUTARIES
- 7. [Circle with dot] WELL
- 8. [Triangle] AREA NOT UNDER THE COMMAND



LAND UTILISATION SURVEY- APPENDIX II

Statement showing classification of cultivators into different groups according to irrigated area held by them in the villages coming under the command of \_\_\_\_\_  
 Project \_\_\_\_\_ Taluka \_\_\_\_\_ District \_\_\_\_\_

| Sr. No. | Name of Village. | Area under command. | Number of cultivators having land |                |                 |                 |                 | Total No. of cultivators to be benefitted. | Total survey numbers. | Total No. of pot-hissas. | Remarks. |
|---------|------------------|---------------------|-----------------------------------|----------------|-----------------|-----------------|-----------------|--|-----------------------|--------------------------|----------|
|         |                  |                     | Upto 5 acres.                     | 5 to 10 acres. | 10 to 15 acres. | 15 to 20 acres. | Above 20 acres. |  |                       |                          |          |
| -----   |                  |                     |                                   |                |                 |                 |                 |  |                       |                          |          |

Agricultural Assistant  
Agricultural Supervisor  
 Land Utilisation Survey Officer.

LAND UTILIZATION SURVEY - APPENDIX III.

Physical check report form - For the month ending \_\_\_\_\_

| Survey Number. | Area surveyed and classified during the month. | Area of which survey and classification has been physically verified during the month. | Percentage of physical verification. | Progressive area surveyed and classified. | Progressive area physically verified. | Progressive percentage of physical verification. | Result of verification. | Remarks. |
|----------------|--|--|--------------------------------------|---|---------------------------------------|--|-------------------------|----------|
| 1.             | 2.   | 3.   | 4.                                   | 5.  | 6.                                    | 7.   | 8.                      | 9.       |
|                |  |  |                                      |   |                                       |  |                         |          |

Agricultural Supervisor.  
Land Utilization Survey Officer.

LAND UTILIZATION SURVEY - APPENDIX IV.

Progress Report for the month of \_\_\_\_\_

| Survey Number. | Name of village. | Name of Taluka. | Area to be surveyed. | Area surveyed. | Progressive total. | Remarks. |
|----------------|------------------|-----------------|----------------------|----------------|--------------------|----------|
| 1.             | 2.               | 3.              | 4.                   | 5.             | 6.                 | 7.       |
|                |                  |                 |                      |                |                    |          |

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Agricultural Assistant  
Agricultural Supervisor  
 Land Utilization Survey Officer.

जमीन सुधारणा योजना अधिनियम, १९४२ (दुरुस्त केलेला) 34  
मधील उल्लेखित मृद सुधारणाची कामे हाती घेण्यासाठी  
कराव्याचा करारनामा.

नसना क. १.

ज्याअधी, महाराष्ट्र शासनाने (ज्याचा यापुढे शासन असा  
निर्देश केला आहे) माझा- आमच्या किंतीवस्तु या सोबतच्या असूची-  
मध्ये आमच्या नावासमोर असुमाने दर्शविल्याप्रमाणे -----  
गावातील आमच्या भूमापन क्रमांक ----- मध्ये पुढीलप्रमाणे कामे,  
म्हणजे समपातळीवरील बांध, उतारावरील बांध, चर खणणे आणि वृक्षा  
संवर्धन मजगी बांधण्याची आणि मृद सुधारणाची इतर कामे हाती  
घेण्याचे मान्य केले आहे.

ज्याअधी, आम्ही -----आणि-----  
तालुक्यातील -----गानचे रहिवासी महाराष्ट्राच्या राज्यपालाजीक  
पुढीलप्रमाणे करार करता.-----

१) शासनाने मागणी केल्यावर, उप विभागीय मृद सुधारणा  
अधिकारी----- यांच्या कार्यालयामध्ये किंवा अन्यथा आवश्यक असेल  
त्याप्रमाणे, वर नमूद केलेल्या मृद सुधारणाच्या कामावर शासनाने कराव्या-  
च्या प्रत्यक्ष संपूर्ण खर्चापैकी ९५ टक्के अर्थसहाय वजा जाता उरलेल्या करमपैकी  
आमच्या हिश्यांची रक्कम, (उक्त कामासाठी शासनाकडून नेमण्यात येणा-या  
कर्मचारी वृं(दावर होंगा-या खर्चासह) जी सध्या दर एकरी सुमारे-----  
रुपये, अंदाजित करण्यात आली आहे ती अंदाजपत्रक तयार झाल्यानंतर  
निश्चित करता येईल. ही रक्कम शासन वेळोवेळी ठरविलेले तितक्या हप्त्या-  
ने व त्या व्याजाच्या दराने आम्ही परत करू.

२) दुरुस्त खर्चापैकी आमच्या प्रत्येकाचे हिस्सा म्हणून आम्ही  
किंवा आमच्यापैकी प्रत्येकाने देणे असेली रक्कम उप विभागीय मृद  
सुधारणा अधिकारी किंवा त्यांची कामे पार पाडण्यासाठी प्राधिकृत  
केलेला इतर कोणताही अधिकारी निश्चित करील आणि त्यांचा निर्णय  
अंतिम राहिल आणि तो आमच्यावर आणि आमच्यापैकी प्रत्येकावर  
बंधनकारक राहिल.

३) मृद संधारणाचे काम एका विशिष्ट अकीधित पूर्ण करण्याचे बंधन शासनावर राहणार नाही मि- आणि कोणत्याही कारणामुळे शासनास उक्त काम सोडून देणे आवश्यक वाटल्यास शासन ते सोडून देईल आणि त्यासाठी आम्हाला कोणतीही नु कसान भरपाई प्रदेय होणार नाही.

४) वरील खंड (२) मध्ये उल्लेख केलेल्या अधिका-याकडून, या अधिलेखानुसार ज्या रकमा आमच्याकडून कर्म किंवा आमच्यापैकी प्रत्येकाकडून देय आणि प्रदेय ठरविल्या आहेत, अशा सर्व रकमा जमीन महसुलाची थकवाकी म्हणून आमच्या कडून किंवा आमच्यापैकी प्रत्येकाकडून वसुलीयोग्य राहतील.

५) आम्ही, उपरोक्त कामाचे परिहाण आणि दुबस्ती करण्यास संयुक्तपणे आणि पृथक्पणे जबाबदार आहेत.

आज तारीख-----माहे-----सन-----

-----यांनी.

१)

२)

यांचे समक्ष सही केली.

सं.मा.१७९१



LAND DEVELOPMENT - APPENDIX II

\*\*\*\*\*  
\*\*  
\*\* SURVEY ESTIMATE OF BLOCK NO. \_\_\_\_\_ \*\*  
\*\* ON \_\_\_\_\_ BANK CANAL - DISTRIBUTORY \*\*  
\*\* NO. \_\_\_\_\_ OUT-LET NO. \_\_\_\_\_ \*\*  
\*\* OF \_\_\_\_\_ PROJECT OF VILLAGE \_\_\_\_\_ \*\*  
\*\* \_\_\_\_\_ IN TALUKA \_\_\_\_\_ \*\*  
\*\* SUB-DIVISION \_\_\_\_\_ \*\*  
\*\*\*\*\*

ESTIMATE OF SURVEY WORK.

Block No. \_\_\_\_\_ on \_\_\_\_\_ Bank Canal \_\_\_\_\_  
 Distributory No. \_\_\_\_\_ Outlet No. \_\_\_\_\_  
 Village \_\_\_\_\_ Taluka \_\_\_\_\_ District \_\_\_\_\_  
 Sub-division \_\_\_\_\_

CERTIFICATES

- (1) Certified that the area in this Block is under command of the  
 Distributory No. \_\_\_\_\_ Outlet No. \_\_\_\_\_ of  
 \_\_\_\_\_ Bank Canal
- (2) Certified that adequate labour is available for carrying out  
 Land Development work in this Block.

Agricultural Assistant (SC)  
 Centre \_\_\_\_\_

.....

No. \_\_\_\_\_ of 19

Date :

Submitted to the Agricultural Supervisor (SC) \_\_\_\_\_

\_\_\_\_\_ for further necessary action.

Agricultural Assistant (SC)

Encl:

- 1) List of Khatedars
- 2) Consent applications in Appendix I.
- 3) Part Plan.

- (1) Certified that percentage of consent obtained on area basis is \_\_\_\_\_ and on owner basis is \_\_\_\_\_.
- (2) Certified that the Block includes all the area under command of Distributory No. \_\_\_\_\_ Outlet No. \_\_\_\_\_ of Bank Canal \_\_\_\_\_

Agricultural Supervisor (SC)  
Centre \_\_\_\_\_

| Area to be surveyed | Rate per acre | Estimated amount | Rounded to | Remarks. |
|---------------------|---------------|------------------|------------|----------|
|                     |               |                  |            |          |

No. XVII/NW/ \_\_\_\_\_ of 19  
Date : \_\_\_\_\_ 19

Submitted to the Sub-Divisional Soil Conservation Officer,  
\_\_\_\_\_ for further necessary action.

Encl:(as above)

Agricultural Supervisor(SC)

...  
No. \_\_\_\_\_ of 19  
Date: \_\_\_\_\_ 19

Submitted to the Divisional Soil Conservation Officer, \_\_\_\_\_  
in duplicate for favour of sanction.

Sub-Divisional Soil Conservation Officer.

- Encl:  
1. List of Khatedars  
2. Part Plan

No. \_\_\_\_\_ of 19 Date: \_\_\_\_\_ 19

Returned to the Sub Divisional Soil Conservation Officer, \_\_\_\_\_  
\_\_\_\_\_ duly sanctioned for Rs. \_\_\_\_\_ (in words \_\_\_\_\_)

Divisional Soil Conservation Officer.

LIST OF KHATEDARS

Block No. \_\_\_\_\_ Distributory No. \_\_\_\_\_ Outlet No. \_\_\_\_\_ Village \_\_\_\_\_

Taluka \_\_\_\_\_ District \_\_\_\_\_ Sub-division \_\_\_\_\_.

| Sr. No. | Name of Khatedar. | Survey Number. | Pot Hissa No. | Total area. | Assess-ment. | Area to be in-<br>proved. | Area deleted. | Reasons for deletion. | Soil type. | Remarks. |
|---------|-------------------|----------------|---------------|-------------|--------------|---------------------------|---------------|-----------------------|------------|----------|
| -----   | -----             | -----          | -----         | -----       | -----        | -----                     | -----         | -----                 | -----      | -----    |

Agricultural Assistant (SC)

Centre \_\_\_\_\_

Village :-

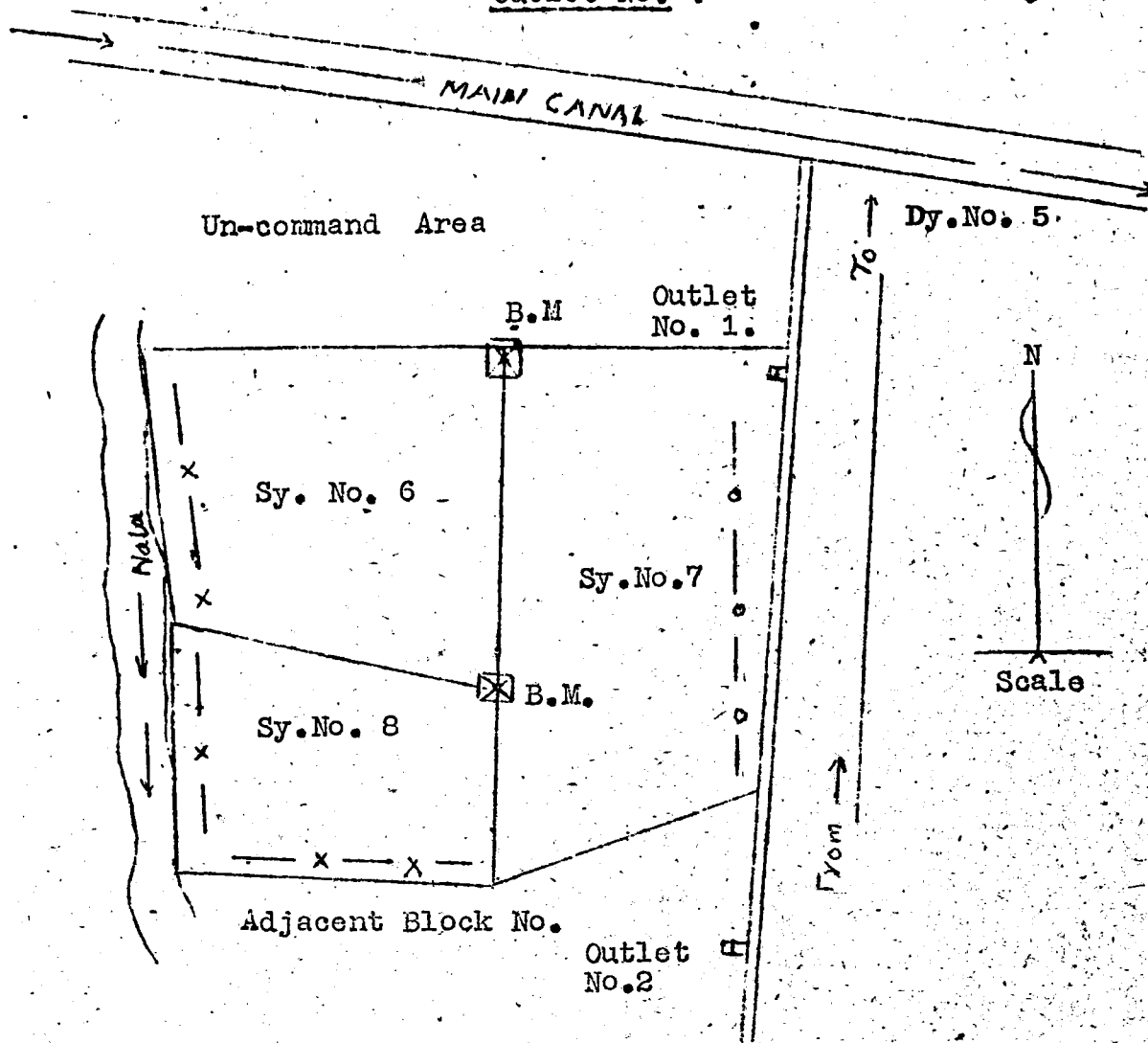
Taluka :-

District :-

Block No. :-

Distributory No. :-

Outlet No. :-



REFERENCES

- Sy. No. Boundary .....
- Road..... From To
- Ridge line.....
- Village Line.....
- Gully line.....
- Distributing No. & Outlet No. ....
- Area under Command .....
- Bench Mark .....

Agril. Asstt.  
(S.C.)

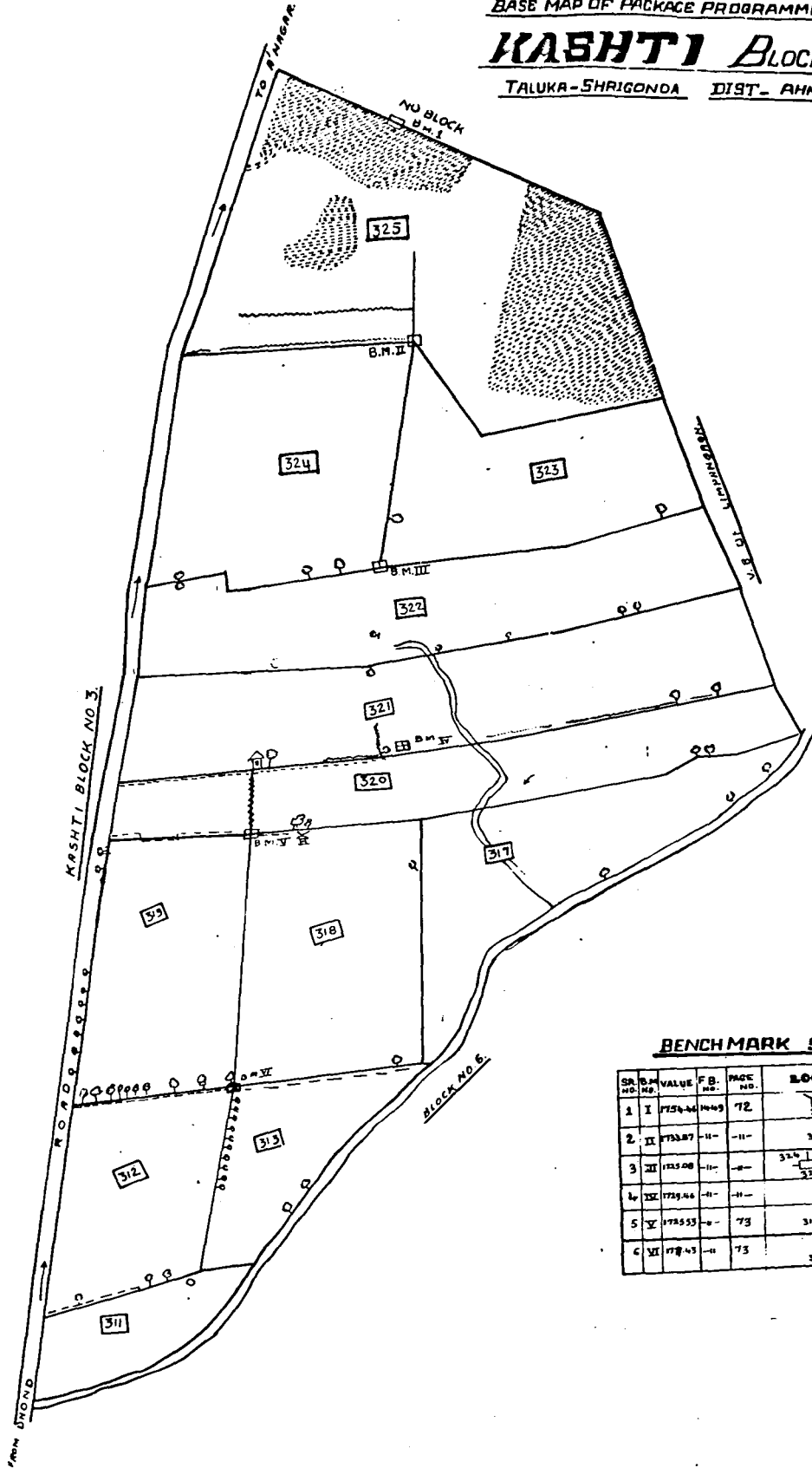
Agril. Supervisor,  
(S.C.)

Sub Divisional Soil  
Conservation Officer,

LAND DEVELOPMENT MAP NO.1 BASE MAP.....  
 BASE MAP OF PACKAGE PROGRAMME WORK

**KASHTI BLOCK NO 1.**

TALUKA-SHRIGONDA DIST- AHMEDNAGAR.



REFERENCE

| SR. NO. | PARTICULARS           | SIGN |
|---------|-----------------------|------|
| 1       | SY. NO. BOUNDARY..... |      |
| 2       | BLOCK BOUNDARY.....   |      |
| 3       | POT HISSA.....        |      |
| 4       | NALLA.....            |      |
| 5       | GULLY.....            |      |
| 6       | ROAD.....             |      |
| 7       | FOOT PATH.....        |      |
| 8       | CART TRACT.....       |      |
| 9       | OLD BUND.....         |      |
| 10      | BENCH MARK.....       |      |
| 11      | WELL.....             |      |
| 12      | ROCKY AREA.....       |      |
| 13      | FIELD CHANNAL.....    |      |
| 14      | DRAIN.....            |      |
| 15      | HUT.....              |      |
| 16      | TREES.....            |      |
| 17      | BUNDS.....            |      |

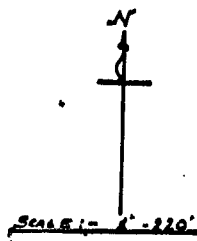
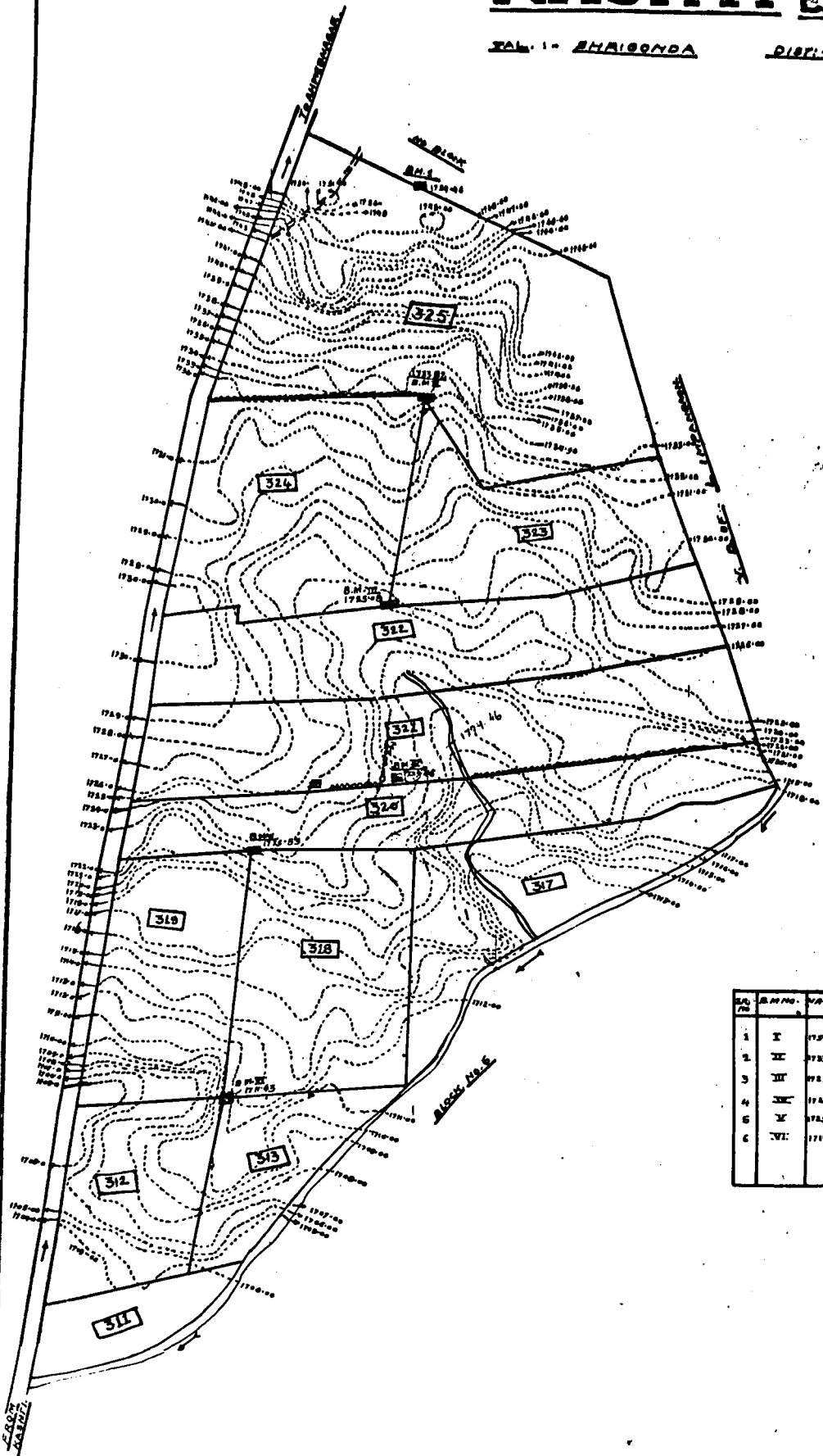
BENCHMARK STATEMENT

| SR. NO. | B.M. NO. | VALUE   | F.B. NO. | PAGE NO. | LOCATION OF B.M. |
|---------|----------|---------|----------|----------|------------------|
| 1       | I        | 1756.44 | 409      | 72       |                  |
| 2       | II       | 1733.87 | -        | -        |                  |
| 3       | III      | 1723.08 | -        | -        |                  |
| 4       | IV       | 1729.44 | -        | -        |                  |
| 5       | V        | 1725.53 | -        | 73       |                  |
| 6       | VI       | 1718.43 | -        | 73       |                  |

LAND DEVELOPMENT MAP NO 2 CONTOUR MAP  
**BASKASE PROGRAMME SCHEME**  
**QMOD PROJECT**

**KASHTI E1 No 1**

TAL. - ZHAIKONDA DIST. - AHMEDNAGAR.



**REFERENCE**

| S.No. | PARTICULARS      | AMOUNT |
|-------|------------------|--------|
| 1)    | BY-NG BOUNDARY   | 1/1000 |
| 2)    | BASKASE BOUNDARY | 1/1000 |
| 3)    | QMOD BOUND.      | 100.00 |
| 4)    | SEMI-ROADS       | 10.00  |
| 5)    | WALA             | 150.00 |
| 6)    | CONTR. LINE      | 150.00 |
| 7)    | CART-PATH        | 150.00 |
| 8)    | ROAD             | 150.00 |
| 9)    | TREES            | 150.00 |
| 10)   | WATER            | 150.00 |
| 11)   | FOOT PATH        | 150.00 |

**B. M. STATEMENT**

| S.No. | AMOUNT | VALUE   | AM  | AM  | Particulars |
|-------|--------|---------|-----|-----|-------------|
| 1     | I      | 1720.76 | 100 | 72  | 315         |
| 2     | II     | 1735.87 | --- | --- | 315         |
| 3     | III    | 1745.00 | --- | --- | 315         |
| 4     | IV     | 1745.00 | --- | --- | 315         |
| 5     | V      | 1745.00 | --- | --- | 315         |
| 6     | VI     | 1745.00 | --- | --- | 315         |

DEPT. SUPERVISOR (P.R.)  
 KASHTI

SUB-DIVISIONAL SOIL CONSERVATION  
 OFFICER, KASHTI.

DIVISIONAL SOIL CONSERVATION  
 OFFICER, AHMEDNAGAR, DR. WADGA.

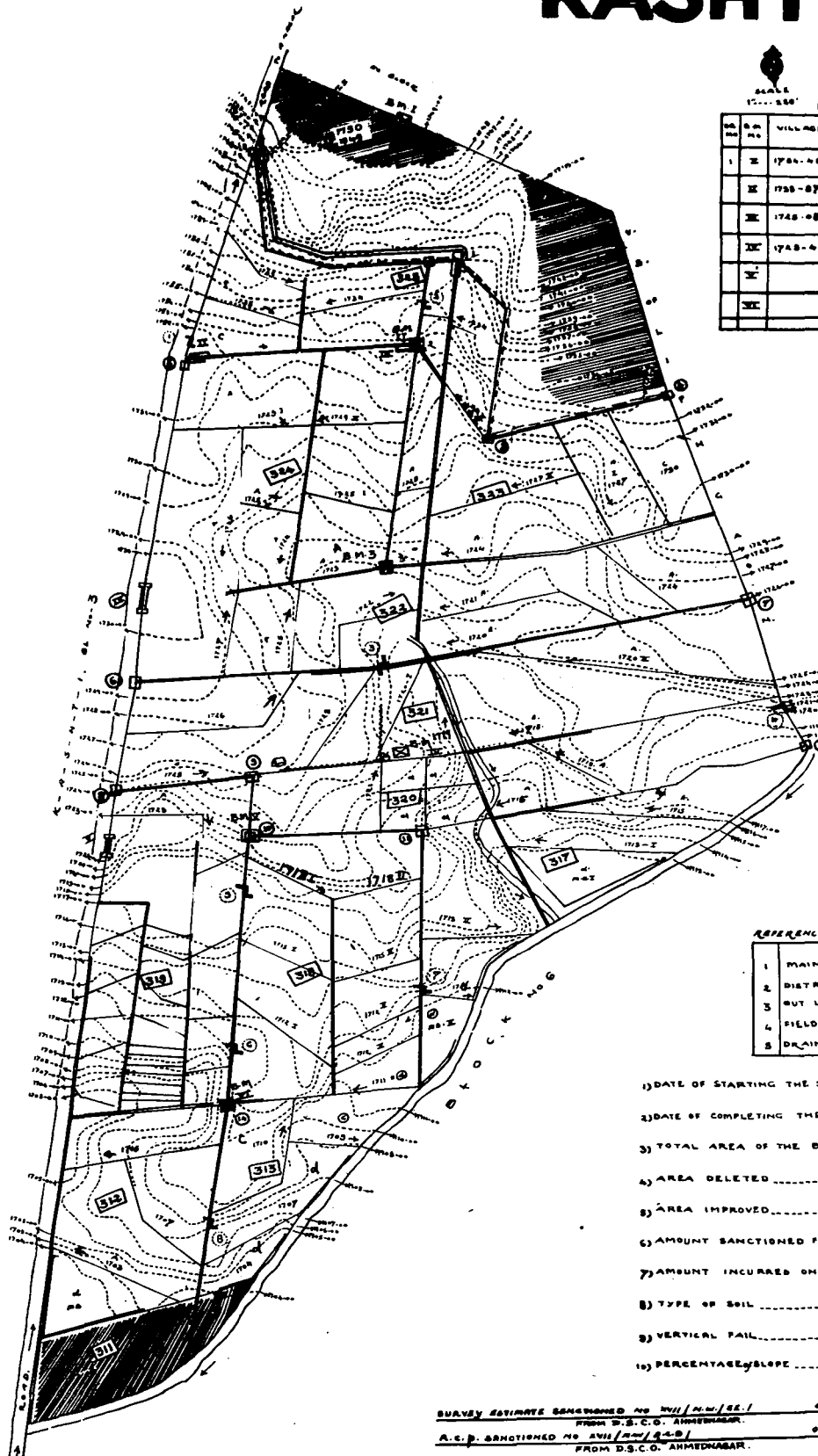
SOIL CONSERVATION PROJECT - VILAGE  
**KASHTI** BL. NO. 1

(GOOD PROJECT)

TAL. SHRIRANGA, DIST. A. NAGAR  
 SCALE 1:50,000

**BENCH MARK STATEMENT**

| BM No. | VILLAGE | DATE | AGE | LOCATION OF B.M. |
|--------|---------|------|-----|------------------|
| I      | 1780-46 | 1947 | 74  | B.M. 306         |
| II     | 1758-87 |      |     | B.M. 307-308     |
| III    | 1748-08 |      |     | B.M. 309         |
| IV     | 1748-46 |      |     | B.M. 310         |
| V      |         |      |     | B.M. 311         |
| VI     |         |      |     | B.M. 312         |
| VII    |         |      |     | B.M. 313         |



**REFERENCE**

|    |                 |   |
|----|-----------------|---|
| 1  | BY NO. BOUNDARY | □ |
| 2  | BACK-BOUNDARY   | ▭ |
| 3  | POH-NISSA       | — |
| 4  | MALA            | — |
| 5  | GULLEY          | — |
| 6  | ROAD            | — |
| 7  | FOOT PATH       | — |
| 8  | CART TRACT      | — |
| 9  | OLD-BUND        | — |
| 10 | BUND LINE       | — |
| 11 | WESTE WEIR      | — |
| 12 | CHANNEL WEIR    | — |
| 13 | CUT OUT LET     | — |
| 14 | RAMP            | — |
| 15 | BUTTRESS        | — |
| 16 | BENCH MARK      | — |
| 17 | CONTOUR LINE    | — |
| 18 | WELL            | — |
| 19 | CUT UP AREA     | — |
| 20 | DRAINS          | — |
| 21 | CHANNELS        | — |
| 22 | DAMP            | — |
| 23 | COLLECTION BOX  | — |
| 24 | BRAIN           | — |

**REFERENCE**

|   |                     |   |
|---|---------------------|---|
| 1 | MAIN CARNAL         | — |
| 2 | DISTRIBUTORY        | — |
| 3 | BUT LET             | — |
| 4 | FIELD               | — |
| 5 | DRAIN CROSSING ROAD | — |

- 1) DATE OF STARTING THE SURVEY WORK ..... 1-12-64
- 2) DATE OF COMPLETING THE SV. WORK ..... 3-12-64
- 3) TOTAL AREA OF THE BLOCK ..... 166-36
- 4) AREA DELETED .....
- 5) AREA IMPROVED .....
- 6) AMOUNT SANCTIONED FOR SV. WORK .....
- 7) AMOUNT INCURRED ON PLANNING .....
- 8) TYPE OF SOIL ..... Medium
- 9) VERTICAL FAIL .....
- 10) PERCENTAGE SLOPE .....

SURVEY ESTIMATE SANCTIONED NO. 1011 / N.M. / SE. / OF 12  
 FROM D.S.C.O. AHMEDNAGAR.  
 A.C.P. SANCTIONED NO. 2011 / N.M. / S.C. / OF 18  
 FROM D.S.C.O. AHMEDNAGAR.

AGRICULTURAL ASSISTANT, KASHTI.      AGRICULTURAL SUPERVISOR, (SHRIRANGA GOOD PROJECT).      SUB-DIVISIONAL SOIL CONSERVATION OFFICER, NARJAT.      SOIL CONSERVATION OFFICER, A. NAGAR.



37 44 44

44

APPENDIX LAND DEVELOPMENT III (a)

ESTIMATE FOR CONSTRUCTION OF  
P.C. CONCRETE ONE WAY DIVISION BOX.  
STONE MASONRY

Estimated cost - Rs. 85-00 (medium Soil)

Rs. 81/- (shallow Soil)

ESTIMATE FOR CONSTRUCTION OF P.C. CONCRETE  
ONE WAY DIVISION BOX.

ABSTRACT

| Quantity. | I t e m  | Rate   | Unit                   | Amount |
|-----------|--|--------|------------------------|--------|
|           | 1). Excavation for construction of one way division box in:  |        |                        |        |
| 95.37 cft | a) Soft murum  | 4.00   | 100 cft                | 3.81   |
| 143.05 "  | b) Hard murum  | 5.00   | 100 "                  | 7.15   |
| 31.68 Cft | 2) Providing and laying cement concrete 1 : 3 : 6 for construction of one way diversion box including frame work mixing, curing etc. complete. | 176.00 | 100 cft                | 54.86  |
| 0.50 Cft  | 3) Providing wooden check gate of approved quality of teak wood with wooden handle and two coats of bitumen etc. complete.                     | 30.00  | 1 cft                  | 15.00  |
|           |  |        | Total                  | 80.82  |
|           |  |        | Add: 3% contingencies: | 2.40   |
|           |  |        |                        | 83.22  |
|           |  |        | Add: 2% W.C.Estt.      | 1.56   |
|           |  |        | Total: Rs.             | 84.88  |
|           |  |        | Say Rs.                | 85/-.  |

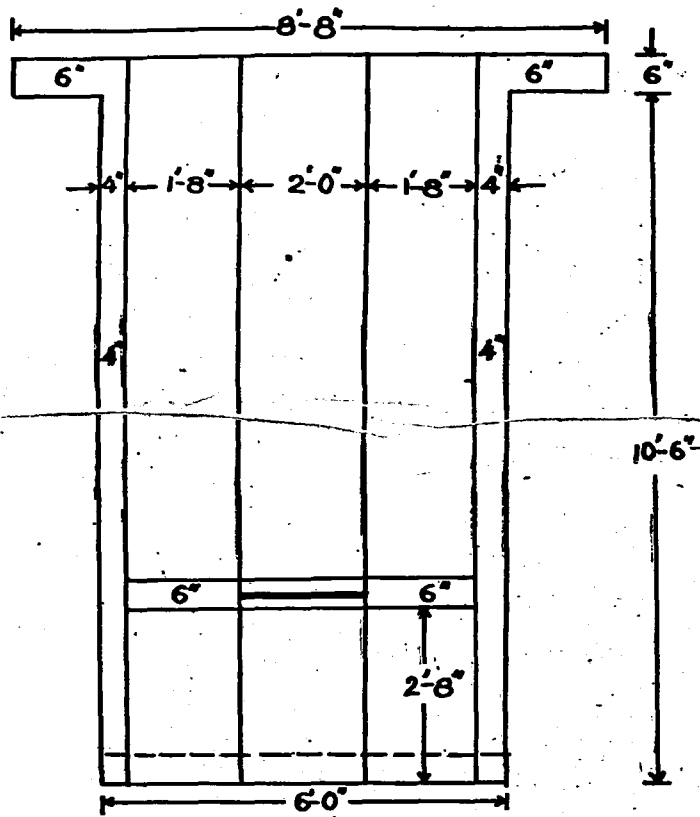
39 46 46

ESTIMATE FOR CONSTRUCTION OF P.C. CONCRETE  
ONEWAY DIVERSION.

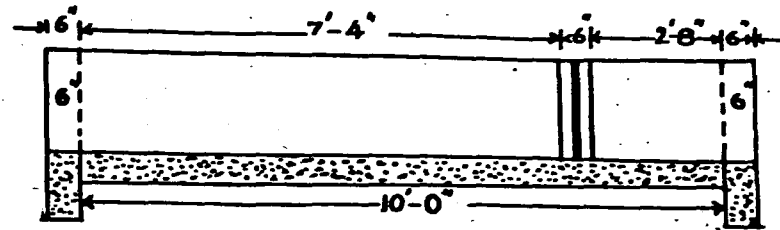
46

MEASUREMENTS

|  | <u>No.</u> | <u>Length</u>           | <u>Breadth</u> | <u>Depth</u> | <u>Quan-</u><br><u>tity.</u> | <u>Total</u> |
|--|------------|-------------------------|----------------|--------------|------------------------------|--------------|
| 1) Excavation for construction of masonry diversion in -   |            |                         |                |              |                              |              |
| i) Soft murum  | 1          | 11'-0"                  | 8'-8"          | 1'-0"        | 95.37                        | Cft          |
| ii) Hard murum   | 1          | 11'-0"                  | 8'-8"          | 1'-6"        | 143.05                       | Cft          |
| 2) Providing and laying cement concrete 1:3:6 for construction of one way division box including frame work, curing etc. complete. |            |                         |                |              |                              |              |
|  | 1          | 8'-8"                   | 0'-6"          | 2'-6"        | 11.46                        |              |
|  | 1          | 6'-0"                   | 0'-6"          | 2'-6"        | 7.50                         |              |
|  | 1          | 10'-0"                  | 2'-0"          | 0'-4"        | 6.66                         |              |
|  | 2          | 10'-0"                  | 1'-8"          | 0'-4"        | 11.13                        |              |
|  | 2          | $\frac{0+1'-8"}{2}$     | 1'-8"          | 0'-6"        | 0.93                         |              |
|  |            |                         |                |              | <u>37.68</u>                 |              |
| Deduction  | 2          | $\frac{2'-0"+5'-3"}{2}$ | 1'-8"          | 0'-6"        | 6.00                         |              |
|  |            |                         |                |              | <u>31.68</u>                 |              |
|  |            |                         |                | Net:         | <u>31.68</u>                 |              |
| 3) Providing wooden gate of approved teakwood with two coats of bitumen and with wooden handle etc. complete.                      |            |                         |                |              |                              |              |
|  | 1          | 2'-3"                   | 0'-1½"         | 1'-6"        | 0.50                         | 0.50 cft     |



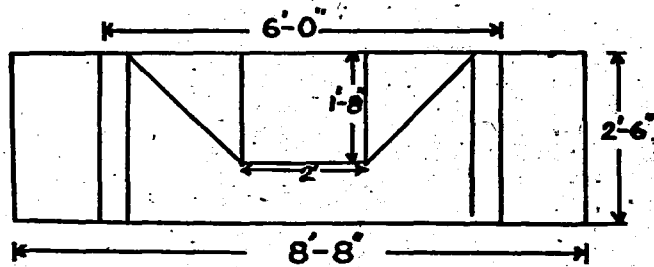
PLAN



SECT-END VIEW

CONSTRUCTION OF R.C. CONCRETE  
ONE WAY DIVERSION BOX

SCALE:- 1" = 3'



ELEVATION

APPENDIX LAND DEVELOPMENT III (b)

ESTIMATE FOR CONSTRUCTION OF A P.C. CONCRETE  
STONE MASONRY  
TWC WAY DIVERSION BOX.

Cost Rs. 135/- (Medium Soil)  
Rs. 129/- (Shallow Soil )

ESTIMATE FOR CONSTRUCTION OF P.C. CONCRETE TROWAY  
DIVISION BOX.Abstract Sheet

| Quantity | I t e m   | Rate  | Amount        |
|----------|---|-------|---------------|
|          | 1. Excavation for twoway C.C. diversion including 100' lead and 5'-0" lift etc. complete in                                 |       |               |
| 119 cft. | (i) Soft murum  | 4.0   | 100 cft. 4.80 |
| 179 cft. | (ii) Hard murum   | 5.0   | 100 cft. 9.00 |
| 47.5 "   | 2. Providing and laying cement concrete 1:3:6 for constructing diversion including form work mixing curing etc. complete.   | 176.0 | -do- 83.60    |
| 1.0 cft. | 3. Providing wooden check gates of approved quality of teak wood with wooden handle and two coats of bitumen etc. complete. | 30.00 | cft 30.00     |
|          | Total:  |       | 127.40        |
|          | Add 3% contingencies  |       | 3.81          |
|          |   |       | 131.21        |
|          | Add 2 % w/c estt.   |       | 2.52          |
|          |   |       | 133.73        |
|          | Say   |       | 133/-         |

42 50  
79

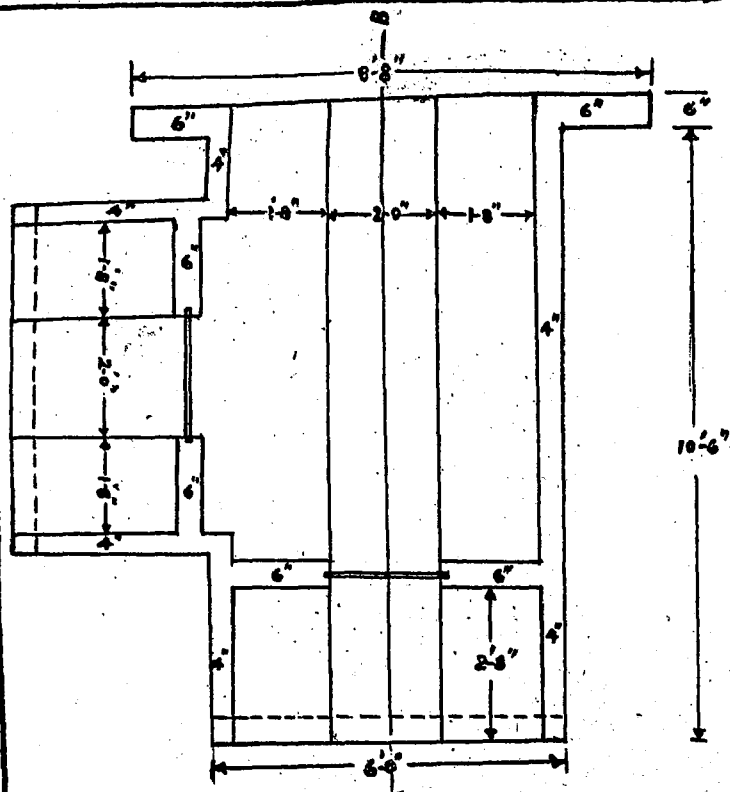
50

ESTIMATE FOR CONSTRUCTION OF P.C. CONCRETE TOWAY  
DIVISION BOX

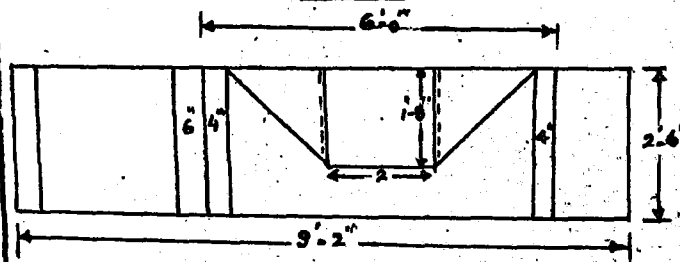
MEASUREMENTS

|   | No. | Length                  | Breadth              | Depth | Quantity | Total    |
|---|-----|-------------------------|----------------------|-------|----------|----------|
| <b>1. Excavation for construction of two way diversion in</b>   |     |                         |                      |       |          |          |
| a) Soft murum   | 1   | 11'-0"                  | 10'-9"               | 1'-0" | 119      | cft      |
| b) Hard murum   | 1   | 118-0"                  | 10'-9"               | 1'-6" | 179      | cft      |
| <b>2. Providing and laying cement concrete 1:3:6 for construction of twoway diversion including form work ramming etc. complete</b> |     |                         |                      |       |          |          |
|   | 1   | 8'-9"                   | 0'-6"                | 2'-6" | 11.0     | cft      |
|   | 2   | 6'-0"                   | 0'-6"                | 2'-6" | 15.0     | "        |
|   | 1   | 10'-0"                  | 2'-4"                | 0'-4" | 8.0      | "        |
|   | 1   | 10'-0"                  | 2'-0"                | 0'-4" | 6.75     | "        |
|   | 1   | 2'-8"                   | 2'-4"                | 0'-4" | 2.0      | "        |
|   | 4   | $\frac{0'+1'-8"}{2}$    | 1'-8"                | 0'-6" | 3.0      | "        |
|   | 1   | 2'-8"                   | 2'-0"                | 0'-4" | 1.8      | "        |
|   | 2   | 2'-8"                   | 2'-4"                | 0'-4" | 4.2      | "        |
|   | 1   | 1'-6"                   | 2'-4"                | 0'-4" | 1.2      | "        |
|   | 1   | 5'-9"                   | 1'-8"                | 0'-4" | 3.2      | "        |
|   |     |                         |                      |       | 56.15    | cft      |
| Deductions  | 3   | $\frac{2'-0"+5'-3"}{2}$ | 1'-8"                | 0'-6" | 9        | cft      |
|   |     |                         |                      |       | 47.15    | cft      |
|   |     |                         |                      |       |          | Net Qty. |
| <b>3. Providing wooden gates of approved teak wood with 2 coats of bitumen and with wooden handle etc. complete</b>                 |     |                         |                      |       |          |          |
|   | 2   | 2'-3"                   | 0'-1 $\frac{1}{2}$ " | 1'-6" | 1        | cft      |

L.D. PLAN I(6)

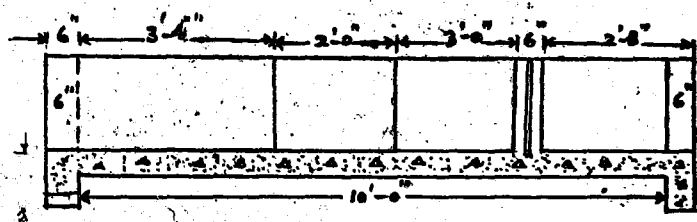


PLAN



ELEVATION

CONSTRUCTION OF  
P.C. CONCRETE TWO WAY DIVERSION BOX  
SCALE:- 1" = 3'



SECT. END VIEW ON AB



APPENDIX LAND DEVELOPMENT III (c)

Estimate for construction of P.C. Concrete,  
Stone masonry

three-way Division Box.

Estimated cost -- Rs. 158/-(medium soil)

153/-(shallow ")

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44 53

ESTIMATE FOR CONSTRUCTION OF R.C. CONCRETE  
THREWAY DIVISION BOX

53

ABSTRACT

| Quantity   | Item   | Rate   | Unit    | Amount.         |
|------------|--|--------|---------|-----------------|
|            | 1) Excavation for construction of Threeway Division Box :-   |        |         |                 |
| 107.29 cft | (a) Soft murum.  | 4.00   | 100 cft | 4.29            |
| 160.94 cft | (b) Hard murum.  | 5.00   | 100 cft | 8.05            |
| 53.09 cft  | 2) Providing and laying cement concrete 1:3:6 for construction of Threeway division Box including frame work mixing, curing etc. complete. | 176.00 | 100 cft | 93.44           |
| 1.50 cft   | 3) Providing wooden check gate of approved quality of teak wood with wooden handle and two coats of bitumen etc. complete                  | 30.00  | 1 cft   | 45.00           |
|            | Total:   |        |         | 150.78          |
|            | Add: 3% contingencies:   |        |         | 4.52            |
|            |  |        |         | 155.30          |
|            | Add: 2% w.c. estt.   |        |         | 3.11            |
|            | Grand Total :  |        |         | Rs. 158.41      |
|            |  |        |         | Say Rs. 158/--. |

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Estimate for construction of P.C. Concrete  
Threeway Division Box.

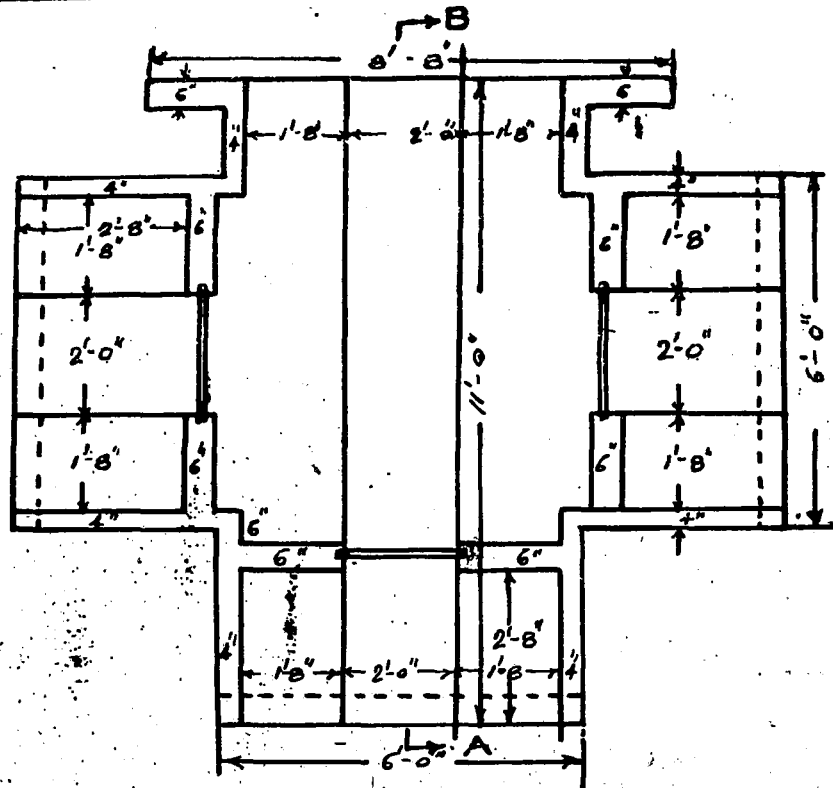
54

MEASUREMENTS

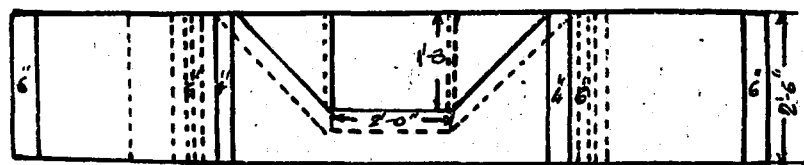
|  | No. | Length                  | Breadth             | Depth | Quantity | Total   |
|--|-----|-------------------------|---------------------|-------|----------|---------|
| 1) Excavation for construction of Threeway Division Box :-   |     |                         |                     |       |          |         |
| k) Soft murum  | 1   | 11'-0"                  | 6'-0"               | 1'-0" | 66.00    |         |
|  | 2   | 1'-4"                   | 0'-6"               | 1'-0" | 1.33     |         |
|  | 2   | 6'-0"                   | 3'-4"               | 1'-0" | 39.96    |         |
|  |     |                         |                     |       | 107.29   |         |
| ii) Hard murum   | 1   | 11'-0"                  | 6'-0"               | 1'-6" | 99.00    |         |
|  | 2   | 1'-4"                   | 0'-6"               | 1'-6" | 2.00     |         |
|  | 2   | 6'-0"                   | 3'-4"               | 1'-6" | 59.94    |         |
|  |     |                         |                     |       | 160.94   |         |
| 2) Providing and laying cement concrete 1:3:6 for construction of threeway Division Box including frame work, curing etc. complete:- |     |                         |                     |       |          |         |
|  | 1   | 8'-8"                   | 0'-6"               | 2'-6" | 10.92    |         |
|  | 3   | 6'-0"                   | 0'-6"               | 2'-6" | 22.50    |         |
|  | 1   | 10'-0"                  | 2'-0"               | 0'-4" | 6.66     |         |
|  | 2   | 10'-0"                  | 1'-8"               | 0'-4" | 11.13    |         |
|  | 3   | $\frac{0+1'-8"}{2}$     | 1'-8"               | 0'-6" | 2.02     |         |
|  | 2   | 2'-8"                   | 2'-0"               | 0'-4" | 3.56     |         |
|  | 4   | 2'-8"                   | 2'-4"               | 0'-4" | 8.30     |         |
|  |     |                         |                     |       | 65.09    |         |
| Deductions   | 4   | $\frac{2'-0"+5'-3"}{2}$ | 1'-8"               | 0'-6" | 12.00    |         |
|  |     |                         |                     | Net   | 53.09    |         |
| 3) Providing woodengates of approved teakwood with 2 coats of bitumen and with wooden handle etc. complete                           |     |                         |                     |       |          |         |
|  | 3   | 2'-3"                   | 0-1 $\frac{1}{2}$ " | 1'-6" | 1.50     | 1.50cft |

L. D. PLAN-1(C)

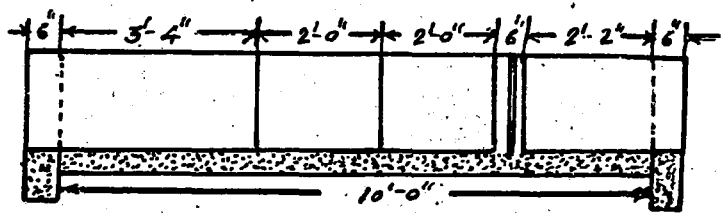
CONSTRUCTION OF P.C. CONCRETE  
THREE-WAY DIVISION BOX  
SCALE: 1"-3"



PLAN



ELEVATION



SECT. END VIEW ON A B

55

52 56  
46

56

LAND DEVELOPMENT APPENDIX IV (a)

Estimate for construction of  
Masonry Drop Structure (2.0 ft. Drop)

|      |                         |
|------|-------------------------|
| Cost | Rs. 114/- (Medium soil) |
|      | 112/- (Shallow soil).   |

53  
47 57

57

Estimate for construction of masonry drop structure  
(2.0 ft. Drop)

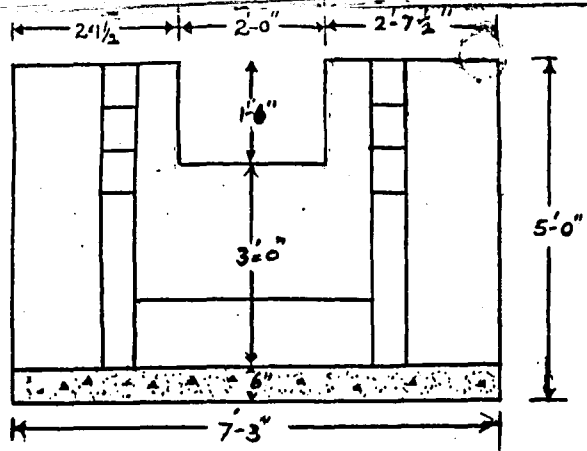
ABSTRACT

| Quantity  | I t e m   | Rate   | Unit                   | Amount     |
|-----------|---|--------|------------------------|------------|
|           | 1) Excavation for construction of masonry drop structure including 100 ft lead and 5.0 ft. lift etc. complete.                      |        |                        |            |
| 33        |   |        |                        |            |
| 36 cft.   | a) Soft murum.  | 4.00   | 100 cft                | 1.44       |
| 36 cft.   | b) Hard murum   | 5.00   | 100 cft                | 1.80       |
| 71.33 cft | c) Soft rock.   | 14.60  | 100 cft                | 10.41      |
| 18.40 cft | 2) Providing and laying cement concrete (1:3:6) for foundation and apron including mixing, ramming, watering, curing etc. complete. | 176.00 | "                      | 32.38      |
| 29 cft    | 3) Providing B.B. masonry II Sort in C.M. 1:6 including cement pointing to exposed faces in C.M. 1:2 etc. complete.                 | 160.00 | "                      | 46.40      |
| 0.50 cft  | 4) Providing checkgate of approved teak including 2 coats of bitumen etc. complete.   | 30.00  | 1 cft                  | 15.00      |
| 37.50 cft | 5) Providing earth filling of excavated stuff behind apron wall including ramming etc. complete.                                    | 2.00   | 100 cft                | 0.75       |
|           |   |        | Total:                 | 108.18     |
|           |   |        | Add: 3% Contingencies: | 3.25       |
|           |   |        |                        | 111.53     |
|           |   |        | Add: 2% w.c. estt.     | 2.23       |
|           |   |        | Grand Total:           | Rs. 113.76 |
|           |   |        | Say                    | Rs. 114/-. |

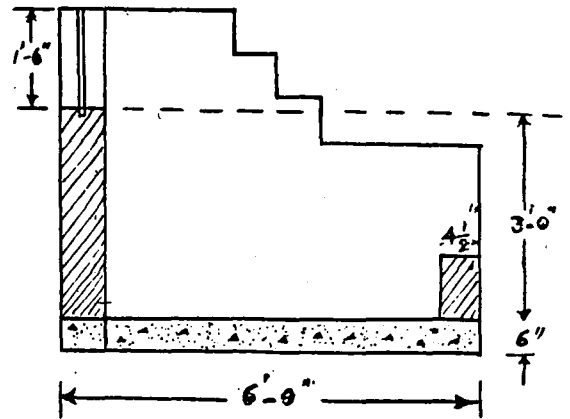
Estimate for construction of masonry Drop Structure  
(2.0 ft Drop)

MEASUREMENTS

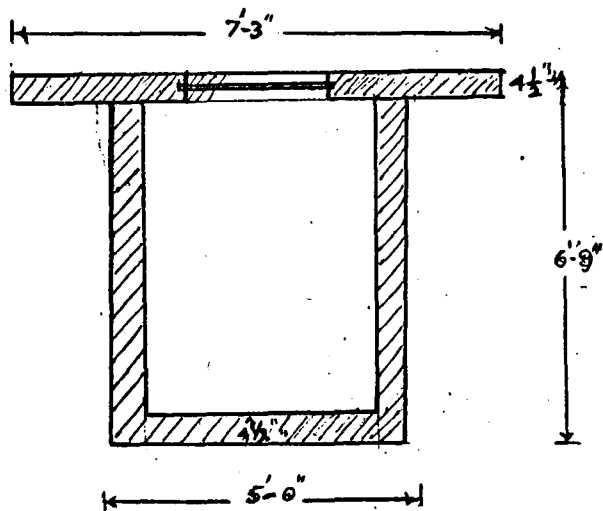
| -----  |            |         |       |          |       |           |
|--|------------|---------|-------|----------|-------|-----------|
| No.  | Length     | Breadth | Depth | Quantity | Total |           |
| -----  |            |         |       |          |       |           |
| 1) Excavation for construction of masonry drop structure in -  |            |         |       |          |       |           |
| a) Soft murum  |            |         |       |          |       |           |
|  | Long Walls | 1       | 7'-3" | 0'-4½"   | 1'-0" | 2.00)     |
|  | Apron      | 1       | 6'-9" | 5'-0"    | 1'-0" | 34.00)    |
| b) Hard murum:   |            |         |       |          |       |           |
|  | Long walls | 1       | 7'-3" | 0'-4½"   | 1'-0" | 2.00)     |
|  | Apron      | 1       | 6'-9" | 5'-0"    | 1'-0" | 34.00)    |
| c) Soft rock-  |            |         |       |          |       |           |
|  | Long walls | 1       | 7'-3" | 0'-4½"   | 2'-0" | 3.83)     |
|  | Apron      | 1       | 6'-9" | 5'-0"    | 2'-0" | 67.50)    |
|  |            |         |       |          | 71.33 | 71.33     |
| -----  |            |         |       |          |       |           |
| 2) Providing and laying cement concrete 1:3:6 for foundation and apron including ramming etc. complete-  |            |         |       |          |       |           |
|  | Long walls | 1       | 7'-7" | 0'-4½"   | 0'-6" | 1.40      |
|  | Apron      | 1       | 5'-0" | 6'-9"    | 0'-6" | 17.00     |
|  |            |         |       |          | 18.40 | 18.40     |
| -----  |            |         |       |          |       |           |
| 3) Providing and laying B.B. masonry II Sort in cement mortar 1:6 for Drop structure including cement pointing 1:2 on exposed faces etc. complete- |            |         |       |          |       |           |
|  | Long walls | 1       | 7'-4" | 0'-4½"   | 3'-6" | 9.41      |
|  | Apron      | 2       | 6'-9" | 0'-4½"   | 3'-6" | 17.48     |
|  | Cushion    | 1       | 4'-3" | 0'-4½"   | 2'-0" | 3.15      |
|  |            |         |       |          | 30.04 |           |
| Deductions:  |            |         |       |          |       |           |
|  | For gate:  | 1       | 2'-0" | 0'-4½"   | 1'-6" | 1.00      |
|  |            |         |       |          | 29.04 | 29.04     |
| -----  |            |         |       |          |       |           |
| 4) Providing checkgate approved teak wood including 2 coats of bitumen etc. complete. 1  |            |         |       |          |       |           |
|  |            |         | 2'-3" | 0'-1½"   | 1'-6" | 0.50 cft. |
| 5) Providing earth work behind the apron walls with the excavated stuff including ramming etc. complete. 2   |            |         |       |          |       |           |
| $\frac{6'-6''+2'-0''}{2} \times \frac{4'-6''+2'-6''}{2} \times 1'-3'' = 37.5 \text{ cft.}$   |            |         |       |          |       |           |
| -----  |            |         |       |          |       |           |



ELEVATION



SECT. END VIEW



PLAN

CONSTRUCTION OF  
MASONRY DROP STRUCTURE..

(3'-0" DROP)

SCALE: 1" = 2.5"

L.D. Plan 2(5)



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49 60

60

APPENDIX LAND DEVELOPMENT IV (b)

Estimates for construction of . . .

"Masonry Drop Structure " (3.0 ft. Drop)

Cost : , Rs. 132/- ( Medium Soil )

114/- ( Shallow Soil)

56  
50 61

61

Estimate for construction of masonry Drop Structure  
(3.0 ft. Drop)

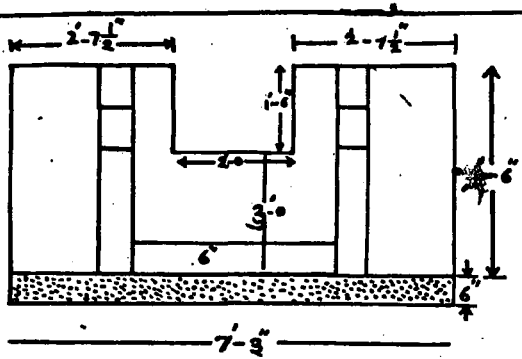
## ABSTRACT

| Quantity. | Item  | Rate                   | Unit    | Amount |
|-----------|---|------------------------|---------|--------|
|           | 1) Excavation for construction of masonry drop structure including 100' lead and 5'-0" lift etc. complete                             |                        |         |        |
| 36        | cft a) in soft murum  | 4.0                    | 100 cft | 1.44   |
| 36        | " b) in hard murum  | 5.0                    | -do-    | 1.80   |
| 107       | " c) in soft rock   | 14.60                  | -do-    | 15.62  |
| 18.40     | cft 2) Providing and laying cc.(1:3:6) for foundation and apron including mixing, ramming, watering, curing, form work etc. complete. | 176.0                  | -do-    | 32.38  |
| 37        | cft 3) Providing Burnt Brick Masonry II sort in C.M.(1:6) including cement pointing to exposed faces in G.M.(1:2)etc.complete.        | 160.0                  | -do-    | 59.20  |
| 0.5       | cft 4) Providing check-gate of approved teak including 2 coats of bitumen etc. complete.  | 30.0                   | 1 cft   | 15.00  |
| 37.5      | cft 5) Providing earth filling of excavated stuff behind the apron wall including ramming etc.  | 2.0                    | 100 cft | 0.75   |
|           |   | Total:                 | Rs.     | 126.19 |
|           |   | Add 3 % contingencies: |         | 3.78   |
|           |   |                        |         | 129.97 |
|           |   | Add 2 % w/c estt.      |         | 2.58   |
|           |   |                        |         | 132.55 |
|           |   |                        | Say Rs. | 132/-. |

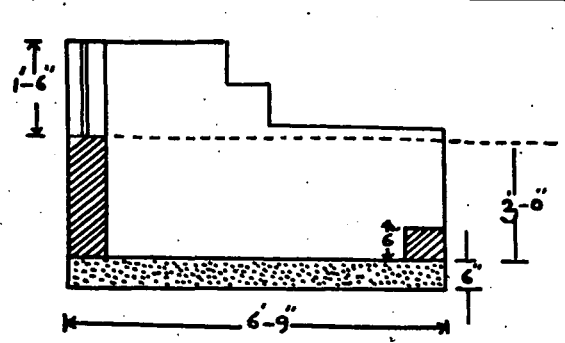
Estimate for construction of masonry Drop Structure  
(3.0 ft. Drop)

MEASUREMENTS

|  | No. | Length             | Breadth            | Depth  | Quantity              | Total    |
|--|-----|--------------------|--------------------|--------|-----------------------|----------|
| 1) Excavation for constructing a masonry drop structure in   |     |                    |                    |        |                       |          |
| a) Soft murum  |     |                    |                    |        |                       |          |
| Long wall  | 1   | 7'-3"              | 0'-4½"             | 1'-0"  | 2 cft                 |          |
| Apron  | 1   | 6'-9"              | 5'-0"              | 1'-0"  | 34 cft                |          |
|  |     |                    |                    |        | <u>36 cft</u>         |          |
| b) Hard murum  |     |                    |                    |        |                       |          |
| Long wall  | 1   | 7'-3"              | 0'-4½"             | 1'-0"  | 2 cft)                | 36 cft.  |
| Apron  | 1   | 6'-9"              | 5'-0"              | 1'-10" | 34 cft)               |          |
| c) Soft rock   |     |                    |                    |        |                       |          |
| Long walls   | 1   | 7'-3"              | 0'-4½"             | 3'-0"  | 6 cft)                | 107 cft. |
| Apron  | 1   | 6'-9"              | 5'-0"              | 3'-0"  | 101 cft)              |          |
| 2) Providing and laying cement concrete 1:3:6 for foundation and apron including ranning etc. complete.                            |     |                    |                    |        |                       |          |
| Long wall  | 1   | 7'-7"              | 0'-4½"             | 0'-6"  | 1.40 cft              |          |
| Apron  | 1   | 5'-0"              | 6'-9"              | 0'-6"  | 17 cft                |          |
|  |     |                    |                    |        | <u>18.40 cft</u>      |          |
| 3) Providing and laying B.B. masonry II sort in C.M. (L6) for drop structures including C.F. (1:2) on exposed faces etc. complete. |     |                    |                    |        |                       |          |
| Long wall  | 1   | 7'-4"              | 0-4½"              | 4'-6"  | 12.5 cft              |          |
| Apron walls  | 2   | 6'-9"              | 0-4½"              | 4'-6"  | 21.8 cft              |          |
| Cushion wall   | 1   | 4'-3"              | 0-4½"              | 2'-0"  | 3.10 "                |          |
|  |     |                    |                    |        | <u>37.45 cft</u>      |          |
| Deductions:  |     |                    |                    |        |                       |          |
| Gate   | 1   | 2'-0"              | 0'-4½"             | 1'-6"  | 1.00                  |          |
|  |     |                    |                    |        | <u>Net Qty. 36.45</u> |          |
|  |     |                    |                    |        | Say 37                |          |
| 4) Providing check gate of approved teak including 2 coats of bitumen etc. complete.   |     |                    |                    |        |                       |          |
|  | 1   | 2'-3"              | 0'-1½"             | 1'-6"  | 0.5 cft.              |          |
| 5) Providing earth filling behind the apron walls with the excavated stuff including ranning etc. complete.                        |     |                    |                    |        |                       |          |
|  | 2   | <u>6'-6"+2'-0"</u> | <u>4'-6"+2'-6"</u> | 1'-3"  | 37.5 cft.             |          |
|  |     | 2                  | 2                  |        |                       |          |

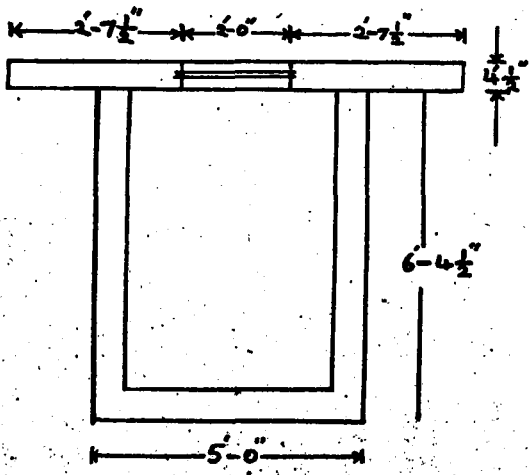


ELEVATION



SECT. END VIEW

L.D. PLAN 2 (C)



PLAN

CONSTRUCTION OF  
MASONRY DROP STRUCTURE  
(3'-0" DROP)  
SCALE 1"=3'

58  
5-64

APPENDIX LAND DEVELOPMENT IV (c)

64

Estimate for construction of Masonry Drop Structure  
(4.0 ft Drop)

|      |     |                       |
|------|-----|-----------------------|
| Cost | Rs. | 153/- (Medium Soil)   |
|      |     | 151/- (Shallow Soil). |

Estimate for construction of Masonry Drop Structure  
(4.0 ft. Drop)

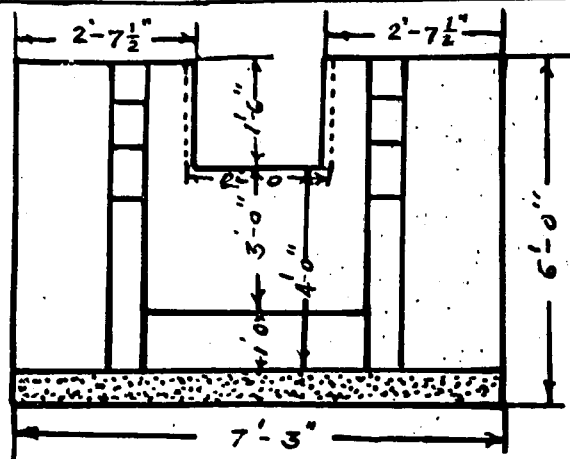
## ABSTRACT

| Quantity   | I t e m   | Rate   | Unit                   | Amount         |
|------------|---|--------|------------------------|----------------|
|            | 1) Excavation for construction of masonry drop structure including 100 ft lead and 5.0 ft lift etc. complete                        |        |                        |                |
| 36 cft     | (a) Soft murum  | 4.00   | 100 cft                | 1.44           |
| 36 cft     | (b) Hard murum  | 5.00   | 100 cft                | 1.80           |
| 142.66 cft | (c) Soft rock.  | 14.60  | 100 cft                | 20.82          |
| 18.40 cft  | 2) Providing and laying cement concrete (1:3:6) for foundation and apron including mixing, ramming, watering, curing etc. complete. | 176.00 | -do-                   | 32.38          |
| 45.72 "    | 3) Providing B.B. masonry II sort in C.M. 1:6 including cement pointing to exposed faces in C.M. 1:2 etc. complete.                 | 160.00 | -do-                   | 73.15          |
| 0.50 cft   | 4) Providing checkgate of approved teak including 2 coats of bitumen etc. complete.   | 30.00  | 1 cft                  | 15.00          |
| 37.50 cft  | 5) Providing earth filling of excavated stuff behind apron wall including ramming etc. complete.                                    | 2.00   | 100 cft                | 0.75           |
|            |   |        | Total:                 | 145.34         |
|            |   |        | Add: 3% contingencies: | 4.36           |
|            |   |        |                        | 149.70         |
|            |   |        | Add: 2% w/c estt.      | 2.99           |
|            |   |        | Grand Total: Rs.       | 152.69         |
|            |   |        |                        | Say Rs. 153/-. |

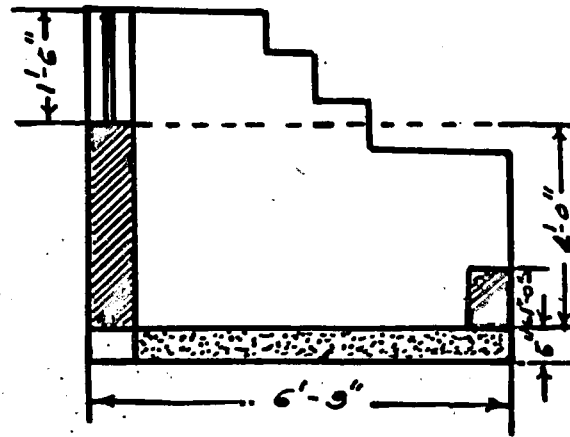
Estimate for construction of masonry Drop Structure  
(4.0 ft Drop)

## MEASUREMENTS

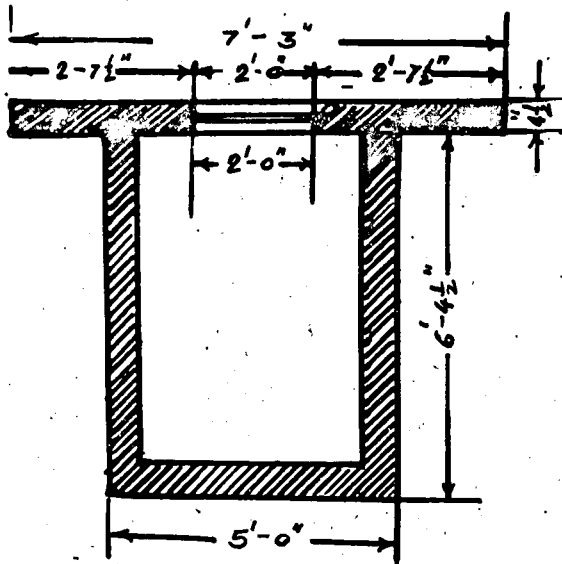
|  | No. | Length.                 | Breadth. | Depth                   | Quantity      | Total              |
|--|-----|-------------------------|----------|-------------------------|---------------|--------------------|
| 1) Excavation for construction of masonry drop structure in  |     |                         |          |                         |               |                    |
| a) Soft murum  |     |                         |          |                         |               |                    |
| Long walls   | 1   | 7'-3"                   | 0'-4½"   | 1'-0"                   | 2.00)         |                    |
| Apron  | 1   | 6'-9"                   | 5'-0"    | 1'-0"                   | 34.00)        | 36.00              |
| b) Hard murum  |     |                         |          |                         |               |                    |
| Long walls   | 1   | 7'-3"                   | 0'-4½"   | 1'-0"                   | 2.00)         |                    |
| Apron  | 1   | 6'-9"                   | 5'-0"    | 1'-0"                   | 34.00)        | 36.00              |
| c) Soft rock   |     |                         |          |                         |               |                    |
| Long walls   | 1   | 7'-3"                   | 0'-4½"   | 4'-0"                   | 7.66)         |                    |
| Apron  | 1   | 6'-9"                   | 5'-0"    | 4'-0"                   | 135.00)       | 142.66             |
|  |     |                         |          |                         | <u>142.66</u> |                    |
| 2) Providing and laying cement concrete 1:3:6 for foundation and apron including ramming etc. complete.  |     |                         |          |                         |               |                    |
| Long walls   | 1   | 7'-7"                   | 0'-4½"   | 0'-6"                   | 1.40          |                    |
| Apron  | 1   | 5'-0"                   | 6'-9"    | 0'-6"                   | 17.00         |                    |
|  |     |                         |          |                         | <u>18.40</u>  | 18.40              |
| 3) Providing and laying B.B. masonry II sort in cement mortar 1:6 for drop structure including cement pointing 1:2 on exposed faces etc. complete. |     |                         |          |                         |               |                    |
| Long walls.  | 1   | 7'-4"                   | 0'-4½"   | 5'-6"                   | 14.90         |                    |
| Apron "  | 2   | 6'-9"                   | 0'-4½"   | 5'-6"                   | 27.10         |                    |
| Cushion  | 1   | 4'-3"                   | 0'-4½"   | 3'-0"                   | 4.72          |                    |
|  |     |                         |          |                         | <u>46.72</u>  |                    |
| Deduction:   |     |                         |          |                         |               |                    |
| For gate.  | 1   | 2'-0"                   | 0'-4½"   | 1'-6"                   | 1.0           |                    |
|  |     |                         |          |                         | <u>45.72</u>  | 45.72              |
| 4) Providing checkgate approved teak wood including 2.coats of bitumen etc. complete.  |     |                         |          |                         |               |                    |
|  | 1   | 2'-3"                   | 0'-1½"   | 1'-6"                   | 0.50          | cft                |
| 5) Providing earth work behind the apron walls with the excavated stuff including ramming etc. complete.   |     |                         |          |                         |               |                    |
|  | 2   | $\frac{6'-6"+2'-0"}{2}$ | x        | $\frac{4'-6"+2'-6"}{2}$ | x             | 1'-3" = 37.50 cft. |



ELEVATION



SECT. END VIEW.



PLAN.

L.D. PLAN-2 (C)

CONSTRUCTION OF  
MASONRY DROP STRUCTURE

4'-0" DROP

SCALE:- 1" = 3'



## Appendix Land Development V

Estimate for construction of  
"Cement Concrete Chute" (5.0 ft fall)

Cost Rs. 132 /- ( Medium soil)

Rs. 128/- ( Shallow soil)

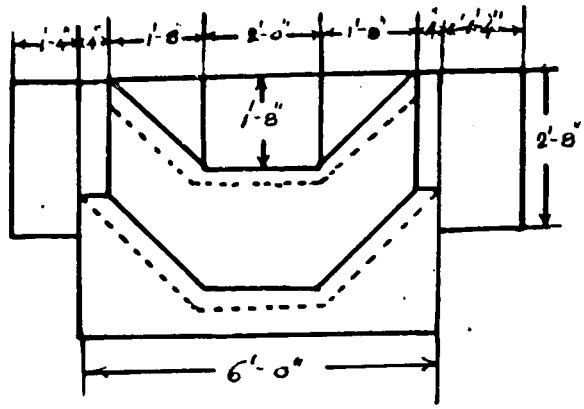
| Quantity   | Unit | Items  | Rate  | Per     | Amount |
|--|------|--|-------|---------|--------|
| Rs.  |      |  |       |         |        |
| Estimate for construction of a cement concrete chute.  |      |  |       |         |        |
| 1. Excavation for <del>str</del> constructing cement concrete chute including 100' lead and 5'-0" lift complete in |      |  |       |         |        |
| 89   | cft  | (a) Soft murum   | 4.00  | 100 cft | 3.56   |
| 89   | cft  | (b) Hard murum   | 5.00  | -do-    | 4.45   |
| 89   | cft  | (c) Soft rock  | 8.00  | -do-    | 7.12   |
| 178  | cft  | (d) Hard rock  | 14.69 | -do-    | 26.08  |
|  |      |  |       |         | 41.21  |
| 36   | cft  | 2. Providing and laying cement concrete 1:3:6 for constructing chute including mixing, form work watering etc. complete. | 175.0 | -do-    | 64.75  |
| 0.5  | cft  | 3. Providing to wooden gate of approved quality teak wood with two coats of bitumen and wooden handle etc. complete      | 30.0  | cft     | 15.00  |
|  |      | 4. Earth filling behind apron wall.  | Job   | --      | 5.00   |
| Total. :   |      |  |       |         | 129.96 |
| Add 3 % contingencies  |      |  |       |         | 3.77   |
|  |      |  |       |         | 129.73 |
| Add 2 % W/c estt.  |      |  |       |         | 2.59   |
|  |      |  |       |         | 132.32 |
| say  |      |  |       |         | 132/-  |

Estimate for construction of cement concrete chute.

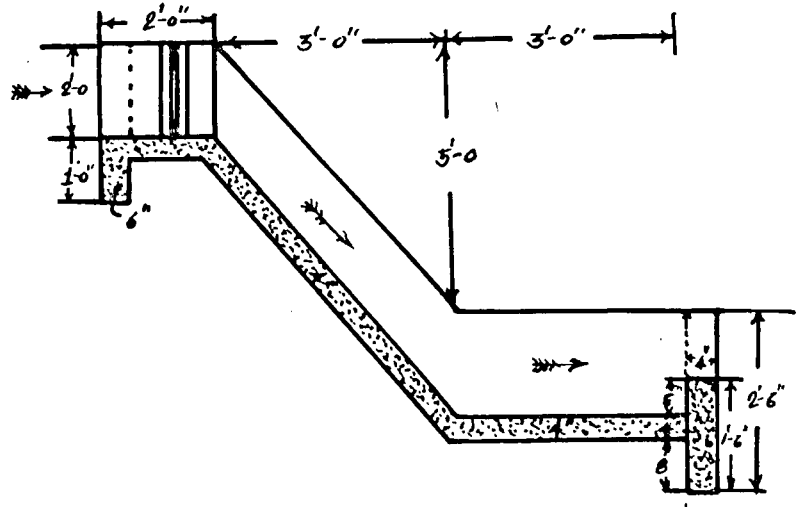
## MEASUREMENTS

|   | No. | Leng-<br>-th              | Bread-<br>-th | Depth | Quan-<br>-tity          | Total        |
|---|-----|---------------------------|---------------|-------|-------------------------|--------------|
| 1. Excavation for constructing c.c. chute in  |     |                           |               |       |                         |              |
| (a) Soft Murum  | 1   | 10'-3"                    | 8'-8"         | 1'-0" | 89 cft.                 |              |
| (b) Hard Murum  | 1   | 10'-3"                    | 8'-8"         | 1'-0" | 89 cft.                 |              |
| (c) Soft rock   | 1   | 10'-3"                    | 8'-8"         | 1'-0" | 89 cft.                 |              |
| (d) Hard Rock   | 1   | 10'-3"                    | 8'-8"         | 2'-0" | 178 cft.                |              |
| 2. Providing and laying c.c. 1:3:6 for constructing Chute including form work mixing curing etc. complete.  |     |                           |               |       |                         |              |
|   | 1   | 8'-8"                     | 0'-6"         | 2'-8" | 11.5                    |              |
|   | 1   | 10'-3"                    | 2'-0"         | 0'-4" | 6.8                     |              |
|   | 2   | 9'-9"                     | 2'-4"         | 0'-4" | 15.0                    |              |
|   | 1   | 6'-6"                     | 2'-6"         | 0'-4" | 7.5                     |              |
|   |     |                           |               |       | -----                   | 40.8 cft.    |
| Deductions :  |     |                           |               |       |                         |              |
|   | 1   | $\frac{5'-0" + 2'-0"}{2}$ | 0'-6"         | 1'-8" | 3cft.                   |              |
|   | 1   | $\frac{5'-0" + 3'-0"}{2}$ | 0'-6"         | 1'-2" | 2.33                    |              |
|   |     |                           |               |       | -----                   | 5.33         |
|   |     |                           |               |       | say                     | 5.30         |
|   |     |                           |               |       | Net qty. = 40.80 - 5.30 | = 35.50 cft. |
|   |     |                           |               |       | say                     | 36cft.       |
| 3. Providing wooden gate of approved teak wood with 2 coats of bitumen and with wooden handle etc. complete |     |                           |               |       |                         |              |
|   | 1   | 3'-3"                     | 0'-1"         | 1'-9" | 0.5 cft.                |              |
| 4. Earth filling behind apron wall. Job work.   |     |                           |               |       |                         |              |

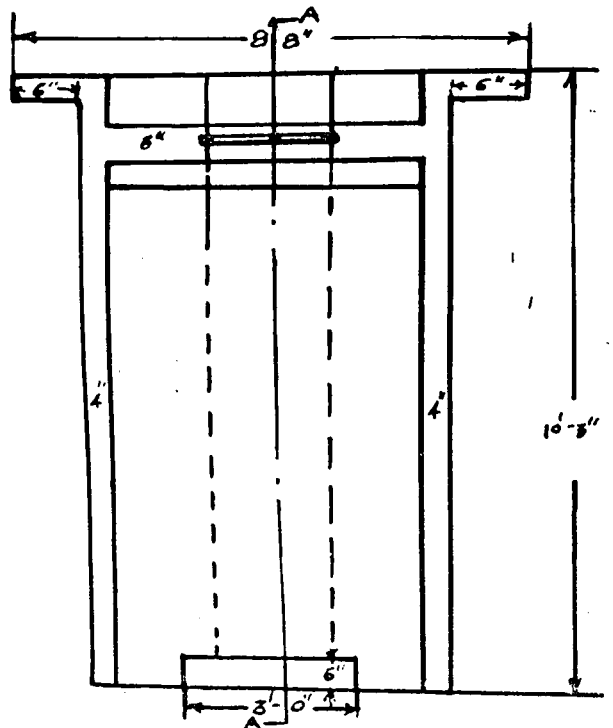
L. D. PLAN-3



ELEVATION.



SECTIONAL ELEVATION.



PLAN

CONSTRUCTION OF CEMENT CONCRETE CHUTE.

(5'-0" DROP)

SCALE:- 1'-3"

65  
60  
72

72

Appendix Land Development VI (a)

Estimate for construction of Pipe  
Crossing 12" Diameter.

Estimated cost Rs. 714/- (Medium soil)  
Rs. 676/- (Shallow soil).

67  
66 73  
ABSTRACT

73

| Quantity                          | Unit | Items   | Rate<br>Rs. | Per     | Amount<br>Rs. |
|-----------------------------------|------|---|-------------|---------|---------------|
| 51.84                             | Cft  | 1) Excavation for foundation in soil and soft murum including conveying and stacking the stuff as ordered within the lead of 200' and with all lifts etc. complete. | 3.70        | 100 cft | 1.92          |
| 103.28                            | "    | 2) -do- Hard murum  | 6.20        | -do-    | 6.38          |
| 252.48                            | "    | 3) -do- H.M. & Boulders   | 9.00        | -do-    | 22.72         |
| 45.3                              | "    | 4) Providing and laying cement concrete 1:4:8 for foundation including mixing, ramming, watering etc. complete.   | 150.00      | -do-    | 67.95         |
| 213.38                            | "    | 5) Providing and laying uncoursed Rubble Masonry in cement mortar 1:6 with C.P. 1:3 including curing etc. complete.   | 130.00      | -do-    | 277.39        |
| 16                                | Rft  | 6) Providing and fixing A class R.C.C. Hume pipe of 12" dia and 8' length including fixing collars and joints in cement etc. complete.                              | 12.00       | Rft     | 192.00        |
| 13                                | Cft  | 7) Providing and laying cement concrete 1:2:4 for coping of head walls including <del>centering</del> centering, mixing etc. complete.                              | 268.00      | 100 Cft | 34.84         |
| 152.8                             | "    | 8) Providing dry rubble pitching 12" thick with deep C.P. 1:3 including curing etc. complete.   | 49.00       | -do-    | 74.97         |
| 150                               | "    | 9) Filling gaps between parapet and roadway with excavated stuff.   | 2.00        | -do-    | 3.00          |
|                                   |      |   |             |         | 681.15        |
| Add 3 <sup>rd</sup> Contingencies |      |   |             |         | 18.43         |
|                                   |      |   |             |         | 699.58        |
| Add 2 % W/C Estt.                 |      |   |             |         | 13.99         |
|                                   |      |   |             |         | 713.57        |
| Say Rs.                           |      |   |             |         | 714/-         |

62  
74  
Construction of Road Bridge  
(Pipe crossing 12" Dia).

74

MEASUREMENTS

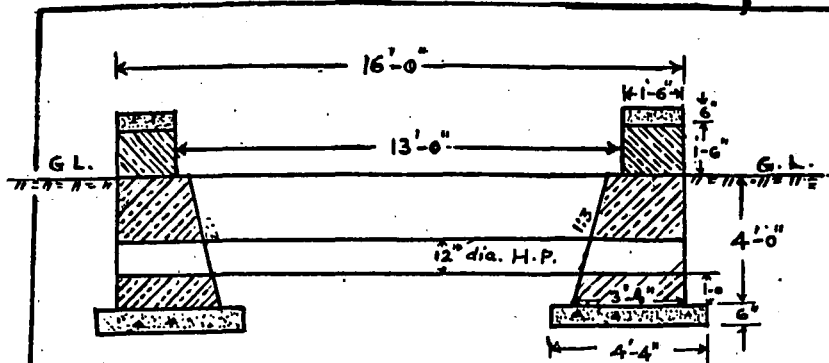
|   | No. | Leng-<br>-th. | Bread-<br>-th.       | Depth | Quantity | Total       |
|---|-----|---------------|----------------------|-------|----------|-------------|
| 1) Excavation for founda-<br>-tion in soil and<br>murum including<br>conveying and stak-<br>-ing the stuff as<br>and within the lead<br>of 200' with all<br>lifts etc.<br>complete. |     |               |                      |       |          |             |
| Head walls  | 2   | 10'-0"        | 4'-4"                | 0.5"  | 43.5     |             |
| Toe wall.   | 1   | 8'-4"         | 2'-0"                | 0.5"  | 8.34     |             |
|   |     |               |                      |       | 51.39    | cft.        |
| 2) -do- in H.M.   |     |               |                      |       |          |             |
| Head walls  | 2   | 10'-0"        | 4'-4"                | 1'-0" | 86.60    |             |
| Pipe.   | 1   | 8'-4"         | 2'-0"                | 1'-0" | 16.68    |             |
|   |     |               |                      |       | 103.28   | cft.        |
| 3) -do- in H.M.<br>& Boulders.  |     |               |                      |       |          |             |
| Head walls.   | 2   | 10'-0"        | 4'-4"                | 2.80  | 226.48   |             |
| Pipe  | 1   | 8'-4"         | 2'-0"                | 1-30  | 22.0     |             |
| For Block   | 1   | 2'-0"         | 2'-0"                | 1-0"  | 4.0      |             |
|   |     |               |                      |       | 252.43   |             |
| 4) Providing and lay-<br>-ing cement concrete<br>1:4:8 for foundation<br>including mixing,<br>watering laying<br>curing etc. complete   |     |               |                      |       |          |             |
| Head walls  | 2   | 10'-0"        | 4'-4"                | 0'-6" | 43.3     |             |
| Block   | 1   | 2'-0"         | 2'-0"                | 0'-6" | 2.0      |             |
|   |     |               |                      |       | 45.3     | cft.        |
| 5) Providing and lay-<br>-ing uncoursed<br>Rubble Masonry in<br>C.M. (1:6) with C.P.<br>(1:3) including<br>watering curing<br>etc. complete.  |     |               |                      |       |          |             |
| Head walls  | 2   | 9'-0"         | $\frac{2+3-4}{2}$ 4" | 4'-0" | 191.88   |             |
| <del>xxxx</del> Parapets  | 2   | 9'-0"         | 1'-0"                | 1'-6" | 22.50    |             |
| Block.  | 1   | 2'-0"         | 1'-0"                | 1'-0" | 4.00     |             |
|   |     |               |                      |       | 218.38   | cft.        |
| Deductions :  | 2   | 2'-6"         | 1'-0"                | 1'-0" | 5.00     |             |
|   |     |               |                      |       | 213.38   | cft.        |
|   |     |               |                      | Net   |          | 213.38 cft. |

75

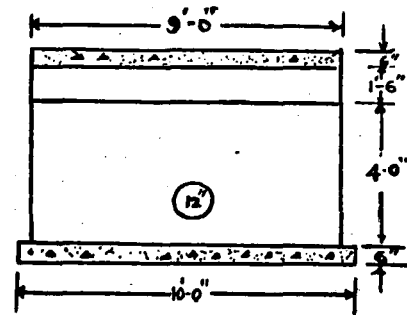
75

|   |   |        |        |       |            |
|---|---|--------|--------|-------|------------|
| 6) Providing and fixing 2<br>'A' class R.C.C. Hume<br>Pipe of 12" diameter<br>and 8' length includ<br>-ing fixing collars<br>and jointing in<br>cement etc. complete. | 2 | 8'-0"  | -      | -     | 16 Rft.    |
| 7) Providing and laying<br>cement concrete<br>1:2:4 for coping<br>including center-<br>-ing, mixing, water<br>-ing, curing etc.<br>complete.                          |   |        |        |       |            |
| Head Walls  | 2 | 9'-0"  | 1'-6"  | 0'-6" | 13.50 cft. |
| 8) Providing dry<br>rubble pitching<br>of 12" thick<br>etc. with deep<br>C.P.(1:3) includ<br>-ing curing etc.<br>complete.  | 2 | 10'-0" | 7'-8"  |       | 152.8 Sft. |
| 9) Filling gap<br>between parapet<br>for roadway.   | 1 | 10'-0" | 10'-0" | 1'-6" | 150. Sft.  |

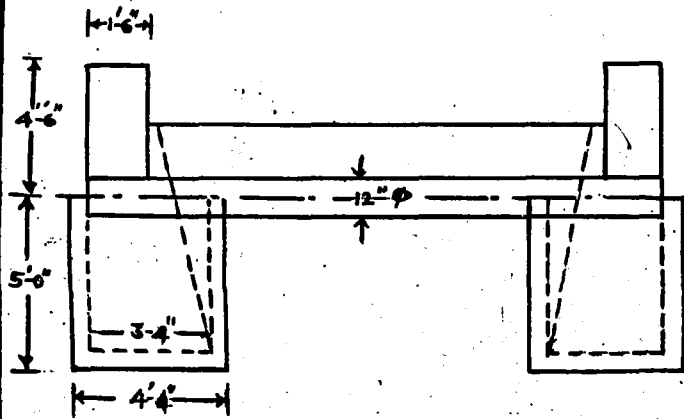




SECT. ELEVATION



END VIEW



PLAN

CONSTRUCTION OF ROAD BRIDGE

PIPE CROSSING 12" DIA

SCALE: 1" = 5'

66 77

Appendix Land Development VI(b)

77

Construction of a Pipe Crossing 18" Dia.

Estimated cost Rs. 774/- (Medium soil)

Rs. 735/- (Shallow soil).

Construction of a Road Bridge  
(Pipe crossing 18" Diameter)

78

ABSTRACT

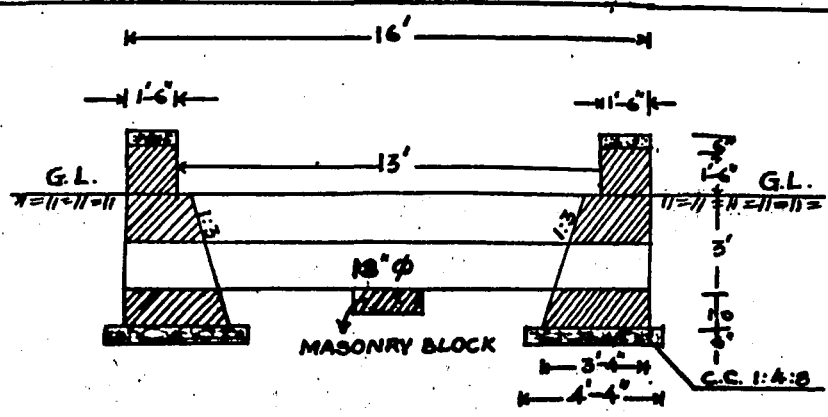
| Quan-<br>-tity | Description of item.  | Rate<br>Rs. per unit | Amount<br>Rs. |
|----------------|---|----------------------|---------------|
| 51.84 cft      | 1) Excavation for foundation in soil and soft murum including conveying and stacking the staff as ordered within the lead of 200' and with all lifts etc. complete. | 3.70 100 cft         | 1.92          |
| 103.28 "       | 2) -do- in Hard Murum   | 6.20 -do-            | 6.38          |
| 252.48 "       | 3) -do- Hard Murum and Boulders.  | 9.00 -do-            | 22.72         |
| 45.3 "         | 4) Providing and laying cement concrete 1:4:8 for foundation including mixing ramming watering laying curing etc. complete.   | 150.00 -do-          | 67.95         |
| 207.13 "       | 5) Providing and laying uncours-<br>-ed Rubble Masonry in Cement<br>Motor 1:6/cement pointing / with<br>1:3 including curing etc. .<br>complete.                    | 130.00 -do-          | 269.27        |
| 76 Rft         | 6) Providing and fixing A class Reinforced cement concrete Hume pipe of 18" diameter and 8' length including fixing collars and jointing in cement etc. complete.   | 16.0 Rft             | 256.00        |
| cft.           | 7) Providing and laying cement concrete 1:2:4 for coping including <del>wa</del> centring mixing watering etc. complete.  | 268.0 100 cft.       | 34.84         |
| 152.8 cft      | 8) Providing dry rubble pitching of 12" thicken with deep cement pointing 1:3 including curing etc. complete.   | 49.0 -do-            | 74.97         |
| 150 Cft        | 9) Filling gaps between parapet for roadway with excavated staff, running etc. complete.  | 2.00 -do-            | 3.00          |
|                |   |                      | 759.05        |
|                | Add 3 % contingencies   |                      | 22.11         |
|                |   |                      | 759.16        |
|                | Add 2 % work charged Estt.  |                      | 15.18         |
|                |   |                      | 774.34        |
|                |   | say :                | 774.34        |

Construction of Road Bridge  
(Pipe Crossing 18" Dia.)

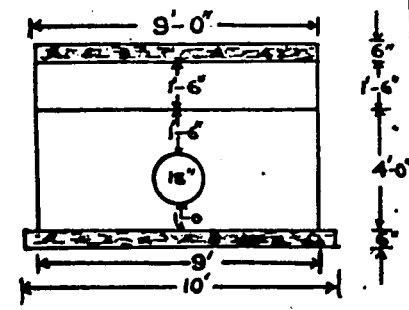
## MEASUREMENTS

|   | No. | Leng-<br>-th. | Breadth | Depth | Quan-<br>-tity | Total.           |
|---|-----|---------------|---------|-------|----------------|------------------|
| 1 Excavation for foundation in soil and Murum including conveying and stacking the stuff as and within the lead of 200' with all lifts etc. |     |               |         |       |                |                  |
| Head walls  | 2   | 10            | 4.33    | 0.5   | 43.5           | } 51.84<br>cft.  |
| Toe wall  | 1   | 8.34          | 2.00    | 0.5   | 8.34           |                  |
| 2 -do- in Hard Murum  |     |               |         |       |                |                  |
| Head wall.  | 2   | 10            | 4.33    | 1.0   | 86.60          | } 103.28<br>cft. |
| Pipe  | 1   | 8.34          | 2.0     | 1.0   | 16.68          |                  |
| 3 -do- Hard Murum boulders.   |     |               |         |       |                |                  |
| Head walls  | 2   | 10.0          | 4.33    | 2.80  | 216.48         | } 252.43<br>cft. |
| For Pipe  | 1   | 8.34          | 2.0     | 2.30  | 22.0           |                  |
| For Block   | 1   | 2.0           | 2.0     | 1.0   | 4.0            |                  |
| 4 Providing and laying cement concrete 1:4:8 for foundation including mixing, watering laying curing etc. complete.                         |     |               |         |       |                |                  |
| Head walls  | 2   | 10.0          | 4.33    | 0.5   | 43.3           | } 45.3           |
| Block   | 1   | 2.0           | 2.0     | 0.5   | 2.0            |                  |
| 5 Providing and laying uncoursed Rubble Masonry in cement Mortar 1:6 with cement plaster 1:3 including curing etc. complete.                |     |               |         |       |                |                  |
| Head walls  | 2   | 9.0           | 2+3.33  | 4.0   | 191.88         | } 218.38<br>cft. |
| Parapets  | 2   | 9.0           | 1.5     | 1.5   | 22.50          |                  |
| Block   | 1   | 2.0           | 1.0     | 1.0   | 4.00           |                  |
|   |     |               |         |       | 218.38         |                  |
| Deduction for pipe portion  | 2   | 2'-6"         | 1.5     | 1.5   | 11.25          |                  |
|   |     |               |         |       | Net            | 207.13           |

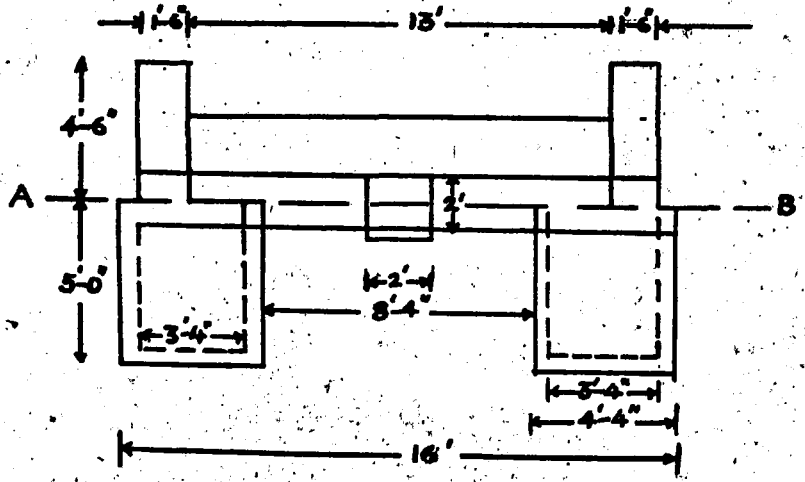
|   |  |   |       |      |      |        |               |
|---|--|---|-------|------|------|--------|---------------|
| 6 | Providing and fixing<br>A class Reinforced<br>cement concrete Hume<br>Pipe 18" diameter<br>and 8' length including<br>fixing collars and<br>jointing in cement<br>etc. complete. | 2 | 8'-0" | -    | -    | 16 Rft | 16 Rft.       |
| 7 | Providing and laying<br>cement concrete 1:2:4<br>for coping including<br>centring, mixing,<br>watering curing etc.,<br>complete.   |   |       |      |      |        |               |
|   | Head walls   | 2 | 9.00  | 1.50 | 0.50 | 130.50 | 13.50<br>cft. |
| 8 | Providing dry rubble<br>pitching of 12" thick-<br>-ness with deep cement<br>pointing (1:3) includ-<br>-ing curing etc.<br>complete.  | 2 | 10.   | 7.64 | -    | 152.8  | 152.8<br>Sft. |
| 9 | Filling gap between<br>parapets for roadway<br>with excavated stuff<br>running etc. complete.  | 1 | 10.   | 10   | 1.50 | 150    | 150 cft.      |



SECTION ON AB



END VIEW



PLAN

CONSTRUCTION OF ROAD BRIDGE  
PIPE CROSSING 18" DIA  
SCALE:- 1"=5'

L.D. PLAN 4(C)

71 82

82

Appendix Land Development VI (c)

Construction of a Pipe Crossing 24" Diameter.

|                |           |                 |
|----------------|-----------|-----------------|
| Estimated cost | Rs. 831/- | (Medium soil)   |
|                | Rs. 795/- | (Shallow soil). |

Construction of a road bridge  
(Pipe crossing 24" Diameter)

## ABSTRACT

| Quantity.   | Description of item.   | Rate   | Unit     | Amount. |
|-------------|--|--------|----------|---------|
| 51.84 Cft   | 1) Excavation for foundation in soil and soft murum including conveying and stacking the stuff as ordered within the lead of 200 ft. and with all lifts etc. complete. | 3.70   | 100 cft. | 1.92    |
| 103.28 cft  | 2) -do- in Hard murum  | 6.20   | "        | 6.38    |
| 252.48 cft  | 3) -do- in hard murum and boulders.  | 9.00   | "        | 22.72   |
| 45.30 cft.  | 4) Providing and laying cement concrete 1:4:8 for foundation including mixing, ramming, watering, laying curing etc. complete.   | 150.00 | "        | 67.95   |
| 198.38      | 5) Providing and laying uncovered Rubble masonry in cement mortar 1:6 with cement pointing 1:3 including curing etc. complete.   | 130.00 | "        | 257.89  |
| 16 Rft.     | 6) Providing and fixing 'A' class R.C.C. hume pipe of 24" Dia. and 8' ft. length including fixing collars and jointing in cement etc. complete.                        | 20.00  | Rft.     | 320.00  |
| 13.50 cft.  | 7) Providing and laying cement concrete 1:2:4 for coping including centering mixing, watering etc. complete.   | 268.00 | 100 cft. | 36.18   |
| 152.80 cft. | 8) Providing dry rubble pitching of 12" thickness with deep cement pointing 1:3 including curing etc. complete.  | 49.00  | "        | 74.96   |
| 150.00 cft. | 9) Filling gaps between parapets for roadway with excavated stuff, ramming etc. complete.  | 2.00   | "        | 3.00    |

Total : 791.00

Add 3 % for contingencies 23.73

814.73

Add 2 % for W.C. Estt. 16.29

Total : 831.02

say Rs. 831/-



73 84

## Construction of Road Bridge

Pipe crossing 24" Dia.

84

## MEASUREMENTS

|   | No. | Length | Bread-<br>-th | Depth | Quan-<br>-tity | Total.         |
|---|-----|--------|---------------|-------|----------------|----------------|
| 1 Excavation for founda-<br>-tion in soil and murum<br>including conveying and<br>stacking the stuff as<br>and within the lead of<br>200 ft with all lift<br>etc. complete. |     |        |               |       |                |                |
| Head walls  | 2   | 10.0   | 4.33          | 0.50  | 43.50          |                |
| Tbe walls   | 1   | 8.34   | 2.00          | 0.50  | 8.34           |                |
|   |     |        |               |       | 51.84          | 51.84<br>cft.  |
| 2 -do- in hard murum & -boulders<br>etc. complete.  |     |        |               |       |                |                |
| Head wall   | 2   | 10.0   | 4.33          | 1.00  | 86.60          |                |
| Pipe  | 1   | 8.34   | 2.00          | 1.00  | 16.68          |                |
|   |     |        |               |       | 103.28         | 103.28<br>cft. |
| 3 -do- in murum and<br>boulders etc. complete.  |     |        |               |       |                |                |
| Head wall   | 2   | 10.00  | 4.33          | 2.80  | 226.48         |                |
| For pipe  | 1   | 8.34   | 2.00          | 1.30  | 22.00          |                |
| For Block   | 1   | 2.00   | 2.00          | 1.00  | 4.00           |                |
|   |     |        |               |       | 252.43         | 252.43<br>cft. |
| 4 Providing and laying<br>cement concrete 1:4:8<br>for foundation includ-<br>-ing mixing, watering,<br>laying, curing etc.<br>complete.                                     |     |        |               |       |                |                |
| Headwalls   | 2   | 10.00  | 4.33          | 0.50  | 43.30          |                |
| Block   | 1   | 2.00   | 2.00          | 0.50  | 2.00           |                |
|   |     |        |               |       | 45.30          | 45.30<br>cft.  |

85<sup>74</sup> S

5 Providing and laying  
uncoursed Rubble mason-  
-ry in cement mortar  
1:6 with cement plaster  
1:3 including curing  
etc. complete.

|                                 |   |       |               |      |         |        |
|---------------------------------|---|-------|---------------|------|---------|--------|
| Head walls                      | 2 | 9.00  | <u>2+3.33</u> | 4.00 | 191.88  |        |
| Parapets                        | 2 | 9.00  | 1.50          | 1.50 | 22.50   |        |
| Block                           | 1 | 2.00  | 1.00          | 1.00 | 4.00    |        |
|                                 |   |       |               |      | -----   |        |
|                                 |   |       |               |      | 218.38  |        |
| Deduction for Pipe<br>portion 2 | 2 | 2'06" | 2.00          | 2.00 | - 20.00 |        |
|                                 |   |       |               |      | -----   |        |
|                                 |   |       |               | net  | 198.38  | 198.38 |

6 Providing and fixing  
'A' class R.C.C. Hume  
pipe 24" and 8'  
length including fix-  
-ing collars jointing  
in cement etc.  
complete.

|           |   |       |  |  |        |         |
|-----------|---|-------|--|--|--------|---------|
| Pipe line | 2 | 8'-0" |  |  | 16'-0" | 16 Rft. |
|-----------|---|-------|--|--|--------|---------|

7 Providing and laying  
cement concrete 1:2:4  
for coping including  
centering mixing  
watering curing etc.  
complete.

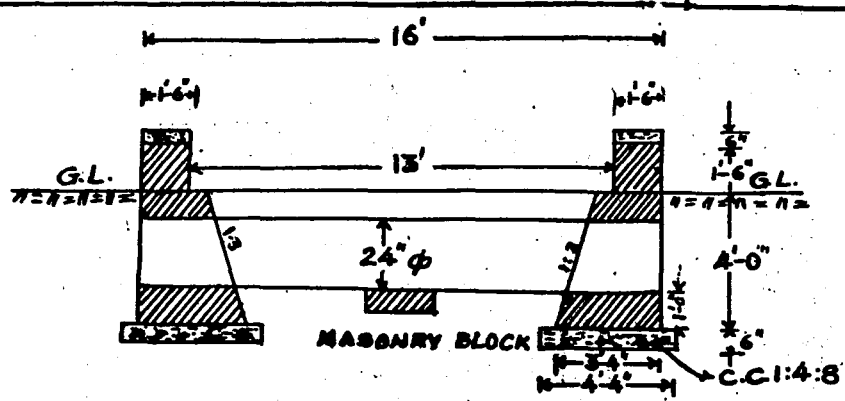
|            |   |      |       |      |       |               |
|------------|---|------|-------|------|-------|---------------|
| Head walls | 2 | 9.00 | -1.50 | 0.50 | 13.50 | 13.50<br>cft. |
|------------|---|------|-------|------|-------|---------------|

8 Providing dry rubble  
pitching of 12" thick-  
-ness with deep cement  
pointing 1:3 including  
curing etc. complete

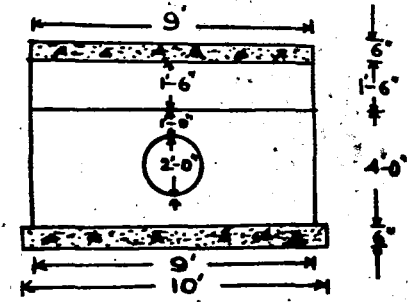
|  |   |      |      |     |        |                |
|--|---|------|------|-----|--------|----------------|
|  | 2 | 10.0 | 7.64 | --- | 152.80 | 152.80<br>sft. |
|--|---|------|------|-----|--------|----------------|

9 Filling gap between  
parapets for roadway  
with excavated stuff,  
ramming etc. complete.

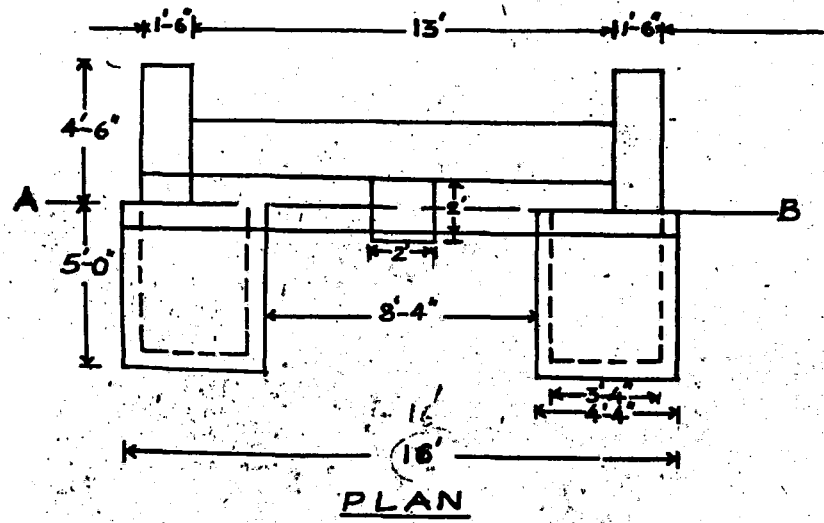
|  |   |       |      |      |     |     |
|--|---|-------|------|------|-----|-----|
|  | 1 | 10.00 | 10.0 | 1.50 | 150 | 150 |
|--|---|-------|------|------|-----|-----|



SECTION ON AB



END VIEW



PLAN

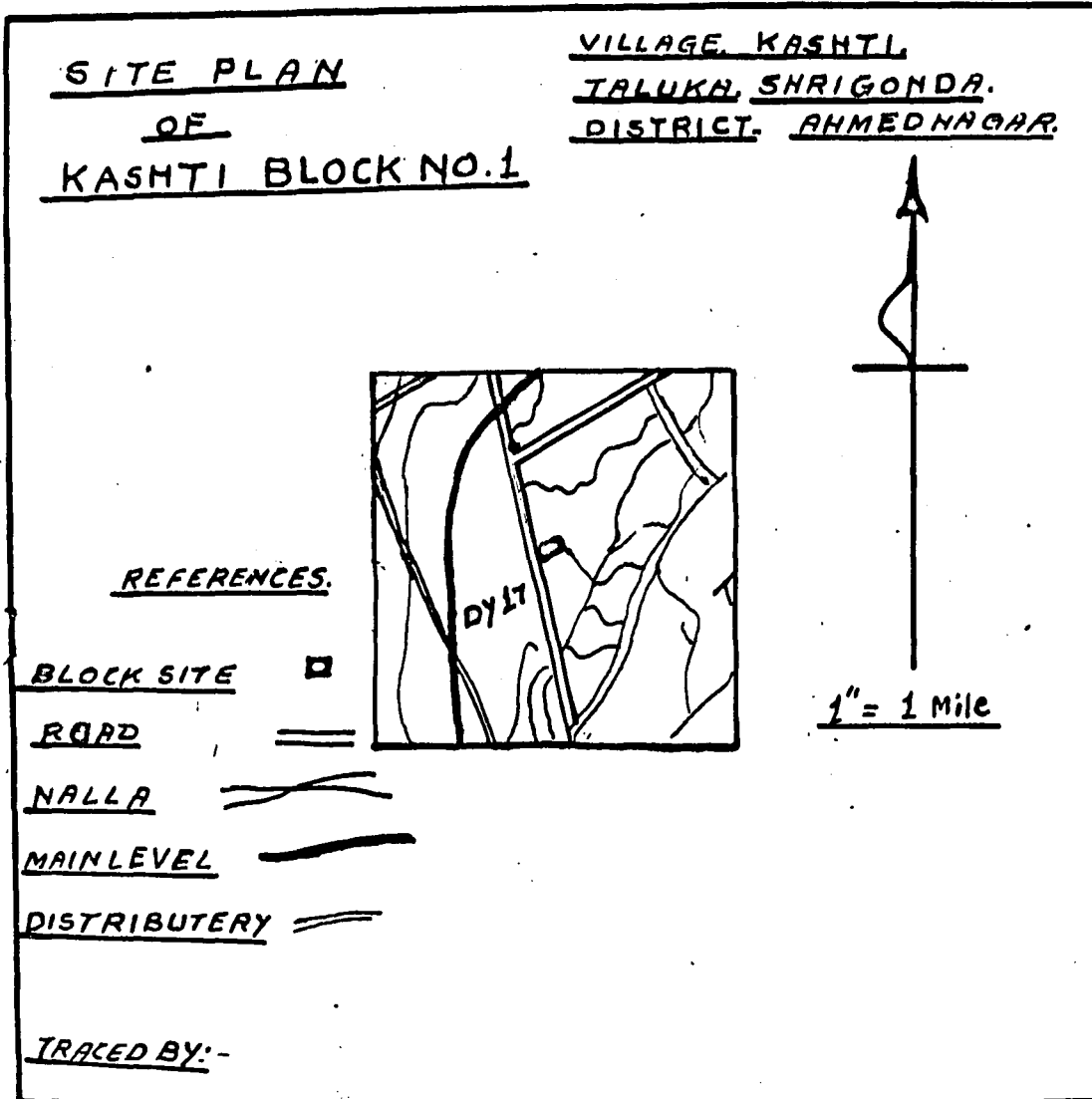
CONSTRUCTION OF ROAD BRIDGE  
PIPE CROSSING 24" DIA.  
SCALE:- 1"=5'

Appendix Plan and Estimate 1

\*\*\*\*\*  
 \*\* DETAILED PLAN AND ESTIMATES OF BLOCK NO. 1 \*\*  
 \*\* ON Left BANK CANAL DISTRIBUTORY NO. 17 \*\*  
 \*\* OUT-LET NO. 1 VILLAGE Kashti \*\*  
 \*\* TALUKA Shrigonda DISTRICT Ahmednagar \*\*  
 \*\* SUB-DIVISION Karjat DIST. Ahmednagar. \*\*  
 \*\*\*\*\*

## I N D E X

|  | Page<br>No. |
|--|-------------|
| (1) Site Plan (as shown in Appendix<br>Plan and Estimate 3)                        |             |
| (2) Short Note (as shown in Appendix Plan<br>and Estimate 4)                       |             |
| (3) Khatedar List ( -do- Plan and<br>Estimate 5)                                   |             |
| (4) Abstract of Estimate ( -do- Plan and<br>Estimate 6)                            |             |
| (5) Detailed Estimate Part I ( -do- Plan<br>and Estimate 7)                        |             |
| (6) Detailed Estimate Part II ( -do- Plan<br>and Estimate 8)                       |             |
| (7) Benchmark statement ( -do- Plan and<br>Estimate 9)                             |             |
| (8) Check level certificate ( -do- Plan<br>and Estimate 10)                        |             |
| (9) Base map of the project (as in Land Develop-<br>-ment Map 1)                   |             |
| (10) Contour map of the project (as in Land<br>Development Map 2)                  |             |
| (11) Lay out map of the project (As in Land<br>Development Map 3)                  |             |
| (12) Longitudinal sections of field channels<br>(Appendix Plan and<br>Estimate 11) |             |
| (13) Longitudinal sections of drains<br>(Appendix Plan and<br>Estimate 12).        |             |



Short Note

- (1) Situation : The project is situated on Ghod Left Bank canal Distributory No. 17 Outlet No. 1,  $2\frac{1}{2}$  miles from the village Kashti on Dhond Nagar Road. The village is 8 miles away from Shrigonda Taluka  
Dist : Ahmednagar.
- (2) Rainfall : The annual rainfall as recorded at the nearest raingauge station from the project i.e. Shrigonda ranges from 15" to 20".
- (3) Soils : The distribution of soil type and % slope, in the project are as under :
- |            | Area         | %   |
|------------|--------------|-----|
| (1) Light  | --           | --  |
| (2) Medium | 150-00 acres | 1.1 |
| (3) Deep   | --           | --  |
- (4) Works proposed : Works proposed to be carried out in the Project area are as under :
- (i) Land levelling, (ii) Graded bunding, (iii) Field channels, (iv) Drains, (v) ~~Diversions~~ Diversions boxes, (vi) Drop structures, (vii) Road and channel crossings.
- (5) General : The project are comprising of 150 acres is situated on Ghod Left Bank Canal, Distributory No. 17, outlet No. 1. The discharge from the outlet No. 1 is about one cusec.
- The views of the cultivators have been considered fully/partially/could not be considered in planning the project.
- Total estimated amount for carrying out the work proposed in item No. 4 above is Rs. \_\_\_\_\_ which works out to Rs. \_\_\_\_\_ per acre.

Sub-Divisional Soil Conserva-  
-tion Officer.

## Appendix Plan and Estimate 5

List of Khatedars, Kashti Block No. 1, Taluka Shrigonda, Dist : Ahmednagar.

| Sr. No. | Name of Khatedar                                 | Sy. No. | Pot Hissa No. | Total area | Assessment | Area to be improved. | Area deleted | Reasons for deletion. | Soil type | Share of conon unit work. | Cost of work in Rs. | Total cost | Per acre cost | Remarks |
|---------|--|---------|---------------|------------|------------|----------------------|--------------|-----------------------|-----------|---------------------------|---------------------|------------|---------------|---------|
| 1       | 2  | 3       | 4             | 5          | 6          | 7                    | 8            | 9                     | 10        | 11                        | 12                  | 13         | 14            | 15      |
| 1)      | Shri Shivram Dhondiba Pachpute                   | 311     | -             | 18-10      | 16-0       | 5.00                 | 13-10        |                       | Medium    |                           |                     |            |               |         |
| 2)      | Shri Gokuldas Uttamchand Gulabchand, Kevalchand. | 312     | -             | 9.33       | 7-00       | 9.33                 | -            | -                     | "         |                           |                     |            |               |         |
| 3)      | Shri Shivram Dhondiba Pachpute.                  | 313     | -             | 12.09      | 8.00       | 9-00                 | 3-09         |                       | "         |                           |                     |            |               |         |
| 4)      | Raghunath Ganpat Rabinj and 30 others.           | 318     | -             | 14.33      | 11-00      | 14.33                | -            | -                     | "         |                           |                     |            |               |         |
| 5)      | Gokuldas Uttamchand Galabchand, Kevalchand.      | 319     | -             | 12.39      | 7-00       | 12-39                | -            | -                     | "         |                           |                     |            |               |         |
| 6)      | Shri Soni w/o. Vithu Kadu                        | 320     | -             | 12.05      | 7-00       | 12.05                | -            | -                     | "         |                           |                     |            |               |         |
| 7)      | Shri Dagadu Ganparam Rabinj                      | 321     | -             | 18-09      | 7.00       | 18-19                | -            | -                     | "         |                           |                     |            |               |         |
| 8)      | Galabchand Kevalchand Gokuldas Uttamchand.       | 322     | -             | 15.29      | 15.00      | 15.29                | -            | -                     | "         |                           |                     |            |               |         |
| 9)      | Shri. Yeshwanta Genu Pansare                     | 323     | -             | 11-39      | 9.00       | 11.39                | -            | -                     | "         |                           |                     |            |               |         |
| 10)     | Bhagubai w/o. Bapu Dhurpate                      | 324     | -             | 17.01      | 12.00      | 17-01                | -            | -                     | "         |                           |                     |            |               |         |
| 11)     | Gokulchand Kevalchand Gokulchand Uttamchand.     | 325     | -             | 26-25      | 3-8-0      | 26,25                | -            | -                     | "         |                           |                     |            |               |         |
| 12)     | Shau Rama Rahinj Lahanu Rama Rahinj.             | 317     | -             | 18.39      | 12.00      | 10.39                | 8.00         | -                     | "         |                           |                     |            |               |         |
|         |  |         |               | 189.01     |            | 164.22               | 24.19        |                       |           |                           |                     |            |               |         |

Certified that information under columns 2 to 6 has been verified from village record and is found correct.

Agril. Supervisor (S.O.)



Abstract of Estimate.

| Sr. No. | Item of work.   | Estimated amount |         |          | Remarks. |
|---------|---|------------------|---------|----------|----------|
|         |   | Part I           | Part II | Total    |          |
| 1       | 2   | 3                | 4       | 5        | 6        |
| 1.      | <u>Earth Work</u> :                                   | 3579.28          | 6216.40 | 9795.68  |          |
| 2.      | Masonry work  | 7730.00          | --      | 7730.00  |          |
| 3.      | Survey work @ Rs. 1/- acre<br>(Amount already spent). | 150.00           | --      | 150.00   |          |
| 4.      | Survey during construction<br>at Rs. 5/- per acre.    | 750.00           | --      | 750.00   |          |
| 5.      | Plan table survey at Rs.0.50<br>per acre.             | 75.00            | --      | 75.00    |          |
|         | Total :   | 12284.28         | 6216.40 | 18500.68 |          |
|         | Establishment charges at<br>33 1/3 per cent.          | 4094.76          | 2072.13 | 6166.89  |          |
|         | Total :   | 16379.04         | 8288.53 | 24667.57 |          |
|         | say Rs.   | 16379.00         | 8288.00 | 24667.57 |          |
|         |   |                  | Say     | 24668.00 |          |

(1) Total area of the block : 150.00 acres.

(2) Total estimated amount : Rs. 24,668/-

(3) Cost per acre Rs. 164.73.

Agril. Supervisor,  
(S.C.)

Sub-Divisional Soil Conservation  
Officer.

Appendix Plan and Estimate 7

Part I

Abstract

Community works

Detailed Estimate.

Masonry works.

| Sr. No.      | Outlet Number | Turn out No.              | Diversion Box No.          | Drop structure | Chutes Number             | Crossing No.                   | Diversion Drain                 | Field drain                     | Field channel | Chs Remarks. |
|--------------|---------------|---------------------------|----------------------------|----------------|---------------------------|--------------------------------|---------------------------------|---------------------------------|---------------|--------------|
| 325          | -             | -                         | 4                          | 2              | -                         | 1                              | 1                               | 2                               | 3             |              |
| 324          | -             | -                         | 1                          | -              | -                         | 1                              | -                               | 2                               | 1             |              |
| 323          | -             | -                         | -                          | -              | -                         | 1                              | -                               | 2                               | 2             |              |
| 322          | -             | -                         | 2                          | 1              | -                         | 1                              | -                               | 3                               | 4             |              |
| 321          | -             | -                         | 2                          | -              | -                         | -                              | -                               | 3                               | 2             |              |
| 320          | -             | -                         | 3                          | 1              | -                         | 1                              | -                               | 2                               | 4             |              |
| 319          | -             | -                         | 1                          | 9              | -                         | -                              | -                               | 3                               | 1             |              |
| 318          | -             | -                         | 1                          | 2              | -                         | -                              | -                               | 1                               | 3             |              |
| 317          | -             | -                         | -                          | 1              | -                         | -                              | -                               | 2                               | -             |              |
| 313          | -             | -                         | -                          | 1              | -                         | -                              | -                               | -                               | 1             |              |
| 312          | -             | -                         | -                          | -              | -                         | -                              | -                               | 1                               | -             |              |
| Total :      |               |                           | 14                         | 17             | -                         | 5                              | 1                               | 21                              | 21            |              |
| Rate :       |               | @ Rs. 135/- per structure | @ Rs. 132/- per structure. | -              | @ Rs. 725/- per structure | Total qnty. 99.0 Brass         | Total Qnty. 1025.00             | Total qnty. 580.80              |               |              |
| Amount (Rs.) |               | 1890.00                   | 2240.00                    | ---            | 3600.00                   | @ Rs. 2.10 per 100 cft. 207.10 | @ Rs. 2.10 per 100 cft. 2152.50 | @ Rs. 2.10 per 100 cft. 1219.68 |               |              |
| Amount (Rs.) |               | 1890.00                   | 2240.00                    | ---            | 3600.00                   | 207.10                         | 2152.50                         | 1219.68                         |               |              |
|              |               | 7730.00                   |                            |                |                           |                                |                                 |                                 |               |              |

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Part I

Detailed estimates.

A- Community work.

Earth work

Diversion Drain.

| Sr. No. | Sr. No. of Diversion drain. | Passing through Sy.No. | Catchment    | Bed slope | Length of drain |        |      | Section of drain |        |                         | Cross section | Quantity of earth work. |                |                | Remarks. |
|---------|-----------------------------|------------------------|--------------|-----------|-----------------|--------|------|------------------|--------|-------------------------|---------------|-------------------------|----------------|----------------|----------|
|         |                             |                        |              |           | Shallow         | Medium | Deep | Top width        | Bottom | Depth                   |               | A <sub>1</sub>          | A <sub>2</sub> | A <sub>3</sub> |          |
| 1       | 15                          | 325                    | 15.00 acres. | 0.30%     | --              | 990    | --   | 8.00             | 2.00   | <del>2.00</del><br>2.00 | 10.00         | --                      | 99.00          |                |          |
|         |                             | Total :                |              |           |                 | 990    |      |                  |        |                         | 10.00         |                         | 99.00          |                |          |

44 95

Part I

Field Drains

Detailed Estimates.

| Sr. No. | Sr.No. of drain | Passing through Sy.No. | Length of the drain |        |      | Cross in sq.ft. | Quantity of Earth work. |                |                | Remarks. |
|---------|-----------------|------------------------|---------------------|--------|------|-----------------|-------------------------|----------------|----------------|----------|
|         |                 |                        | Shallow             | Medium | Deep |                 | A <sub>1</sub>          | A <sub>2</sub> | A <sub>3</sub> |          |
| 1       |                 | 325                    |                     | 530'   |      | 10.00           |                         | 53.00          |                |          |
| 2       |                 | 324                    |                     | 1650'  |      | 10.00           |                         | 165.00         |                |          |
| 3       |                 | 323                    |                     | 660'   |      | 10.00           |                         | 66.00          |                |          |
| 4       |                 | 322                    |                     | 1100'  |      | 10.00           |                         | 110.00         |                |          |
| 5       |                 | 321                    |                     | 990'   |      | 10.00           |                         | 99.00          |                |          |
| 6       |                 | 320                    |                     | 660'   |      | 10.00           |                         | 260.00         |                |          |
| 7       |                 | 319                    |                     | 2020   |      | 10.00           |                         | 202.00         |                |          |
| 8       |                 | 318                    |                     | 660'   |      | 10.00           |                         | 66.00          |                |          |
| 9       |                 | 317                    |                     | 880    |      | 10.00           |                         | 88.00          |                |          |
| 10      |                 | 312/311                |                     | 1100   |      | 10.00           |                         | 110.00         |                |          |
| Total : |                 |                        |                     | 10250  |      |                 |                         | 1025.00        |                |          |

85 06  
Part I

Field channel.

Detailed estimates.

| Sr. No. | Sr. No. of field channel | Passing through Sy. Nos. | Length of channel. | Cross section of field channel | Quantity of Earth work. | Remarks. |
|---------|--------------------------|--------------------------|--------------------|--------------------------------|-------------------------|----------|
| 1       |                          | 325                      | 3780               | 4.00                           | 151.20                  |          |
| 2       |                          | 324                      | 840                | 4.00                           | 33.60                   |          |
| 3       |                          | 323                      | 1230               | 4.00                           | 49.20                   |          |
| 4       |                          | 322                      | 2860               | 4.00                           | 114.40                  |          |
| 5       |                          | 321                      | 750                | 4.00                           | 30.00                   |          |
| 6       |                          | 320                      | 1100               | 4.00                           | 44.00                   |          |
| 7       |                          | 319                      | 990                | 4.00                           | 39.60                   |          |
| 8       |                          | 318                      | 2530               | 4.00                           | 101.20                  |          |
| 9       |                          | 312                      | 440                | 4.00                           | 17.60                   |          |
|         |                          |                          | -----              |                                | -----                   |          |
|         |                          | Total :                  | 14520              |                                | 580.80                  |          |
|         |                          |                          | -----              |                                | -----                   |          |

## Appendix Plan and Estimate 8

## Abstract of Part II.

| Sr. No. | Name of Khatedar.  | Sy. No. and Pot -Hissa. | Amount required for |                    |                        |                      | Total | Remarks. |  |
|---------|--|-------------------------|---------------------|--------------------|------------------------|----------------------|-------|----------|--|
|         |  |                         | Grade bunds         | Land grad-<br>-ing | Border stripp<br>-ing. | Land levell<br>-ing. |       |          | Paddy Internal<br>distribu-<br>-tion<br>channel. |
|         |  |                         | (a)                 | (b)                | (c)                    | (d)                  |       |          |  |
| 1       | Shri Gulabchand Kevalchand and Gulabdas Uttamchand.                      | 325                     | 226.27              | --                 |                        |                      |       | 226.27   |  |
| 2       | Smt. Bhagubai W/O. Bapur Durpate.  | 324                     | 262.50              | --                 |                        |                      |       | 262.50   |  |
| 3       | Shri Yeshwant Genu Pansare   | 323                     | 246.75              | --                 |                        |                      |       | 246.75   |  |
| 4       | Shri Gulabdas Kevalchand Gokuldas Uttamchand.                            | 322                     | 249.90              | --                 |                        |                      |       | 249.90   |  |
| 5       | Shri Dagadu Gangaram Rahinj  | 321                     | 407.40              | --                 |                        |                      |       | 407.40   |  |
| 6       | Smt. Sonu W/O. Vithu Kadu  | 320                     | 137.55              | 657.45             |                        |                      |       | 795.00   |  |
| 7       | Shri Gokuldas Uttamchand Gulabchand Kevalchand.                          | 319                     | 358.05              | --                 | 56.15                  |                      |       | 414.20   |  |
| 8       | Shri Raghunath Ganapath Rahinj and three other.                          | 318                     | 234.15              | 248.68             |                        |                      |       | 482.83   |  |
| 9       | Shri (i) Bapur Rama Rahinj<br>(ii) Bajrang Rama "<br>(iii) Lahanu Rama " | 317                     | 212.10              | 280.19             |                        |                      |       | 492.29   |  |
| 10      | Shri Shivram Dhondiba Pachpute   | 313                     | 86.10               | 1789.49            |                        |                      |       | 1875.59  |  |
| 11      | Shri Gokuldas Uttamchand Gulabchand Kevalchand.                          | 312                     | 170.10              | 204.94             |                        |                      |       | 375.04   |  |
| Total : |  |                         | 2590.87             | 3180.75            | 46.15                  |                      |       | 6214.40  |  |

Work in individual Khatedar's holding

Detailed Estimates

A Earth work

Grade Bunds

(a)

| Sr. No.   | C.R.L. of bund. | Length of bund   |                             |                            | Cross section in ft. | Quantity of Earth work  |                |                | Amount.        |                |                | Total | Remarks. |                |
|---|-----------------|------------------|-----------------------------|----------------------------|----------------------|-------------------------|----------------|----------------|----------------|----------------|----------------|-------|----------|----------------|
|   |                 | Sy.No. Pot Hissa | Shall-ow A <sub>3</sub> ft. | Medi-um A <sub>2</sub> ft. |                      | Deep A <sub>1</sub> ft. | A <sub>1</sub> | A <sub>2</sub> | A <sub>3</sub> | A <sub>1</sub> | A <sub>2</sub> |       |          | A <sub>3</sub> |
| Name of Khatedar : Bhagubai W/O. Bapu Durapate. |                 |                  |                             |                            |                      |                         |                |                |                |                |                |       |          |                |
| 1   | 2               | 3                | 4                           | 5                          | 6                    | 7                       | 8              | 9              | 10             | 11             | 12             | 13    | 14       | 15             |
|   |                 |                  |                             |                            |                      |                         |                |                |                |                | Rs.            |       | Rs.      |                |
| 1   | 1729I           | 324              | -                           | 500'                       | -                    | 5.00                    | -              | 25.00          | -              |                | 52.50          |       | 52.50    |                |
| 2   | 1729II          | 324              | -                           | 330'                       | -                    | 5.00                    | -              | 16.50          | -              |                | 34.65          |       | 34.65    |                |
| 3   | 1726            | 324              | -                           | 570'                       | -                    | 5.00                    | -              | 28.50          | -              |                | 59.85          |       | 59.85    |                |
| 4   | 1725I           | 324              | -                           | 300'                       | -                    | 5.00                    | -              | 15.00          | -              |                | 31.50          |       | 31.50    |                |
| 5   | 1725II          | 324              | -                           | 180'                       | -                    | 5.00                    | -              | 9.00           | -              |                | 18.90          |       | 18.90    |                |
| 6   | 1724            | 324              | -                           | 310'                       | -                    | 5.00                    | -              | 15.50          | -              |                | 32.55          |       | 32.55    |                |
| 7   | 1723            | 324              | -                           | 310'                       | -                    | 5.00                    | -              | 15.50          | -              |                | 32.55          |       | 32.55    |                |
|   |                 | Total:           |                             | 2500                       |                      |                         |                | 125.00         |                |                | 262.50         |       | 262.50   |                |

Part II

Partly a and c.

Detailed estimates.

| Sr. No.  | C.R.L. of bund. | Length of bund   |                             |                            | Cross section in ft. | Quantity of Earth work  |                |                | Amount         |                |                | Total | Remarks. |                |
|--|-----------------|------------------|-----------------------------|----------------------------|----------------------|-------------------------|----------------|----------------|----------------|----------------|----------------|-------|----------|----------------|
|  |                 | Sy.No. Pot Hissa | Shall-ow A <sub>3</sub> ft. | Medi-un A <sub>2</sub> ft. |                      | Deep A <sub>1</sub> ft. | A <sub>1</sub> | A <sub>2</sub> | A <sub>3</sub> | A <sub>1</sub> | A <sub>2</sub> |       |          | A <sub>3</sub> |
| Name of Khatedar : Shri Yeshwant Genu Panasare |                 |                  |                             |                            |                      |                         |                |                |                |                |                |       |          |                |
| 1  | 2               | 3                | 4                           | 5                          | 6                    | 7                       | 8              | 9              | 10             | 11             | 12             | 13    | 14       | 15             |
| 1  | 1730            | 323              | -                           | 440                        | -                    | 5.00                    | -              | 22.00          | -              |                | 46.20          |       | 46.20    |                |
| 2  | 1726            | 323              | -                           | 130                        | -                    | 5.00                    | -              | 6.50           | -              |                | 13.65          |       | 13.65    |                |
| 3  | 1727I           | 323              | -                           | 440                        | -                    | 5.00                    | -              | 22.00          | -              |                | 46.20          |       | 46.20    |                |
| 4  | 1727II          | 323              | -                           | 550                        | -                    | 5.00                    | -              | 27.50          | -              |                | 57.75          |       | 57.75    |                |
| 5  | 1725            | 323              | -                           | 130                        | 0                    | 5.00                    | -              | 6.50           | -              |                | 13.65          |       | 13.65    |                |
| 6  | 1724            | 323              | -                           | 660                        | -                    | 5.00                    | -              | 33.00          | -              |                | 69.30          |       | 69.30    |                |
| Total :  |                 |                  |                             | 2350                       |                      |                         |                | 117.50         |                |                | 246.75         |       | 246.75   |                |



30101

## Part II

(Page 4)

(a)

## Detailed Estimates.

| Sr. No.   | C.R.L. of Bund. | Sy. No. of Pot Hissa | Length of Bund           |                          |                         | Cross Section in sq ft. | Quantity of Earth work |                |                | Amount         |                |                | Total  | Remarks. |
|---|-----------------|----------------------|--------------------------|--------------------------|-------------------------|-------------------------|------------------------|----------------|----------------|----------------|----------------|----------------|--------|----------|
|   |                 |                      | Shall A <sub>3</sub> ft. | Medi- A <sub>2</sub> ft. | Deep A <sub>1</sub> ft. |                         | A <sub>1</sub>         | A <sub>2</sub> | A <sub>3</sub> | A <sub>1</sub> | A <sub>2</sub> | A <sub>3</sub> |        |          |
| Name of Khatedar : Gulabchand Kevalchand Gokuldas Uttamchand. |                 |                      |                          |                          |                         |                         |                        |                |                |                |                |                |        |          |
| 1   | 2               | 3                    | 4                        | 5                        | 6                       | 7                       | 8                      | 9              | 10             | 11             | 12             | 13             | 14     | 15       |
| 1   | 1727            | 322                  | -                        | 310                      | -                       | 5.00                    | -                      | 15.50          | -              |                | 32.55          |                | 32.55  |          |
| 2   | 1725            | 322                  | -                        | 310                      | -                       | 5.00                    | -                      | 15.50          | -              |                | 32.55          |                | 32.55  |          |
| 3   | 1724            | 322                  | -                        | 370                      | -                       | 5.00                    | -                      | 18.50          | -              |                | 38.85          |                | 38.85  |          |
| 4   | 1722            | 322                  | -                        | 310                      | -                       | 5.00                    | -                      | 15.50          | -              |                | 32.55          |                | 32.55  |          |
| 5   | 1721            | 322                  | -                        | 710                      | -                       | 5.00                    | -                      | 35.50          | -              |                | 74.55          |                | 74.55  |          |
| 6   | 1720            | 322                  | -                        | 370                      | -                       | 5.00                    | -                      | 18.50          | -              |                | 38.55          |                | 38.55  |          |
| Total :   |                 |                      |                          | 2380                     |                         |                         |                        | 119.00         |                |                | 249.90         |                | 249.90 |          |

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Part II

(Page 5)

## Detailed Estimates.

(a)

| Sr. No.  | C.R.L. of Bund. | Sy. No. Pot Hissa | Length of Bund               |                              |                         | Cross Section in ft. | Quantity of Earth work |                |                | Amount         |                |                | Total  | Remarks. |
|--|-----------------|-------------------|------------------------------|------------------------------|-------------------------|----------------------|------------------------|----------------|----------------|----------------|----------------|----------------|--------|----------|
|  |                 |                   | Shall -ow A <sub>3</sub> ft. | Medi- -un A <sub>2</sub> ft. | Deep A <sub>1</sub> ft. |                      | A <sub>1</sub>         | A <sub>2</sub> | A <sub>3</sub> | A <sub>1</sub> | A <sub>2</sub> | A <sub>3</sub> |        |          |
| Name of the Khatedar : Dagadu Gangaram Rahinj. |                 |                   |                              |                              |                         |                      |                        |                |                |                |                |                |        |          |
| 1  | 2               | 3                 | 4                            | 5                            | 6                       | 7                    | 8                      | 9              | 10             | 11             | 12             | 13             | 14     | 15       |
| 1  | 1726            | 321               | -                            | 710                          | -                       | 5.00                 | -                      | 35.50          | --             | 74.55          |                |                | 74.55  |          |
| 2  | 1725            | 321               | -                            | 660                          | -                       | 5.00                 | -                      | 33.00          | --             | 69.30          |                |                | 69.30  |          |
| 3  | 1723            | 321               | -                            | 420                          | -                       | 5.00                 | -                      | 21.00          | --             | 44.10          |                |                | 44.10  |          |
| 4  | 1720 I          | 321               | -                            | 400                          | -                       | 5.00                 | -                      | 20.00          | --             | 42.00          |                |                | 42.00  |          |
| 5  | 1720 II         | 321               | -                            | 1100                         | -                       | 5.00                 | -                      | 55.00          | -              | 115.50         |                |                | 115.50 |          |
| 6  | 1719            | 321               | -                            | 220                          | -                       | 5.00                 | -                      | 11.00          | -              | 23.10          |                |                | 23.10  |          |
| 7  | 1718            | 321               | -                            | 370                          | -                       | 5.00                 | -                      | 18.50          | -              | 38.55          |                |                | 38.55  |          |
| Total :  |                 |                   |                              | 3880                         |                         |                      |                        | 194.00         |                | 407.40         |                |                | 407.40 |          |

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Part II

Detailed Estimates.

(a)

| Sr. No.                                       | C.R.L. of Bund. | Sy.No. of Pot Hissa. | Length of Bund                     |                                    |                            | Cross Section | Quantity of Earth work |                |                | Amount.        |                |                | Total  | Remarks. |
|---|-----------------|----------------------|------------------------------------|------------------------------------|----------------------------|---------------|------------------------|----------------|----------------|----------------|----------------|----------------|--------|----------|
|   |                 |                      | Shall<br>-ow<br>A <sub>3</sub> ft. | Medi-<br>-um<br>A <sub>2</sub> ft. | Deep<br>A <sub>1</sub> ft. |               | A <sub>1</sub>         | A <sub>2</sub> | A <sub>3</sub> | A <sub>1</sub> | A <sub>2</sub> | A <sub>3</sub> |        |          |
| Name of Khatedar : Smt. Soni W/O. Vithu Kadu. |                 |                      |                                    |                                    |                            |               |                        |                |                |                |                |                |        |          |
| 1   | 2               | 3                    | 4                                  | 5                                  | 6                          | 7             | 8                      | 9              | 10             | 11             | 12             | 13             | 14     | 15       |
| 1   | 1723            | 320                  | -                                  | 460                                | -                          | 5.20          | -                      | 23.00          | -              |                | 48.30          |                | 48.30  |          |
| 2   | 1721            | 320                  | -                                  | 240                                | -                          | 5.00          | -                      | 12.00          | -              |                | 25.20          |                | 25.20  |          |
| 3   | 1718            | 320                  | -                                  | 370                                | -                          | 5.00          | -                      | 18.50          | -              |                | 38.85          |                | 38.85  |          |
| 4   | 1715            | 320                  | -                                  | 240                                | -                          | 5.20          | -                      | 12.00          | -              |                | 25.20          |                | 25.20  |          |
| Total :                                       |                 |                      |                                    | 1310                               |                            |               |                        | 65.50          |                |                | 137.55         |                | 137.55 |          |

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## Part II

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## Detailed Estimates.

(a and B)

| Sr. No.  | C.R.L. of Bund. | Sy.No. of Pot Hissa. | Length of Bund              |                             |                            | Cross Section | Quantity of Earth work |                |                | Amount         |                |                | Total  | Remarks. |
|--|-----------------|----------------------|-----------------------------|-----------------------------|----------------------------|---------------|------------------------|----------------|----------------|----------------|----------------|----------------|--------|----------|
|  |                 |                      | Shall<br>A <sub>3</sub> ft. | Medi-<br>A <sub>2</sub> ft. | Deep<br>A <sub>1</sub> ft. |               | A <sub>1</sub>         | A <sub>2</sub> | A <sub>3</sub> | A <sub>1</sub> | A <sub>2</sub> | A <sub>3</sub> |        |          |
| Name of Khatedar : (i) Shri Gukuldas Uttamchand, (ii) Gulabchand Kevalchand. |                 |                      |                             |                             |                            |               |                        |                |                |                |                |                |        |          |
| 1  | 2               | 3                    | 4                           | 5                           | 6                          | 7             | 8                      | 9              | 10             | 11             | 12             | 13             | 14     | 15       |
| 1  | 1722            | 319                  | -                           | 370                         | -                          | 5.00          | -                      | 18.50          | -              | 38.85          |                |                | 38.85  |          |
| 2  | 1720            | 319                  | -                           | 110                         | -                          | 5.00          | -                      | 5.50           | -              | 11.55          |                |                | 11.55  |          |
| 3  | 1719            | 319                  | -                           | 480                         | -                          | 5.00          | -                      | 24.00          | -              | 50.40          |                |                | 50.40  |          |
| 4  | 1718            | 319                  | -                           | 270                         | -                          | 5.00          | 13.50                  |                | -              | 28.35          |                |                | 28.35  |          |
| 5  | 1716I           | 319                  | -                           | 440                         | -                          | 5.00          | 22.00                  |                | -              | 46.20          |                |                | 46.20  |          |
| 6  | 1716II          | 319                  | -                           | 170                         | -                          | 5.00          | 8.50                   |                | -              | 17.85          |                |                | 17.85  |          |
| 7  | 1714            | 319                  | -                           | 360                         | -                          | 5.00          | 18.00                  |                | -              | 37.80          |                |                | 37.80  |          |
| 8  | 1713            | 319                  | -                           | 190                         | -                          | 5.00          | 9.50                   |                | -              | 19.95          |                |                | 19.95  |          |
| 9  | 1710            | 319                  | -                           | 190                         | -                          | 5.00          | 9.50                   |                | -              | 19.95          |                |                | 19.95  |          |
| 10   | 1709I           | 319                  | -                           | 170                         | -                          | 5.00          | 8.50                   |                | -              | 17.85          |                |                | 17.85  |          |
| 11   | 1709III         | 319                  | -                           | 180                         | -                          | 5.00          | 9.00                   |                | -              | 18.90          |                |                | 18.90  |          |
| 12   | 1709 II         | 319                  | -                           | 220                         | -                          | 5.00          | 11.00                  |                | -              | 23.10          |                |                | 23.10  |          |
| 13   | 1707            | 319                  | -                           | 260                         | -                          | 5.00          | 13.00                  |                | -              | 27.30          |                |                | 27.30  |          |
| Total :  |                 |                      |                             | 3410                        |                            |               | 170.50                 |                |                | 358.05         |                |                | 358.05 |          |

(a)

Detailed Estimate.

| Sr. No.   | C.R.L. of Bund. | Sy.No. of Pot Hissa | Length of Bund                  |                               |                            | Cross Sec-tion. | Quantity of Earth work |                |                | Amount         |                |                | Total  | Remarks. |
|---|-----------------|---------------------|---------------------------------|-------------------------------|----------------------------|-----------------|------------------------|----------------|----------------|----------------|----------------|----------------|--------|----------|
|   |                 |                     | Shall -ow<br>A <sub>3</sub> ft. | Medi-um<br>A <sub>2</sub> ft. | Deep<br>A <sub>1</sub> ft. |                 | A <sub>1</sub>         | A <sub>2</sub> | A <sub>3</sub> | A <sub>1</sub> | A <sub>2</sub> | A <sub>3</sub> |        |          |
| Name of Khatedar : Shri Raghunath Ganapath Rahinj and three others. |                 |                     |                                 |                               |                            |                 |                        |                |                |                |                |                |        |          |
| 1   | 2               | 3                   | 4                               | 5                             | 6                          | 7               | 8                      | 9              | 10             | 11             | 12             | 13             | 14     | 15       |
| 1   | 1718I           | 318                 | -                               | 330                           | -                          | 5.00            | -                      | 16.50          | -              | -              | -              | 34.65          | 34.65  |          |
| 2   | 1718II          | 318                 | -                               | 290                           | -                          | 5.00            | -                      | 14.50          | -              | -              | -              | 30.45          | 30.45  |          |
| 3   | MB              | 318                 | -                               | 220                           | -                          | 5.00            | -                      | 11.00          | -              | -              | -              | 23.10          | 23.10  |          |
| 4   | 1715 I          | 318                 | -                               | 370                           | -                          | 5.00            | -                      | 18.50          | -              | -              | -              | 38.85          | 38.85  |          |
| 5   | 1715II          | 318                 | -                               | 290                           | -                          | 5.00            | -                      | 14.50          | -              | -              | -              | 30.45          | 30.45  |          |
| 6   | 1712 I          | 318                 | -                               | 400                           | -                          | 5.00            | -                      | 20.00          | -              | -              | -              | 42.00          | 42.00  |          |
| 7   | 1712 II         | 318                 | -                               | 330                           | -                          | 5.00            | -                      | 16.50          | -              | -              | -              | 34.65          | 34.65  |          |
| Total :   |                 |                     |                                 | 2230                          |                            |                 |                        | 111.50         |                |                |                | 234.15         | 234.15 |          |

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Part II

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Detailed Estimate

(a and d)

| Sr. No. of Bund.   | C.R.L. No. | Sy. No. Pot Hissa. | Length of Bund                 |                               |                            | Cross Sect-ion. | Quantity of Earth work |                |                | Amount         |                |                | Total  | Remarks. |
|--|------------|--------------------|--------------------------------|-------------------------------|----------------------------|-----------------|------------------------|----------------|----------------|----------------|----------------|----------------|--------|----------|
|  |            |                    | Shall -ow<br>A <sub>3</sub> ft | Medi-um<br>A <sub>2</sub> ft. | Deep<br>A <sub>1</sub> ft. |                 | A <sub>1</sub>         | A <sub>2</sub> | A <sub>3</sub> | A <sub>1</sub> | A <sub>2</sub> | A <sub>3</sub> |        |          |
| Name of Kla tedar : (i) Bhau Rama Rahinj, (ii) Bajarang Rama Rahinj, (iii) Laharu Rama Rahinj. |            |                    |                                |                               |                            |                 |                        |                |                |                |                |                |        |          |
| 1  | 2          | 3                  | 4                              | 5                             | 6                          | 7               | 8                      | 9              | 10             | 11             | 12             | 13             | 14     | 15       |
| 1  | 1715       | 317                | -                              | 660                           | -                          | 5.00            | -                      | 33.0           | -              |                | 69.30          |                | 69.30  |          |
| 2  | 1713 I     | 317                | -                              | 590                           | -                          | 5.00            | -                      | 29.50          | -              |                | 61.95          |                | 61.95  |          |
| 3  | 1713 II    | 317                | -                              | 370                           | -                          | 5.00            | -                      | 18.50          | -              |                | 38.85          |                | 38.85  |          |
| 4  | 1711       | 317                | -                              | 400                           | -                          | 5.00            | -                      | 20.00          | -              |                | 42.00          |                | 42.00  |          |
| Total :  |            |                    |                                | 2020                          |                            |                 |                        | 101.0          |                |                | 212.10         |                | 212.10 |          |

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Part II

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(c and d)

Detailed Estimate.

| Sr. No.  | C.R.L. of Bund. | Sy.No. of Pot Hissa. | Length of Bund                     |                                   |                            | Cross Section | Quantity of Earth work. |                |                | Amount         |                |                | Total | Remarks. |   |
|--|-----------------|----------------------|------------------------------------|-----------------------------------|----------------------------|---------------|-------------------------|----------------|----------------|----------------|----------------|----------------|-------|----------|---|
|  |                 |                      | Shall-<br>ow<br>A <sub>3</sub> ft. | Medi-<br>un<br>A <sub>2</sub> ft. | Deep<br>A <sub>1</sub> ft. |               | A <sub>1</sub>          | A <sub>2</sub> | A <sub>3</sub> | A <sub>1</sub> | A <sub>2</sub> | A <sub>3</sub> |       |          | * |
| Name of Khatedar : Shivaram Dhondiba Pachapate |                 |                      |                                    |                                   |                            |               |                         |                |                |                |                |                |       |          |   |
| 1  | 1710            | 313                  | -                                  | 530                               | -                          | 5.00          | --                      | 26.50          | -              |                |                |                | 55.65 | 55.65    |   |
| 2  | 1709            | 313                  | -                                  | 290                               | -                          | 5.00          | --                      | 14.50          | --             |                |                |                | 30.45 | 30.45    |   |
| Total :  |                 |                      |                                    | 820                               |                            |               |                         | 41.00          |                |                |                |                | 86.10 | 86.10    |   |

Part II

Detailed Estimates.

(a and d)

| Sr. No.  | C.R.L. of Bund | Sy.No. of Pot Hissa. | Length of Bund           |                            |                         | Cross Section | Quantity of Earth work |                |                | Amount         |                |                | Total  | Remarks. |
|--|----------------|----------------------|--------------------------|----------------------------|-------------------------|---------------|------------------------|----------------|----------------|----------------|----------------|----------------|--------|----------|
|  |                |                      | Shall A <sub>3</sub> ft. | Medi-um A <sub>2</sub> ft. | Deep A <sub>1</sub> ft. |               | A <sub>1</sub>         | A <sub>2</sub> | A <sub>3</sub> | A <sub>1</sub> | A <sub>2</sub> | A <sub>3</sub> |        |          |
| Name of Khateda r : Gokuldas Uttamchand, (ii) Gulabchand Kevalchand. |                |                      |                          |                            |                         |               |                        |                |                |                |                |                |        |          |
| 1  | 2              | 3                    | 4                        | 5                          | 6                       | 7             | 8                      | 9              | 10             | 11             | 12             | 13             | 14     | 15       |
| 1  | 1709           | 312                  | -                        | 620                        | -                       | 5.00          | -                      | 31.00          | -              |                | 65.10          |                | 65.10  |          |
| 2  | 1707           | 312                  | -                        | 510                        | -                       | 5.00          | -                      | 25.50          | -              |                | 53.55          |                | 53.55  |          |
| 3  | 1703           | 312                  | -                        | 490                        | -                       | 5.00          | -                      | 24.50          | -              |                | 51.45          |                | 51.45  |          |
| Total :  |                |                      |                          | 1620                       |                         |               |                        | 81.00          |                |                | 170.10         |                | 170.10 |          |



Abstract

| 1       | 2 | 3   | 4 | 5     | 6 | 7    | 8 | 9       | 10 | 11 | 12                                       | 13 | 14      | 15 |
|---------|---|-----|---|-------|---|------|---|---------|----|----|--|----|---------|----|
| 1       | - | 325 | - | 2480  | - | 5.00 |   | 107.75  | -  | -  | 226.27                                   |    | 226.27  |    |
| 2       | - | 324 | - | 2500  | - | 5.00 |   | 125.00  | -  |    | 261.50                                   |    | 262.50  |    |
| 3       | - | 323 | - | 2350  | - | 5.00 | - | 117.50  | -  |    | 246.75                                   |    | 246.75  |    |
| 4       | - | 322 | - | 2380  | - | 5.00 | - | 119.00  | -  |    | 249.60                                   |    | 249.90  |    |
| 5       | - | 321 | - | 3880  | - | 5.00 |   | 194.00  | -  |    | 407.10                                   |    | 407.40  |    |
| 6       | - | 320 | - | 1310  | - | 5.00 | - | 65.50   | -  |    | 137.55                                   |    | 137.55  |    |
| 7       | - | 319 | - | 3410  | - | 5.00 | - | 170.50  | -  |    | 358.05                                   |    | 358.05  |    |
| 8       | - | 318 | - | 2230  | - | 5.00 |   | 111.50  | -  |    | 234.15                                   |    | 234.15  |    |
| 9       | - | 317 | - | 2020  | - | 5.00 | - | 101.00  | -  |    | 212.10                                   |    | 212.19  |    |
| 10      | - | 313 | - | 820   | - | 5.20 | - | 41.00   | -  |    | 86.10                                    |    | 86.10   |    |
| 11      | - | 312 | - | 1620  | - | 5.00 | - | 81.00   | -  |    | 170.10                                   |    | 170.10  |    |
| Total : |   |     |   | 25400 |   |      |   | 1233.75 |    |    | 2590.87                                  |    | 2590.87 |    |
|         |   |     |   |       |   |      |   |         |    |    | + 15 %                                   |    | 388.63  |    |
|         |   |     |   |       |   |      |   |         |    |    | for removing mounds and poe etc filling. |    |         |    |
|         |   |     |   |       |   |      |   |         |    |    |  |    | 2979.50 |    |

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Part II

(b)

Border stripping.

| Sr. No. of Border Bund. | C.R.L. | Survey No. Pot-Hissa. | Length in ft. | Cross Section in sq.ft. | Quantity of Earth-work. | Amount of Rs. per 100. cft. |
|-------------------------|--------|-----------------------|---------------|-------------------------|-------------------------|-----------------------------|
| 1                       | I      | 319                   | 170           | 2.50                    | 4.25                    | 8.92                        |
| 2                       | II     | 319                   | 170           | 2.50                    | 4.25                    | 8.92                        |
| 3                       | III    | 319                   | 150           | 2.50                    | 3.75                    | 7.87                        |
| 4                       | IV     | 319                   | 150           | 2.50                    | 3.75                    | 7.87                        |
| 5                       | V      | 319                   | 150           | 2.50                    | 3.75                    | 7.35                        |
| 6                       | VI     | 319                   | 140           | 2.50                    | 3.50                    | 7.35                        |
| 7                       | VII    | 319                   | 140           | 2.50                    | 3.50                    | 7.35                        |
| Total :                 |        |                       | 1070          |                         | 26.75                   | 56.15                       |

PART II

Detailed estimates

Band - Levelling

(d)

| Sr. No.                                   | Compartment No. | Sv. No & Pot Hissa. | Nature of land | Area of compartment | Average Depth of cutting | Quantity in cutting | Amt. of Rs. per 100 cft. | Remarks. |
|---|-----------------|---------------------|----------------|---------------------|--------------------------|---------------------|--------------------------|----------|
| 1   | 2               | 3                   | 4              | 5                   | 6                        | 7                   | 8                        | 9        |
| Name of Khatadar Smt. Sona w/o Vithu Nadu |                 |                     |                |                     |                          |                     |                          |          |
| 1.  | I               | 320                 | A.G.<br>0-21   | 1-00                | 57-17                    |                     | Rs. nPs.                 |          |
| 1.  | I               | 320                 |                | 1.21                | 1-00                     | 57-17               | 120-05                   |          |
| 2.  | II              | 320                 |                | 0.14                | 2-00                     | 76-23               | 160-08                   |          |
| 3.  | III             | 320                 |                | 0-18                | 2-50                     | 122-51              | 257-27                   |          |
| 4.  | IV              | 320                 |                | 0-21                | 1-00                     | 57-17               | 120-05                   |          |
| Total                                     |                 |                     |                | 1-34                |                          | 313-08              | 657-45                   |          |

dp/-4.2.

PART II - Detailed Estimates

## Land - Levelling

(d)

| Sr. No.   | Compartment No. | Survey No. & Pot Hissa No. | Nature of land | Area of Compartment | Average depth of cutting | Quantity in cutting | Amount of Rs. for 100 cft. | Remarks. |
|---|-----------------|----------------------------|----------------|---------------------|--------------------------|---------------------|----------------------------|----------|
| Name of Khatodar ; Shri 1) Bhau Ram Rahinj 2) Bajrang Rama Rahinj 3) Laxman Rama Rahinj |                 |                            |                |                     |                          |                     |                            |          |
| 1   | 2               | 3                          | 4              | 5                   | 6                        | 7                   | 8                          | 9        |
| 1.  | I               | 317                        |                | Ac. Gt.<br>1-28     | 0-50                     | 92-59               | 194-44                     |          |
| 2.  | II              | 317                        |                | 0-30                | 0-50                     | 40-84               | 85-75                      |          |
| Total   |                 |                            |                | 2-18                |                          | 133-43              | 280-19                     |          |

dp/-

## PART .. II Detailed estimates

## Land - Levelling

(A)

| S. No.   | Compartment No. | Survey No. & Pot Hissa No. | Nature of land | Area of Compert=ment | Average Depth of cutting | Quantity in cutting | Amount of Rs. for 100 cft. | Remarks. |
|--|-----------------|----------------------------|----------------|----------------------|--------------------------|---------------------|----------------------------|----------|
| Name of Khatodar : Shri Raghunath Ganapath Rahinj and three others |                 |                            |                |                      |                          |                     |                            |          |
| 1  | I               | 318                        |                | 0-28                 | 1-00                     | 76-23               | 160-08                     |          |
| 2  | II              | 318                        |                | 0-31                 | 0-50                     | 42-19               | 88-60                      |          |
| Total  |                 |                            |                | 1-19                 |                          | 118-42              | 248-68                     |          |

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PART II Detailed Estimates

Land - Levelling

(d)

| S. No. | Compartment No. | Survey No. & Pot Hissa No. | Nature of land | Area of compartment | Average depth of cutting | Quantity in cutting | Amount of Rs. for cft. | Remarks |
|--------|-----------------|----------------------------|----------------|---------------------|--------------------------|---------------------|------------------------|---------|
|--------|-----------------|----------------------------|----------------|---------------------|--------------------------|---------------------|------------------------|---------|

Name of Khatedar :-

| 1 | 2  | 3     | 4 | 5    | 6    | 7      | 8       | 9 |
|---|----|-------|---|------|------|--------|---------|---|
| 1 | I  | 313   |   | 2.34 | 2-50 | 775-91 | 1629-41 |   |
| 2 | II | 313   |   | 1-16 | 0-50 | 76-23  | 160-08  |   |
|   |    | Total |   | 4-10 |      | 852-14 | 1789-49 |   |

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PART - II Detailed Estimates  
Land - Levelling

(d)

| Sr. No.            | Compartment No. | Survey No. & Pot hissa No. | Nature of land | Area of compartment | Average depth of cutting | Qty. on cutting | Amount of Rs. for 100 cft. | Remarks. |
|--------------------|-----------------|----------------------------|----------------|---------------------|--------------------------|-----------------|----------------------------|----------|
| Name of Khatedar : |                 |                            |                |                     |                          |                 |                            |          |
| 1                  | 1               | 312                        |                | 1.28                | 0-50                     | 97-59           | 204-94                     |          |
| Total              |                 |                            |                | 1-28                |                          | 97-59           | 204-94                     |          |

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PART - II

Land Grading - levelling

Sy. No. wise Abstract

| Cr. No. | Compart-<br>ments<br>No. | Sy.No. Pot-<br>Hissa | Nature of<br>land | Area of com-<br>partment | Av. depth of<br>cutting | Quantity in<br>cutting | Amount of Rs.<br>per 100 cft. | Remarks. |
|---------|--------------------------|----------------------|-------------------|--------------------------|-------------------------|------------------------|-------------------------------|----------|
| 1       | 2                        | 3                    | 4                 | 5                        | 6                       | 7                      | 8                             | 9        |
| 1       | 4                        | 320                  |                   | 1-34                     |                         | 313-08                 | 657-45                        |          |
| 2       | 2                        | 318                  |                   | 1-19                     |                         | 118-42                 | 248-68                        |          |
| 3       | 2                        | 317                  |                   | 2-18                     |                         | 133-43                 | 280-19                        |          |
| 4       | 2                        | 313                  |                   | 4-10                     |                         | 852-14                 | 1789-49                       |          |
| 5       | 1                        | 312                  |                   | 1-28                     |                         | 97-59                  | 204-94                        |          |
| Total   |                          |                      |                   | 11-29                    |                         | 1514-66                | 3180-75                       |          |

Say Rs 3181/-



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Appendix Plan and Estimate 9

Statement of Bench Marks.

| Serial Number | B. M. | Value of B.M. | Description of B.M.       | Field Book Number | Page Number. |
|---------------|-------|---------------|---------------------------|-------------------|--------------|
| 1             | 2     | 3             | 4                         | 5                 | 6            |
| 1             | I     | 1751.46       | 325                       | 1447              | 72           |
| 2             | II    | 1733.87       | $\frac{325}{324/323}$     | "                 | "            |
| 3             | III   | 1725.08       | $\frac{324/323}{322}$     | "                 | "            |
| 4             | IV    | 1729.46       | $\frac{321}{320}$         | "                 | "            |
| 5             | V     | 1725.53       | $\frac{320}{319/328}$     | "                 | "            |
| 6             | VI    | 1711.43       | $\frac{319/318}{312/313}$ | "                 | "            |

Sd/  
Agril. Assistant  
(SC)

Sd/  
Sub-Divisional Soil Conservation Officer.

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Check level certificate

Certified that I have checked levelled all Bench  
Marks and Cross Section Numbers, 1, 2, 3, 4 in Survey  
Numbers 324, 323 and same is within permissible  
limit.

Agricultural Supervisor (SC)

Date of checking: 9-12-1964.

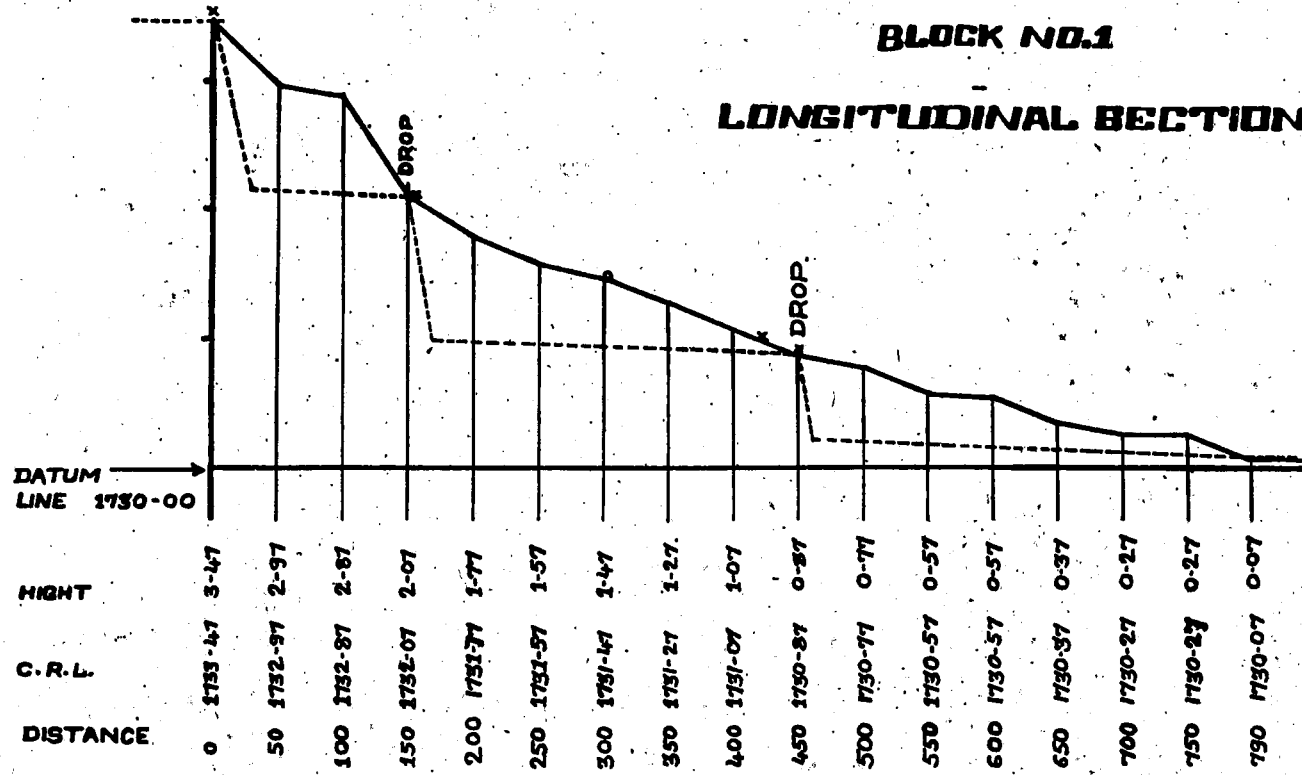
Field Book No. 1447

Page No. 72,73

**GRAPH OF FIELD CHANNEL IN SY.NO324 OF VILLAGE KASHTI**

**BLOCK NO.1**

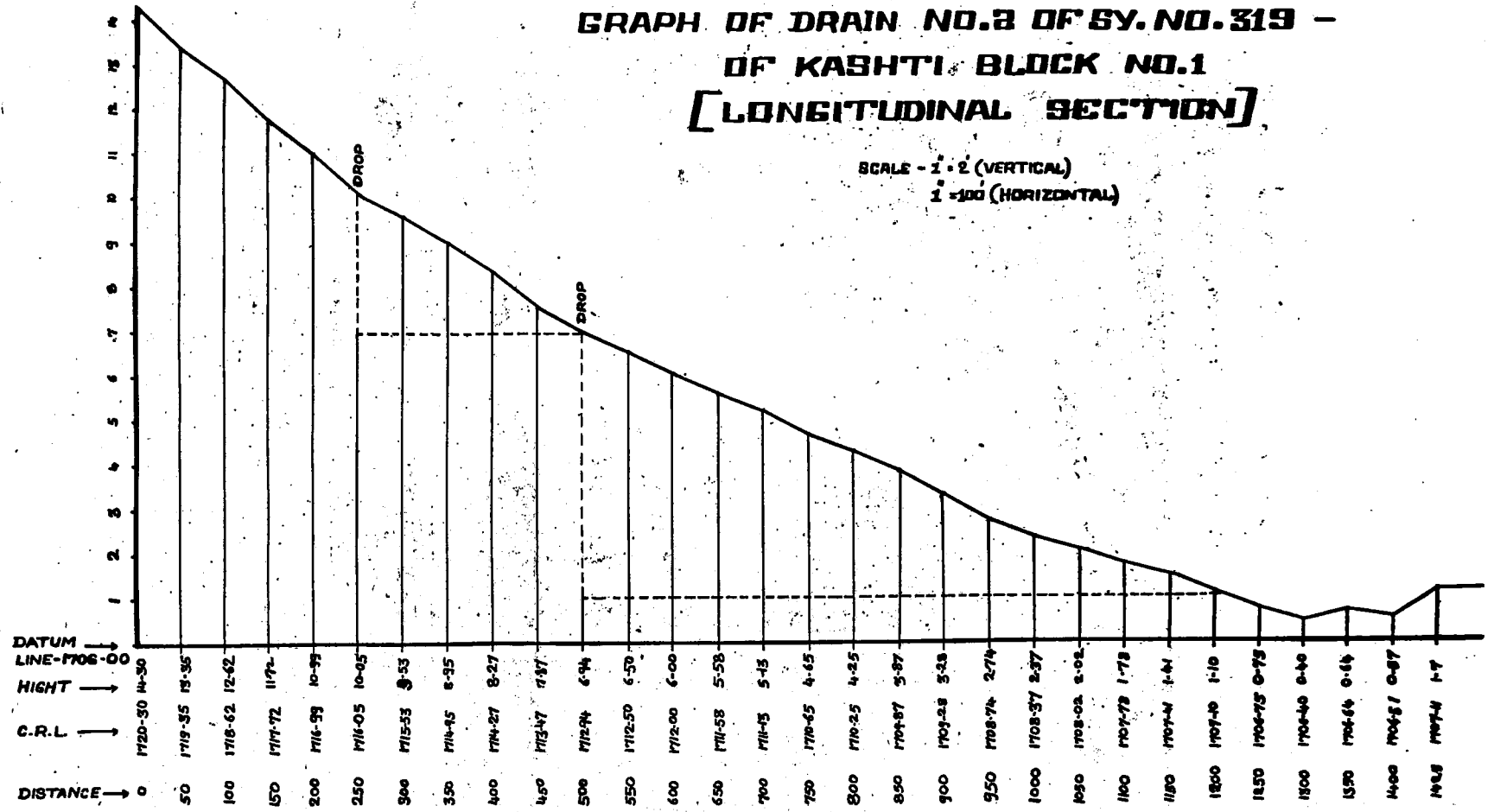
**LONGITUDINAL SECTION**



SCALE -  $i = 100$  (HORIZONTAL)  
 $i = 1-0$  (VERTICAL)

## GRAPH OF DRAIN NO.2 OF SY. NO.319 - OF KASHTI BLOCK NO.1 [LONGITUDINAL SECTION]

SCALE - 1 : 2 (VERTICAL)  
1 : 100 (HORIZONTAL)



Rate list for Prototype Package Programme work.

| Sr. No. | Item | Unit | Rate |
|---------|------|------|------|
|---------|------|------|------|

(A)

- 1) Excavation by manual labour for field channels, drains, including formation and dressing of channels and drain sides and depositing the excavated material on both side of channels or drain of standard section in soil and murum with murum depth of 8 cms. or less including lead upto 8 metres, breaking clods and remming during construction. Per cubic metre.
- 2) Excavation by manual labour for field channels, drains, including formation ~~channels, drains,~~ and dressing of channels and drain sides and depositing the excavated material on both side of channels or drain of standard section in soil and murum with murum depth of 8 cms. to 25 cms including lead upto 8 metres.
- 3) Excavation by manual labour for field channels, drains, including formation and dressing of channels and drain sides and depositing the excavated material on both sides of channels or drain of standard section in soil and murum with murum depth of over 25 cms..
- 4) Lead for carrying soil for removing humps and rilling pockets when the distance exceeds 8 metres to 15 metres.
- 5) Lead for carrying soil for removing humps and filling pockets when the distance exceeds 15 metres to 30 metres.
- 6) Lead for carrying soil for removing humps and filling pockets when the distance exceeds beyond 30 metres.
- 7) Excavation by manual labour for levelling and construction of levelled strip of land in soil and murum with a murum depth of 8 cms and less including 8 metres lead and breaking of clods.
- 8) Excavation by manual labour for levelling and construction of levelled strip of land in soil and murum with a murum depth of 8 to 25 cms.

| Sr. No. | Item  | Unit             | Rate |
|---------|---|------------------|------|
| 9)      | Excavation by manual labour for levelling and construction of levelled strip of land in soil and murum with a murum depth of over 25 cms.                                   | Per cubic metre. |      |
| 10)     | Ploughing, levelling and formation of levelled strip of land by keni in soil having a depth more than 25 cms.   | "                |      |
| (B)     | Labour rates for surveying and odd jobs.  |                  |      |
|         | Man (a) Ordinary majdoor  | Per day          |      |
|         | (b) Skilled majdoor   | "                |      |
|         | Woman or boy  | "                |      |
| (C)     | Transport of tools and materials e.g. rubble-khandki-pipes sand etc. Man with a pair of bullocks and cart or implements. Man with a pair of bullocks plough or ridger etc.. | "                |      |
| (D)     | Sharpening and branding of tools sharpening of pickaxes both ends.  | Per No.          |      |
| (E)     | Skilled labour on daily wages for construction work and odd jobs.   |                  |      |
|         | (a) Carpenter   | Per day          |      |
|         | (b) Smith   | "                |      |
|         | (c) Mason.  | "                |      |
| (F)     | Completed items of outlets  |                  |      |
| 1)      | Construction of one end pitching of clear over fall waste weir in dry bulder as per type design as in case of contour bunding with a lead upto 1 K.M.                       | Per end.         |      |
| 2)      | Construction of one end pitching of clear overfall waste weir in dry boulder as per type design as in case of contour bunding with a lead from 1 K.M. to 2 K.M.             | "                |      |
| 3)      | Construction of one end pitching of clear over fall waste weir in dry boulders per type design as in case of contour bunding with a lead from 2 K.M. to 3 K.M..             | "                |      |
| 4)      | Construction of one end pitching of clear overfall waste weir and dry boulder as per type design as in case of contour bunding with a lead from 3 K.M. to 4 K.M..           | "                |      |
| 5)      | Construction of one end pitching of clear overfall waste weir in dry boulder as per type design as in case of contour bunding work with a lead from 4 K.M. to 5 K.M..       | "                |      |

| Sr. No. | Item   | Unit                        | Rate. |
|---------|--|-----------------------------|-------|
| 6)      | Construction of one end pitching of clear over fall waste weir in dry boulder as per type design as in case of contour bunding with a lead from 5 K.M. to 6 K.M.     | Per end.                    |       |
| 7)      | Construction of one end pitching of clear over fall waste weir in dry boulder as per type design as in case of contour bunding with a lead from 6 K.M. to 7 K.M..    | "                           |       |
| 8)      | Construction of waste weir crest wall including apron below crest wall as per type design in boulder as in case of contour bunding with a lead upto 1 K.M..          | Per Rft.<br>0.30 M.         |       |
| 9)      | Construction of waste weir crest wall including apron below crest wall as per type design in boulder as in case of contour bunding with a lead from 1 K.M. to 2 K.M. | "                           |       |
| 10)     | Construction of waste weir crest wall including apron below crest wall as per type design in boulder as in case of contour bunding with a lead from 2 to 3 K.M.      | "                           |       |
| 11)     | Construction of waste weir crest wall including apron below crest wall as per type design in boulder as in case of contour bunding with a lead from 3 to 4 K.M.      | "                           |       |
| 12)     | -do- from 4 to 5 K.M.  | "                           |       |
| 13)     | -do- from 5 to 6 K.M.  | "                           |       |
| 14)     | -do- from 6 to 7 K.M.  | "                           |       |
| (G)     | Construction of Dry boulder pitching :   |                             |       |
| 1)      | Construction of dry boulder pitching with lead of stone upto 1 K.M.  | 100 sq.ft.<br>or per 10 sq. |       |
| 2)      | -do- 1 to 2 K.M.   | "                           |       |
| 3)      | -do- 2 to 3 K.M.   | "                           |       |
| 4)      | -do- 3 to 4 K.M.   | "                           |       |
| 5)      | -do- 4 to 5 K.M.   | "                           |       |
| 6)      | -do- 5 to 6 K.M.   | "                           |       |
| 7)      | -do- 6 to 7 K.M.   | "                           |       |
| (H)     | Grass Sodding :  |                             |       |
| 1)      | Grass sodding in drains and water channels with a lead of grass sods upto 3 K.M..  | "                           |       |

| Sr. No. | Item.   | Unit    | Rate. |
|---------|---|---------|-------|
|         |   | each.   |       |
| 2)      | Construction of clear overfall grass waste weir effective length of 0.61 Metres.                            |         |       |
| 3)      | Removal of earth and giving shape to preparing bed for clear overfall waste weir design as per Type-Design. | each.   |       |
| (I)     | Hiring of Ploughs :   |         |       |
| 1)      | Hiring charges for heavy plough   | Per day |       |
| 2)      | Hiring charges for light plough   | "       |       |

## SCHEDULE OF RATES FOR MASONRY WORK.

| No. | Item  | Cum. | Metric system. | Per 100 cft. |
|-----|---|------|----------------|--------------|
| 1   | C.R. Masonry IIrd sort in line 1:½ mortar including cement pointing to exposed faces walls (av. C.M. 1:6).                    | Cum  | 56.35          | "            |
| 2   | Coarse-rubble masonry IIrd sort in cement mortar 1:6, including cement pointing to exposed faces.                             | Cum  | 60.40          | "            |
| 3   | Coarse rubble third mortar including cement pointing to exposed faces walls. (Spe 350 (line mortar 1:½ ac. cement mortar 1:6) | Cum  | 51.40          | "            |
| 4   | C.R. Masonry IIIrd sort in cement mortar 1:6 including cement pointing to exposed faces (L.M. 1:½).                           | Cum  | 52.60          | "            |
| 5   | C.R. Masonry IIIrd sort with face walls on both sides in cement mortar 1:6 including cement pointing. (av. L.M. 1:½)          | Cum  | 53.80          | "            |
| 6   | Uncoarse rubble masonry in cement mortar 1:6 including cement pointing to exposed faces (av. L.M. 1:½)                        | Cum  | 42.40          | "            |
| 7   | Uncoarse rubble-masonry in cement mortar 1:6 including cement pointing to exposed faces (av. L.M. 1:½).                       | Cum  | 49.80          | "            |
| 8   | Dry rubble pitching including cement pointing.  | Sqn. | 4.40           | "            |
| 9   | Dry rubble pitching (12" thick is equal to 0.305 M. thick).   | Sqn. | 4.90           | Sq. ft.      |
| 10  | Dry rubble pitching (12" thick is 0.305 M. thick)   | Sqn. | 6.40           | "            |
| 11  | Dry rubble filling including hand packing etc. complete.  | Cum  | 11.10.100      | cft.         |



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| No. | Item   | Cum | Metric system | Per 100 cft. |
|-----|--|-----|---------------|--------------|
| 12  | Random rubble masonry IIInd sort in cement mortar including watering and cement pointing to exposed and unplastered surfaces etc.. | Cum | 44.40         | 100 cft.     |
| 13  | Random rubble masonry Ist sort in cement mortar including watering and cement pointing to exposed and unplastered surfaces etc..   | Cum | 56.10         | "            |

Appendix Plan and Estimate 14

Draft scheme in accordance with Section 4(2) of the Land Improvement Schemes Act, 1949 (Amended).

Division : Poona Sub-Division : Poona

Village : Bl. No. Taluka :

Dist. Poona.

-----  
Object of the Scheme : 1) Prevention of erosion of soil.  
2) Improvement in Methods of cultivation.

Approximate area to which scheme will apply. Acres-Gunthas.  
Private :  
Government: Nil.

Total :

Work or kinds of work to be carried out under the scheme.

Land development for irrigation.

Agency or agencies through which work shall be carried out.

Soil Conservation Section of the Department of Agriculture, Maharashtra State.

Note : As the work will be done departmentally, the entire expenditure to be incurred by Government on the work including the expenditure on the staff to be employed by the Government for the said work less 25 % subsidy will be recovered in 15 equal annual instalments with interest thereon @ Rs. 4½ %. The instalments are to be paid in the manner as may be directed by Government from time to time.

Sub-Divisional Soil Conservation Officer.

-----  
Survey Number and Pot-hissas included in the scheme.

Survey No. Pot Hissa Numbers.  
-----

मुंबई राज्य जमीन सुधारणा कायदा, १९४९ (सुधारलेला),

क्रम ५ (२) अन्वये जाहीर नोटीस.

मुंबई जमीन सुधारणा कायदा (सुधारलेला) क्रम ४(१) अन्वये तयार केलेली जमीन संरक्षण व धूप प्रतिबंधक योजना या नोटीसीने प्रसिध्द करण्यांत येत आहे.

या योजनेचे पुढे दिव्याप्रमाणे उद्देश आहेत:-

१. जमिनीचे धूप यापासून संरक्षण करणे,
२. जमिनीचे धूप थांबविणे,

उदाहरण योजना जिल्हा जमीन सुधारणा मंडळ ..... यांनी जमीन सुधारणा कायदे क्रम नं. ५(१) अन्वये मंजूर केले आहे.

जमिनीचा तपशील

| जिल्हा | तालुका | गांव | जमिनीचे वर्णन | कराव्याचे काम |
|--------|--------|------|---------------|---------------|
|        |        |      |               |               |
|        |        |      |               |               |

या योजनेशी ज्या कोणाचा संबंध असे त्या सर्वांनी आपले म्हणणे अगर जडीजडचणी अगर तक्रारी करणे असल्यास त्या स्थानी या कामी चौकशी अधिकारी म्हणून नेमलेले ऑफिसर (सॉईल कॉन्सर्व्हेशन) ..... यांचे कडे ..... चे अंत ..... येथे त्यांचे ऑफिसांत समहा हजर राहून देखी अगर तोंडी नोंद घेणेची तजवीज करावी.

तारीख.....

डिव्हिजनल सॉईल कॉन्सर्व्हेशन ऑफिसर व लिटणीस, जिल्हा जमीन सुधारणा मंडळ.

Notification by the Secretary, District Land Improvement Board.

Notice under Section 9(2) of the Land Improvement Schemes Act (Amended), 1942.

Notice is hereby given that the schemes, providing for (1) Prevention of erosion of soil and (2) Introduction of dry farming methods for the lands described in column 4 of the annexed schedule situated in the village of the taluka of \_\_\_\_\_ district specified in columns 2 and 3 respectively of the said schedule, has been sanctioned by the District Land Improvement Board, \_\_\_\_\_ under Section 9(1) of the Land Improvement Schemes Act (Amended), 1942. The Board has appointed the Sub-Divisional Soil Conservation Officer \_\_\_\_\_ to execute the scheme under Section 11(1) of the Act.

Schedule

| Sr. No. | Village and Block No. | Taluka | Sy. Nos. and other description of lands. | Work to be done. |
|---------|-----------------------|--------|--|------------------|
|         |                       |        |  |                  |

Place :

Date :

Divisional Soil Conservation  
 Officer, \_\_\_\_\_ and Secretary,  
 District Land Improvement Board

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Appendix Execution of Land Development I

## DEPARTMENT OF AGRICULTURE

## Soil Conservation Section

Monthly progress report of survey and preparation of plans and estimates of land development under Area Programme.

Month :

Division :

District :

Sub-Division:

I Target.

Acres.

- i) Area to be surveyed
- ii) Area of which plans and estimates are to be prepared.
- iii) Area of which plans and estimates to be sanctioned.

II During the month

- i) Area surveyed
- ii) Area of which plans and estimates are prepared.
- iii) Area of which plans and estimates are sanctioned.

III Since 1st April 196 . . .

- i) Area surveyed
- ii) Area of which plans and estimates are prepared.
- iii) Area of which plans and estimates are sanctioned.

DEPARTMENT OF AGRICULTURE

Soil Conservation Section

Progress report on Land Development under Area Programme:

Month :

Division :                      District :                      Sub-Division :

I Target :

Part I :

- (i) Area in which earth work is to be carried out :
- (ii) Area in which masonry works are to be constructed :

Part II :

- (i) Area in which earth work is carried out :
- (ii) Area in which masonry works are constructed :

II Work done during the month :

Part I :

- (i) Area in which earth work has been done :
- (ii) Masonry works constructed :

Part II :

- (i) Area in which earth work is carried out :
- (ii) Area in which masonry work is carried out :

III Progressive work done :

Part I :

- (i) Area in which earth work has been carried out :
- (ii) Area in which masonry work have been constructed :

Part II :

- (i) Area in which earth work has been carried out :
- (ii) Area in which masonry works have been constructed :

IV. Expenditure during the month :

Part I :

- (i) Earth work :
- (ii) Masonry work :

Part II :

- (i) Earth work :
- (ii) Masonry work :

V. Progressive Expenditure

Part I :

- (i) Earth work
- (ii) Masonry work

Part II :

- (i) Earth work :
- (ii) Masonry work:

VI. Expenditure on establishment :

- (i) During the month
- (ii) Progress

VII. Total expenditure :

- (i) During the month :
- (ii) Progressive :

Submitted to the Superintending Agricultural Officer  
Divisional Soil Conservation Officer

Sub-Divisional Soil Conservation  
Officer.

Copy submitted to the Director of Agriculture, M.S. Poona-1.

Recovery statement appendix IReady Reckoner

Ready reckoner for calculating recoverable amount for the proto type package programme works carried out prior to 3rd April 1958 at Village Kashti, Block No. 1 Taluka Shrigonda, District : Ahmednagar, Sub-Division Karjat (P.P.).

|   |     | Acres.            |
|---|-----|-------------------|
| (1) Area improved   | Rs. | 150.00            |
| (2) Cost of the work  | Rs. | 12284.28          |
| (3) Add -   |     |                   |
| (i) Actual expenditure on scarcity amenities                            | Rs. | -----             |
| Total Cost of the work.   |     | 12284.28          |
| (ii) Establishment charges at Rs. 33½ per cent of the works cost.       | Rs. | 4094.76           |
| Grand Total :   | Rs. | -----<br>16379.04 |
| (4) Deduct -  |     |                   |
| (i) Subsidy at 25 per cent of the works cost                            | Rs. | 4094.76           |
| (ii) Subsidy at 50 per cent of the works cost                           | Rs. | -----             |
| Net recoverable amount  |     | -----<br>12284.28 |
| (5) Total recoverable amount within 15 years with 4½ per cent interest. | Rs. | -----<br>17156.82 |
| (6) Cost of recovery per acre   | Rs. | 114.3788          |
| (7) Cost of recovery per guntha   | Rs. | 2.8595            |

| Gunthas | Amount<br>Rs. | Gunthas | Amount<br>Rs. | Gun-<br>thas | Amount<br>Rs. | Gun-<br>thas | Amount<br>Rs. |
|---------|---------------|---------|---------------|--------------|---------------|--------------|---------------|
| 1       | 2.8595        | 11      | 31.4545       | 21           | 60.0489       | 31           | 88.6436       |
| 2       | 5.7190        | 12      | 34.3140       | 22           | 62.9084       | 32           | 91.5031       |
| 3       | 8.5785        | 13      | 37.1735       | 23           | 65.7679       | 33           | 94.3626       |
| 4       | 11.4380       | 14      | 40.0330       | 24           | 68.6274       | 34           | 97.2221       |
| 5       | 14.2975       | 15      | 42.8925       | 25           | 71.4869       | 35           | 100.0816      |
| 6       | 17.1570       | 16      | 45.7520       | 26           | 74.3464       | 36           | 102.9411      |
| 7       | 20.0165       | 17      | 48.6115       | 27           | 77.2059       | 37           | 105.8006      |
| 8       | 22.8760       | 18      | 51.4710       | 28           | 80.0654       | 38           | 108.6601      |
| 9       | 25.7355       | 19      | 54.3305       | 29           | 82.9249       | 39           | 111.5196      |
| 10      | 28.5950       | 20      | 57.1894       | 30           | 85.7841       | 40           | 114.3788      |

Contd..



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| Acres. | Amount    | Acres | Amount. |
|--------|-----------|-------|---------|
|        | Rs.       |       | Rs.     |
| 1      | 114.3788  | 15    |         |
| 2      | 228.7576  | 20    |         |
| 3      | 343.1364  | 25    |         |
| 4      | 457.5152  | 30    |         |
| 5      | 571.8940  | 35    |         |
| 6      | 686.2728  | 40    |         |
| 7      | 800.6516  | 45    |         |
| 8      | 915.0304  | 50    |         |
| 9      | 1029.4092 | 55    |         |
| 10     | 1143.7880 | 60    |         |

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Specimen Recovery Statement

Kashti Block No. 1

Part : 1

Taluka : Shrigonda

District : Ahmednagar.

Karjat Package Programme Sub-Division.

.....

FORM NO. III  
(See Rule 5)

135

Serial No.

Rs. n.

Village : Kashti Block No. 1  
Taluka or Petha : Shrigonda  
District : Ahmednagar.

Total cost recoverable :  
Total annual instalment :  
Total cost of work done :

Part I

| Sr. No. | Sy. No. and/or Sub-Divn. No. | Area improved. | Assessment. | Nature of work done |   |    |   |   |    |    | Total amount to be received from owner. | Period of recovery. | Year from which recovery should begin. | Annual instalment. | Person or persons liable to maintain and repair work individually or jointly. | Sr. No. of entry in the mutation Register (V.F.No. VI) and date of certification of the entry. | R e m a r k s |
|---------|------------------------------|----------------|-------------|---------------------|---|----|---|---|----|----|---|---------------------|--|--------------------|---|--|---------------|
| 1       | 2                            | 3              | 4           | 5                   | 6 | 7  | 8 | 9 | 10 | 11 | 12                                      | 13                  | 14                                     | 15                 | 16  | 17   | 18            |
| 1       | 312                          | 9-33           | 7.00        | -                   | 1 | -  | - | - | -  | -  | 1123.77                                 | 15 years            |  | 74.92              | Sarvashri Gokuldas Uttamchand )<br>Gokabchand Kevalchand )                    |  |               |
| 2       | 313/P                        | 9-00           | 8.00        | -                   | - | 1  | - | 1 | -  | -  | 1029.41                                 |                     |  | 68.63              | Shivram Dhondiba Pachapute  |  |               |
| 3       | 318                          | 14-33          | 11.00       | -                   | 1 | 3  | 1 | 2 | -  | -  | 1695.66                                 |                     |  | 113.04             | Raghunath Ganpat Rahinj and other 3.  |  |               |
| 4       | 319                          | 12-39          | 7.00        | -                   | 3 | 1  | 1 | 9 | -  | -  | 1484.06                                 |                     |  | 98.94              | Gokaldas Uttamchand )<br>Gulabchand Kevalchand )                              |  |               |
| 5       | 320                          | 12-05          | 7.00        | -                   | 2 | 4  | 3 | 1 | 1  | -  | 1386.84                                 |                     |  | 92.45              | Smt. Soni W/O. Vithu Kadu   |  |               |
| 6       | 322                          | 15-29          | 15.00       | -                   | 3 | 4s | 2 | 1 | 1  | -  | 1798.61                                 |                     |  | 119.91             | Gulabchand Kevalchand )<br>Gokuldas Uttamchand )                              |  |               |

(Contd..)

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- 2 -

| 1  | 2     | 3     | 4      | 5 | 6 | 7 | 8  | 9  | 10 | 11 | 12      | 13 | 14       | 15     | 16   | 17 | 18 |
|----|-------|-------|--------|---|---|---|----|----|----|----|---------|----|----------|--------|--|----|----|
| 7  | 321   | 18-19 | 17.00  | - | 3 | 2 | 2  | -  | -  | -  | 2113.15 |    |          | 140.88 | Dagadu Gangaram Rahinj   |    |    |
| 8  | 323   | 11-39 | 9.00   | - | 2 | 2 | -  | -  | 1  | -  | 1369.69 |    |          | 91.31  | Yeshwanta Genu Pansare   |    |    |
| 9  | 324   | 17-01 | 12.00  | - | 2 | 1 | 1  | -  | 1  | -  | 1947.30 |    |          | 129.82 | Smt. Bhagabai W/O. Babu Dhurpate.                                    |    |    |
| 10 | 325/P | 17-03 | 3.50   | 1 | 2 | 3 | 4  | 2  | -  | 1  | 1953.02 |    |          | 130.20 | Gulabchand Kevalchand, Gulabdas Uttanchand                           |    |    |
| 11 | 317/P | 10.39 | 12.00  | - | 2 | - | -  | 1  | -  | -  | 1255.31 |    |          | 83.69  | Bhau Rama Rahinj )<br>Bajarang Rama Rahinj )<br>Lahanu Rama Rahinj ) |    |    |
|    |       |       |        |   |   |   |    |    |    |    | -----   |    |          |        |  |    |    |
|    |       |       | 150.00 |   |   | 1 | 21 | 21 | 14 | 17 | 4       | 1  | 17156.82 |        |  |    |    |
|    |       |       |        |   |   |   |    |    |    |    | -----   |    |          |        |  |    |    |
|    |       |       |        |   |   |   |    |    |    |    |         |    | 1143.79  |        |  |    |    |

Certificate :

ib-Divisional Soil Conservation  
Officer.

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Sy. No. 322.

Specimen.

READY RECKONER

Proto type

Ready reckoner for calculating recoverable amount for the Package Programme works carried out . Village : Kashti, Block No. 1 , Taluka : Shrigonda, Dist : Ahmednagar, Sub-Division: Karjat .

|  | Acres.  |
|--|---------|
|  | Rs.     |
| (1) Area improved  | 15.29   |
| (2) Cost of the work   | 249.60  |
| (i) Actual expenditure on scarcity amenities                           | --      |
| Total Cost of the work   | 249.60  |
| (ii) Establishment charges at Rs. 33 1/3 per cent of the works cost.   | 83.20   |
| Grand Total :  | 332.80  |
| (4) Deduct -   |         |
| (i) Subsidy at 25 per cent of the works cost                           | 83.20   |
| (ii) Subsidy at 50 per cent of the works cost                          | --      |
| Net recoverable amount.  | 249.60  |
| (5) Total recoverable amount within 15 days with 4½ per cent interest. | 348.60  |
| (6) Cost of recovery per acre.   | 22.1685 |
| (7) Cost of recovery per guntha  | 0.5542  |

| Gun-thas | Amount Rs. | Gun-thas | Amount -Rs. | Gun-thas | Amount Rs. | Gun-thas | Amount Rs. |
|----------|------------|----------|-------------|----------|------------|----------|------------|
| 1        | 0.5542     | 11       |             | 21       |            | 31       |            |
| 2        | 1.1084     | 12       |             | 22       |            | 32       |            |
| 3        | 1.6626     | 13       |             | 23       |            | 33       |            |
| 4        | 2.2168     | 14       |             | 24       |            | 34       |            |
| 5        | 2.7710     | 15       |             | 25       |            | 35       |            |
| 6        | 3.3252     | 16       |             | 26       |            | 36       |            |
| 7        | 3.8794     | 17       |             | 27       |            | 37       |            |
| 8        | 4.4336     | 18       |             | 28       |            | 38       |            |
| 9        | 4.9878     | 19       |             | 29       |            | 39       |            |
| 10       | 5.5420     | 20       | 11.842      | 30       | 17.764     | 40       | 22.1685    |

Contd..

12.11

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| Acres | Amount.<br>Rs. | Acres | Amount.<br>Rs. |
|-------|----------------|-------|----------------|
| 1     | 22.1685        | 15    |                |
| 2     | 44.3370        | 20    |                |
| 3     | 66.5055        | 25    |                |
| 4     | 88.6740        | 30    |                |
| 5     | 110.8425       | 35    |                |
| 6     | 133.0110       | 40    |                |
| 7     | 155.1795       | 45    |                |
| 8     | 177.3480       | 50    |                |
| 9     | 199.5165       | 55    |                |
| 10    | 221.6850       | 60    |                |

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Serial No.  
Rs.

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Specimen Recovery statement

Kashti Block No. 1, Sy. No. 322

Part II.

Taluka : Shrigonda.

District : Ahmednagar.

Karjat Package Programme Sub-Division.

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FORM No. III  
(See Rule 5)

Rs. n.

Village : Kashti Block No. 1 SY.No.322  
Taluka or Petha : Shringonda  
District : Ahmednagar. Part II.

Total cost recoverable :  
Total annual instalment:  
Total cost of work done:

| Sr. No. | Sy.No. and/or Sub-Dn. No. | Area  | Assessment. | Nature of work<br>Graduated Land Board Level<br>Bands Grad-er -ling striping | Total amount to be recovered from owner. | Period of recovery. | Year from which recovery should begin | Annual instalment. | Person or persons liable to maintain and repair work individually or jointly. | Sr.No. of entry in the mutation register (V.F. No.VI) and date of certification of the entry. | Remarks. |    |    |    |
|---------|---------------------------|-------|-------------|--|--|---------------------|---------------------------------------|--------------------|---|---|----------|----|----|----|
| 1       | 2                         | 3     | 4           | 5  | 6  | 7                   | 8                                     | 9                  | 10  | 11  | 12       | 13 | 14 | 15 |
| 1)      | 322                       | 15.29 | 15.00       | 6  | 348.60                                   | 15 yrs.             |                                       | 23.24              | Shri Gulabchand Kevvalchand Gokaldas Uttamchand.                              |   |          |    |    |    |
|         |                           | 15.29 | --          | 6  | 348.60                                   |                     |                                       | 23.24              |   |   |          |    |    |    |

Certificate :

Sub-Divisional Soil Conservation Officer.