

# APPENDIX

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U. S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON 25, D.C.

INSTRUCTIONS TO ENUMERATORS  
(D1 Drainage Questionnaire)

Census of Drainage: 1950

1. Responsibility

You are responsible to your immediate drainage supervisor for the complete and accurate enumeration of the counties to which you are assigned.

Your supervisor may be either a drainage crew leader, or a special supervisor for drainage, dependent upon the State in which you are working. You will observe the instructions given by your supervisor as well as the instructions that may from time to time be issued from Washington by the Chief of the Field Division.

2. Work Week

The work week is 8 hours per day for the first 5 days of the week. Any work in excess of 40 hours per week must be authorized by your supervisor. The normal working hours are from 8:30 a.m. to 5:00 p.m., however, local conditions may make other hours more desirable.

3. Travel and Per Diem

You will be instructed in travel regulations and in other administrative matters by the area supervisor or by a district Census supervisor. An official station will be designated for you. Per diem will be allowed in accordance with official travel regulations as they apply to area officials. Automobile travel and travel by common carrier may be authorized at the discretion of the area supervisor.

4. Miscellaneous Expenses

You may buy maps or have maps reproduced that are needed in the enumeration if that is the only way in which the maps are available, and provided such purchases would be advantageous to the Government. For this purpose you are authorized, where necessary, to incur costs for maps of not to exceed \$10.00 for any county. If the cost of the maps would be in excess of \$10.00, you should consult with your supervisor before arranging to procure them.

Map purchases may be paid for by the area office issuance of public voucher Form 1034. You may, however, pay for the map and claim reimbursement on your travel voucher. If you claim reimbursement, you must submit a signed detailed receipt if the amount is \$1.00 or more.

Telephone calls for official business may be made from and charged to district offices or be made collect to district or area offices. Such calls should be charged to Project 5531. Reimbursement for official toll calls which you pay for may be claimed on your travel voucher. Such claims must be supported by a receipt if for \$1.00 or more. If made from a pay station, reimbursement may be claimed by stating all of the pertinent facts.

5. District Supervisors

You should make yourself known to the district Census supervisor when you begin work in his district. Your drainage supervisor will inform you more fully on this matter.

You will find that district supervisors may be of great help to you because of their knowledge of local

conditions. He should also provide you with various facilities when needed.

6. Public Relations

You must perform your work in a courteous, efficient manner so as to maintain good public relations. The regulations of the office in which you are working must be observed. Records and files must be carefully handled to avoid damage, and all materials promptly returned to their proper places as directed by the responsible official. No materials may be removed from an office for any purpose without the express permission of the official in charge. Written permission must be secured before valuable documents are taken to other agencies for reproduction. Receipt should be secured for the return of the material.

Under no circumstance should any criticism be made or implied of the records or lack of them, or the manner in which records are maintained, or the legality of any act.

7. Introduction

A major responsibility of the Bureau of the Census is the gathering, tabulating, and publishing of statistics useful to the general public. The 1950 Census of Drainage involves the collection of data on the drainage of agricultural lands in the United States. In your capacity as enumerator it will be your job to fill a Form D1 Drainage Questionnaire for each county assigned to you for enumeration. That assignment will be made by the Special Supervisor for Drainage or by the Drainage Crew Leader who conducts your training. He will also give you instructions on how to contact him when, and if, you encounter problems in carrying out your assignment. As your Supervisor or Crew Leader he will direct your activities in the Field and check the questionnaires which you fill. You should keep all completed questionnaires in your portfolio readily available for his inspection. He will receive from you all questionnaires that are satisfactorily completed. If any are not satisfactory he will instruct you on what action is required.

These instructions are prepared for your general information and as an aid to filling the questionnaire. You should study the questionnaire and these instructions carefully. Any points that need clarification should be brought to the attention of your Drainage Supervisor or Crew Leader.

NOTE: The term "drainage project" used in the questionnaire, and in these instructions, is meant to denote either a "drainage ditch" or a "drainage district."

8. Materials Supplied By The Census Bureau

Before, or during, the training period you will be provided with the following supplies:

- 1 - Portfolio.
- 1 - Copy of "Instructions to Enumerators, Census of Drainage: 1950" (Applicable to Form D-1 Drainage Questionnaire.)
- 20 - Copies of the Form D-1 Drainage Questionnaire.
- 1 - "List of Drainage Projects of 500 acres or

## DRAINAGE OF AGRICULTURAL LANDS

more" for each county assigned to you for enumeration.

- 15 - Cards for reporting new drainage and additional disbursements.
- 2 - Outline maps for each county you are to enumerate.
- 50 - "Weekly Progress Report Forms."
- 1 - Pamphlet, "Drainage of Agricultural Lands: 1940."
- 2 - 8" x 10½" ruled scratch pads.
- 6 - Red pencils.
- 2 - Lead pencils.
- 1 - Eraser.
- 1 - 12" ruler.
- 15 - Franked envelopes, letter size.
- 6 - 9" x 12" franked, manila envelopes.
- 15 - Sheets of carbon paper (8" x 10½") in envelope.
- 1 - Roll of masking tape.
- 6 - Sheets of tracing paper 20" x 20" minimum size.
- 6 - Registry labels.

#### 9. Where to Find Data for Filling the Form D-1 Questionnaire

County drainage projects are managed, for most part, by a County Engineer or a County Surveyor under the general supervision of a Board of County Commissioners, a Board of County Supervisors, or a County Drainage Commissioner. Maps and other engineering data pertaining to drainage projects are usually filed in the Office of the Engineer or Surveyor; sometimes they are filed in the Office of the County Auditor. Data on drainage costs, disbursements, and receipts are ordinarily maintained in the Office of the Engineer for Drainage or the County Auditor. The offices of these county officials are ordinarily located in the County Courthouse.

The opening hours of the Courthouse Offices vary from town to town. The Engineer for drainage, frequently does his field work beginning early in the morning. You will make yourself known to the County Engineer for Drainage or to the County Auditor and state the purpose of your visit. While doing this you should present, for his inspection, your Census Bureau identification card. This card should be kept handy for presentation at all times. A copy of the D-1 Drainage Questionnaire should also be readily available and should be handed to the County Official at some time during your introductory remarks. The chances are he will look it over and make comments regarding the availability of the data.

Frequently, he will want to discuss the questionnaire with you before he arranged for you to have access to the files. In most cases he will show you the filing system and point out ledgers or file cabinets where drainage data are kept. Sometimes, he will ask one of his assistants to help you locate the data for filling the D-1 Questionnaire. When you have arranged for a working space and examined the data sources you are ready to fill the D-1 Questionnaire for the county.

#### 10. Filling the Questionnaire

The entries on the D-1 Drainage Questionnaire shall be made in ink.

While unlikely, it is possible that you may be assigned a county in which there never has been an organized drainage project. In such case you should fill Question 1, check the "None" box for Question 4, explain under "Remarks" how you determined that there

were no drainage projects in the county, fill in the Enumerator's Record, and put the Questionnaire in your portfolio. This Questionnaire should be given to your Drainage Supervisor or Crew Leader with all other completed Questionnaires.

#### Section I.—Management

11. Q. 1. What is the name of this county? Enter the name of the county for which the questionnaire is being filled.
12. Q. 2. What is the name and title of the official, or board, which has jurisdiction over drainage projects in this county? Enter the name of the person who has direct responsibility for the management of drainage projects in the county or has been delegated such responsibility by a board or commission. If this authority has not been delegated to one individual, give the name of the board which has supervision over drainage projects.
13. Q. 3. What is the address? Give the business address of the official or board named in question 2.

#### Section II.—Land Included in Drainage Projects

14. Q. 4. What is the total area of the lands included in drainage projects in this county? If there has been an organized drainage project in this county it will be necessary in most cases for you to obtain or prepare a map showing the total area of drainage project, or projects. However, in case only one project occupies a part of a county, and there is no other project in this part of the county, you may indicate the general location of the project on your map and indicate the number of acres covered by the project if this acreage is readily available. DO NOT PREPARE A MAP OF THE AREAS INCLUDED IN DRAINAGE PROJECTS IF A MAP SHOWING THE BOUNDARY OUTLINES FOR THOSE PROJECTS CAN BE PROCURED.
15. If satisfactory maps can be obtained

If a map can be obtained you should determine the extent to which projects have been shown by conferring with a County Official having knowledge of the drainage areas. You should map any projects of 500 acres or more not shown on the map. The name, or number of the new projects should also be added to the "List of Enterprises" supplied by the Bureau. The drained areas that are shown on the map, as well as those you sketched-in should be shaded with a red pencil. You should attach the map to the Questionnaire and enter the words, "See attached map" in the space for Question 4.
16. If satisfactory maps cannot be obtained

In such cases, it will be necessary for you either to manually prepare a copy of an existing map or to have a mechanical reproduction made. If copies of maps cannot be obtained, county officials should be consulted to determine the best method of making a copy. If the county has reproducing facilities they, of course, should be used. If the maps have to be taken outside for reproduction you must first secure written permission to do so.

#### a. Making a tracing

Where it is economical to do so you may make a tracing of the map. Extreme care must be taken to avoid damaging the original. A supply of tracing paper and masking tape has been provided for making tracings.

The tracing should include sufficient location points to definitely locate the drained areas within the county so that they can be properly transferred to another map if necessary.

These location points should include township and range numbers on the boundaries of the map, and such township, range, and section lines within the map as are necessary to properly locate the drained land. If only a small part of the county is drained it will be necessary to trace only that portion of the county in which the drained areas are located and sufficient of the immediate adjacent area so that the location within the county can be unquestionably determined.

In the survey States where township, range, and section lines are shown it is not necessary to map rivers, unless they form a part of the drainage works, nor to show towns, roads or other culture. If the survey lines are not clearly shown for the areas affected, and in the non-survey States, it will be necessary to show some rivers, roads, and other culture in order to definitely locate the drained areas within the county.

In all cases the names of both the county and the State must be shown. The scale must also be indicated.

If the map is too large to be conveniently traced on a single sheet, the tracings may be made in sections. If made in sections, they must adjoin properly, and each section must be clearly labeled as to County, State, scale and that it is section \_\_\_\_\_ of \_\_\_\_\_ sections.

b. Making a freehand sketch

From an office map of the county transfer to your map, in freehand fashion, the boundary lines for each project of 500 or more acres. A map supplied by the County is sometimes preferable to the one supplied by the Bureau. In all cases the scale of the map should be noted on any reproduction. When a freehand reproduction is made it will not be necessary to show the complete outline for each project when the boundaries of one join those of another, or when one project covers all or any part of another project. In other words, if there is a continuing area covered by adjoining projects, sketch in the outer boundaries but not those that connect adjacent projects. All of the area enclosed by the outline boundaries should be shaded with a red pencil. The name, or number, of each project should be transferred to your map so that it will show the approximate location of those projects. Any projects of 500 or more acres not shown on the office map should be sketched in and identified on your map.

If necessary to make a freehand copy of county maps, reasonable care must be used in properly placing the lines on your copy. No attempt should be made to show small changes in boundary lines within a "40." Where large areas are involved the lines should be drawn in the proper quarter section in proper general direction. Where areas of only a few thousand acres are involved the lines should be drawn through the proper "40." Similar limitations should be observed in the non-survey areas.

In preparing maps you should use the best map available for the purpose. If the county has a

better map than has been supplied you by the Census Bureau, you should obtain a copy, if possible, for use in preparing your map of the drained areas.

Where a county has maps that show the location of the drains, but does not show the project boundaries, copies should be obtained and used either as a base on which to map the drained acres, or as a guide in preparing another map on which the drained acres are shown.

17. If maps are not available.

If adequate maps cannot be procured by any of the above methods, or, if there are no maps, it will be necessary for you to prepare a sketch based upon individual project outlines or upon other data derived from an examination of the drainage records.

Assistance in preparing this sketch may be found by referring to the "List of Drainage Enterprises of 500 or More Acres" supplied by the Bureau. This list contains the names of projects known to have been in existence in each county at some time prior to 1940. This list may not be complete as to name, number of acres, etc., for any particular county and it should be revised and supplemented by any additional information shown in the records. Projects of 500 or more acres completed since 1940 should be added to this list.

If the county records do include an individual map for each project you may find it convenient to use one of the following methods to get the boundaries transferred to your county map:

Method No. 1—On your county "List of Drainage Enterprises of 500 Acres or More" find the project showing the largest acreage. Locate, in the county records, the data pertaining to the project. A plat showing project boundary lines usually forms a part of these data. The boundary lines shown on the plat should be sketched in, in freehand fashion, on your county map. Place a check mark by the name of that project on your "List of Enterprises" sheet. Now, locate the next largest project and sketch-in its boundaries on the map. Proceed in this manner, until you have sketched-in, on your map, a boundary for each successively smaller project shown on your "List of Enterprises." As each boundary is sketched-in, the area it covers on the map should be shaded lightly with a red pencil. This will make it easier for you to tell whether any part of the area for a project has already been shown on the map. If some part of a project area has already been shaded on the map you should sketch-in only that part of the project lying outside the shaded area. When you have exhausted the list of projects by transfer of project outlines to the map, the area shaded in red will represent the lands included in drainage projects in that county. You should attach the map to the Questionnaire and enter the words "See attached map" on the Questionnaire in the space for Question 4.

Method No. 2—Locate in the county records the plat showing the boundary for the most recent drainage project of 500 acres or more. Sketch-in the boundary for that project on the best county map available for that purpose. Now, find that data for the next most recently organized project and transfer its boundaries to your map. Proceed in this manner, taking the project next in order from the standpoint of date, until you have sketched-in the total area included in drainage projects in that county. Observe all the other points emphasized in Method No. 1.

## DRAINAGE OF AGRICULTURAL LANDS

Method No. 3—Verify the boundaries for the small areas shown as not drained on the map to be found in your copy of "Drainage of Agricultural Lands: 1940." The verification should include an examination of county records to find the assessed areas that adjoin the undrained spots shown on the map. Those records should establish the boundaries for the assessed, or drained, areas. The non-assessed area may, or may not, coincide with the unshaded area on the map. If not, you should discuss the situation with a county official believed to have a good knowledge of the area in question. You should adjust the boundaries on your map to the actual conditions.

In some counties you will find that individual project maps are unusable or not available. The procedure in such cases involves the preparation of a sketch for each project based upon the county's drainage tax assessment records. You will find, in many cases, that a county map procured from a County Official, will be more useful and advantageous for this kind of sketching than the one provided by the Bureau.

Reading from the tax assessment records you should shade-in, red pencil, all of the land described on the tax list. Sometimes it is easy to read off and shade-in an entire quarter-section which comprises 4 of the 40-acre units; or a half-section, which comprises 8 of these units. Sixteen 40-acre units constitute an entire section. Continue to sketch-in the data shown on tax descriptions until the total area in drainage projects has been shaded with red on the map which you are preparing. Attach the map to the Questionnaire and enter the words, "See attached map" in the space for Question 4.

The primary purpose of any of these procedures is to sketch-in the drained areas on a county map in such manner that the shaded portions can later be measured by a planimeter or other measuring device. This measure will provide a figure representing the total area included in drainage projects for that county. This means that the outside boundary lines must be clearly defined so that the measurement can be easily made.

18. Section III.—Cost of Drainage, Indebtedness, and Assessments.

In some States a uniform system for reporting, annually, the financial condition of its counties has been established. These reports usually show the financial items concerning drainage. Such reports, if available, are usually filed in the Office of the County Auditor. They contain in most cases, the amount of taxes and special assessments collected, the total amount of disbursements, and the bonded or other forms of indebtedness. The data for each of the ten specified years should be obtained and entered on the Questionnaire in the manner outlined below. If the Annual Financial Reports are NOT available from the County Auditor, or other County Official, the county appropriation ledger, or other financial records, should be requested and searched for the data needed. Verify, with the Auditor, any figures taken before entering them on the Questionnaire. If the published records do not show financial data by calendar years, you will need to obtain the data on that basis by reference to financial ledgers, etc., in the County Courthouse.

19. Q. 5(a). What was the total cost of construction and operation and maintenance of drainage works in this county? Disbursement classes usually found on County Financial Reports are "Sanitation and Drainage" and "Ditch Fund," or similar items. Under one of these headings the payments for total ditch work will be shown. The figures shown to be reported on the questionnaire for any year, should include all amounts paid out for construction and operation and maintenance, the amount paid on bonded and other debts, and the amount of interest paid on such debts. The figure showing the county disbursements for drainage for each of the specified years should be entered for that same year on the questionnaire. If data are not available for all of 1949, you should get an estimate for the entire year and explain how the estimate was made under "Remarks."

If data from financial ledgers are used it is possible that several disbursement items may have to be added to get the TOTAL amount paid out for drainage. If so, add the items and enter the total for each year in the space provided for that purpose on the questionnaire. If there were no disbursements for a specified year, check the "None" box for that year.

20. Q. 5(b). Of the total reported in (a), what portion represents disbursements for new drainage projects (for lands not previously drained)? Consult the County Auditor or some other county Official familiar with drainage work in the county before you answer this question. Because of his knowledge of the records showing data for recently drained lands, as well as those showing distribution of costs, he should be of great help to you in finding the amount spent each year for new construction. Keep in mind that the amounts reported for this question must be the annual amount paid out for new drainage works.
21. Q. 6. What was the outstanding indebtedness on December 31, 1949, which was incurred for the drainage of agricultural lands in this county? If there was no indebtedness on that date, check the box for "None." If the county had an outstanding drainage debt, the amount entered should include the total amount of bonds outstanding and the amount of all other debts incurred to finance the drainage of agricultural lands. Verify the indebtedness figures with the Auditor's Office before entering it on the questionnaire.
22. Q. 7. What was the amount of taxes and other special assessments collected to meet the cost of draining agricultural lands in this county? If there were no taxes or other special assessments collected for drainage purposes check the box for "None." If taxes and assessments were collected enter the amount for each specified year in the space provided for that purpose. Include interest and penalties collected with delinquent taxes and the net proceeds of tax sales. Verify the figure for each year with the County Auditor's Office before entering it on the questionnaire.

Section IV.—Drainage Works

23. Q. 8. Have any of the following types of new drainage works been constructed in this county since January 1, 1940?
- (a) Open ditches? Give the total length of new artificial channels and/or natural waterways improved for the first time. Do not include private farm ditches.

(b) Tile drains? Give the total length of new tile drains, regardless of size.

(c) Levees or dikes? Give the length of levees and dikes.

The answer to these three questions may best be obtained from the Engineer's survey description of the drainage works. These survey descriptions should be available in the Office of the County Engineer or County Surveyor. The length of new drainage works can usually be obtained by reference to the survey description. If two or more different types of works, such as open ditches and tile, are included in the drainage project be sure to determine the correct length for each type of new works.

If survey descriptions are not available consult the County Auditor for other records which contain a description of the new works. These descriptions may be found in separate folders maintained for each project, in ditch record books, or in the Auditor's Assessment Statements. The length is usually given for each type of drainage works included in the project.

Survey descriptions may prove to be the most accurate and the most convenient to obtain, and should be used if available.

24. Remarks

Do not fail to give in this section any explanatory notes contributing to full information regarding records and methods used to obtain data in the county. You should note in all cases how the area you reported in Question 4 was determined. (Note especially whether this area represents area taxed, area benefited, etc.)

25. Enumerators' Record

Fill the spaces for State, County, your name, and date, shown on the first two lines of the Enumerator's Record. Keep the Questionnaire in your portfolio until called for by your Drainage Supervisor. Your Supervisor is required to review your work and to indicate on each questionnaire that he has done so.

26. Card for reporting additional data

You are required to leave one of the Form 17-Fld-60 cards with an Official of each county which you enumerate before January 1, 1950. This card is self-explanatory but will be discussed, and additional instructions given for its use in the training session.

27. Weekly Reports

On every Friday you are required to prepare and mail a progress report (Form 17-Fld-61) in quadruplicate. The original will be sent to the Area Office, the duplicate to your Supervisor or Crew Leader, the triplicate to Chief, Field Division, Bureau of the Census, Washington 25, D.C. The quadruplicate will be retained for your own files. The Weekly Progress Report Form will be discussed in detail and specific mailing instructions provided at some time during your training period.

28. Additional Instructions

If problems arise that are not covered by these instructions, consult your Supervisor or Crew Leader. You will be supplied with a copy of the additional instructions as they are issued.

DRAINAGE OF AGRICULTURAL LANDS

This inquiry is authorized by Act of Congress (46 Stat. 21, 15 USC 201-210) which requires that a report be made. The information furnished is accorded confidential treatment, subject to the provisions of law. U. S. DEPARTMENT OF COMMERCE—BUREAU OF THE CENSUS WASHINGTON DRAINAGE QUESTIONNAIRE (Organic Enterprise) Seventeenth Decennial Census of the United States: 1950

DEFINITIONS AND GENERAL EXPLANATIONS

This census relates only to the drainage of agricultural lands. Drainage of agricultural lands is the act or process of drawing off an excess of water for the purpose of improving the condition of the land. It is accomplished by means of underground conduits, pipes, or tiles; by open or covered trenches in the surface of the ground; or by pumps operated to lower the ground-water table. Land protected from overflow by levees, dikes, or embankments is not considered as drained land unless some form of drainage works has been constructed on the protected land. A drainage enterprise, for the purpose of this census, is an area of 500 acres or more— (a) Organized as one drainage district; or (b) Assessed for the same public drain; or (c) Drained by works operated as one undertaking under private or corporate ownership. A questionnaire should be filled for each drainage enterprise. If an enterprise is located in more than one county, a separate questionnaire should be prepared for each county. Do not fill a questionnaire for an enterprise that had been organized but on which construction had not started on January 1, 1950.

- This questionnaire is to be used in the following States: Alabama, Georgia, Mississippi, New Mexico, Texas, Arizona, Idaho, Missouri, New York, Utah, California, Kansas, Nebraska, North Carolina, Virginia, Colorado, Louisiana, Nevada, Oklahoma, South Carolina, Washington, Delaware, Maryland, New Jersey, Tennessee, Wyoming, Florida.

Section I.—MANAGEMENT, JANUARY 1, 1950 (Check one) 1. What is the name of this drainage enterprise? 2. What is the name and title of the official, board, or individual who controls this enterprise? 3. What is the address? (Four or street number) (Post Office) (State)

Section II.—TYPE OF ENTERPRISE, JANUARY 1, 1950 (Check one) 4. Which of the following types of organization operates this enterprise? (1) Drainage district (2) County drain (3) Commercial development project (4) Township drain (5) Individual ownership drain (6) State project (7) Irrigation project—Federal (X) (8) Other (give name) 5. In what year was this enterprise organized? 6. Was drainage begun by a different enterprise, or under a different type of organization, than the present enterprise?

Section III.—PURPOSE OF DRAINAGE, JANUARY 1, 1950 (Check all that apply) 7. What was the principal purpose for which this drainage enterprise was organized? (1) Reclamation or improvement of land (2) Protection of land against overflow (3) Removal of alkali or seepage from irrigated land

Section IV.—LOCATION OF ENTERPRISE, JANUARY 1, 1950 8. What is the name of the lake, stream, or ditch receiving discharge from this drainage enterprise? 9. What is the location of the outlet of this drainage enterprise? (If survey description by section, township, and range is not available, give the distance and direction from some nearby town.) 10. Are any of the lands in this drainage enterprise located in other counties? 11. What is the total area of this enterprise? 12. What is the location of lands in this drainage enterprise which are in this county? (Give the name of the political subdivisions such as townships, precincts, beats, districts, wards, etc.)

Section V.—LAND IN ENTERPRISE IN THIS COUNTY, JANUARY 1, 1950 13. What is the total area of this enterprise in this county? 14. What part of the total area reported in question 13 is included in later enterprises? 15. What part of the total area reported in question 13 is NOT included in later enterprises? (The total of the acres for questions 14 and 15 should equal the acres for question 13.)

Section VI.—DRAINAGE CONDITION IN 1949 (Question 16 relates only to degree of wetness of the land, regardless of its actual use.) 16. What part of the area reported in question 13 has— (a) Poor drainage (b) Fair drainage (c) Good drainage (d) Excellent drainage

Section VII.—COST OF DRAINAGE, INDEBTEDNESS, AND ASSESSMENTS 17. For each year, answer these two questions: (a) What was the total cost of construction and maintenance of drainage works for this enterprise in this county? (b) Of the total reported in (a), what part was expended for new drainage lands not previously drained?

Section VIII.—DRAINAGE WORKS, JANUARY 1, 1950 21. What area in this enterprise was delinquent in payment of drainage taxes in this county, on December 31, 1949? 22. Have any of the following types of new drainage works been constructed by this enterprise in this county, since January 1, 1947? (a) Open ditches (b) Tile drains (c) Levees or dikes (d) Leaves or dikes (e) Many drainage works are planned, but not yet started

Section IX.—ASSESSMENTS AND REMARKS 23. How many pumping units does this enterprise operate? 24. How many pumping units does this enterprise operate? 25. What part of the area reported in question 13 is served by pumps? REMARKS (Use reverse side for additional remarks):

Budget Bureau, No. LC-922 Approval expires December 31, 1950 18. What was the outstanding indebtedness of this enterprise in this county, on December 31, 1949? 19. Was this enterprise in arrears in payment of principal or interest on bonds or other obligations on December 31, 1949? 20. What was the amount of acreage? 21. What was the amount of taxes and other special assessments collected, in this county, to meet the cost of drainage agricultural lands by this enterprise, for each of the following years? 1940-1949

21. What area in this enterprise was delinquent in payment of drainage taxes in this county, on December 31, 1949? 22. Have any of the following types of new drainage works been constructed by this enterprise in this county, since January 1, 1947? (a) Open ditches (b) Tile drains (c) Levees or dikes (d) Leaves or dikes (e) Many drainage works are planned, but not yet started

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BUREAU OF THE CENSUS  
WASHINGTON 25, D.C.

INSTRUCTIONS—CENSUS OF DRAINAGE: 1950

(Form D2, Drainage Questionnaire)

PART I. ENUMERATORS INSTRUCTIONS

Definition and General Explanations

The Census of Drainage relates only to the drainage of agricultural lands.

- E1. Definition of drainage.—Drainage of agricultural lands is the act or process of drawing off an excess of water for the purpose of improving the condition of the land. It is accomplished by means of underground conduits, pipes, or tiles; by open or covered trenches in the surface of the ground; or, by pumps operated to lower the ground-water table. Land protected from overflow by levees, dikes or embankments is not considered as drained land unless some form of drainage works has been constructed on the protected land.

- E2. Drainage enterprise.—Drainage of agricultural lands is characteristically carried on by a community organization of land owners on a given natural or artificial watercourse. Ditches or other drainage works are constructed or improved which will be of common benefit to the lands.

Each association of land owners legally organized for drainage of agricultural lands is considered to be a separate drainage enterprise. For this canvass, drainage enterprises are also considered to include: (1) irrigation enterprises that have installed drainage works supplementary to the irrigation works; (2) private corporations—either farming or land sales organizations—which have drained lands used or to be used for agriculture; (3) drainage developments by individual farm owners; and (4) partnerships or mutual organizations that have constructed drainage works operated as separate undertakings.

A drainage enterprise, for the purpose of this census, is an area of 500 acres or more—

- (a) Organized as one drainage district; or  
(b) Assessed for the same public drain; or  
(c) Drained by works operated as one undertaking under private or corporate ownership.
- E3. Purpose of Census of Drainage.—The object of the Census of Drainage is to collect and publish information on the extent and location of land included in drainage projects; the adequacy of the drainage works; the cost of construction and operation and maintenance; indebtedness; assessments since January 1, 1940; and the character and extent of drainage works constructed since January 1, 1940. These data are useful to individuals and agencies interested in planning for the development and use of the land resources of the United States.
- E4. Questionnaires to be Used.—Two questionnaires will be used in the Census of Drainage but only one of these reporting forms will be used in any one State.

Form D1 will be used for the following States:

Delaware	Michigan	Ohio
Indiana	Minnesota	Oklahoma
Iowa	North Dakota	South Dakota
Kentucky		

In these 10 States most of the enterprises are county drains; for conveniences, we call these "County Drain States." Enterprises in these States are usually under the jurisdiction of county officials. For these 10 County Drain States, only one questionnaire—Form D1—will be filled for each county. This will be filled on a county basis, not on an enterprise basis.

The Census of Drainage in Indiana, Iowa, Kentucky, Michigan, Minnesota, and Ohio was begun on December 5, 1949, under separately prepared instructions. The canvass in North and South Dakota and Oklahoma will be conducted using Form D1 in accordance with the applicable instructions outlined herein and those prepared for Form D1.

Form D2 will be filled for each individual drainage enterprise in all of the other 39 States where it is established that there are enterprises of the kind and size previously specified.

- E5. Sources of Information.—Most drainage enterprises are organized under State drainage laws that prescribe the method of organization, the manner of selecting the officers or board of control, and equitable assessment against the lands benefited. Much of the information needed to fill Form D2 should be available at the County Court House. The county officials most likely to have the required data will be the County Engineer, County Auditor, or County Clerk. Some of the necessary information may have to be obtained from the secretary of an organization. Some specific questions, such as those relating to the drainage condition of the land, may require an interview with some other official of the organization.

The type and quality of the records will vary considerably from State to State and probably from county to county. All of the situations which you might encounter cannot be listed. Be alert to get information from as reliable a source as possible.

- E6. Reference List of Enterprises.—Each drainage enumerator will be furnished with enumerator lists of known drainage enterprises for their respective counties. These lists should be of assistance in finding the office location of the enterprises to be enumerated. These listings do not include enterprises organized since 1940. They may be incomplete in other respects; they may not show the present name of the enterprise, the name and address of the controlling official, and the acres now in the enterprise. Inquiry should be made at each county or enterprise office visited to determine if there are any enterprises in the county of 500 acres or more which have been organized since 1940. Additional names should be entered on the list and corrections should be made if any of the presently listed information is in error.

ENUMERATE ONLY IN THOSE COUNTIES FOR WHICH YOU HAVE AN ENTERPRISE LIST. Do not visit other counties to get drainage information unless you receive specific instructions to do so. In such counties, the Washington Office is attempting to ascertain, by mail, if there are any drainage projects.

E7. County Maps.—Attached to each County Reference List of Drainage Enterprises is a map of the county. Plot on this map all areas in drainage enterprises in the respective county. Instructions for delineating the drained area are contained under the paragraph relating to question 15 on the questionnaire. The Irrigation Technicians will plot the drainage enterprises on the county maps showing drainage basins which are supplied for use in the Census of Irrigation.

E8. Materials supplied by the Census Bureau.—In addition to the reference lists and county maps, each enumerator will be supplied with the following:

- 1 portfolio.
- 1 copy of "Instructions to Supervisors and Enumerators, Census of Drainage: 1950" (Applicable mainly to Drainage Questionnaire, Form D2).
- 100 copies of the Drainage Questionnaire, Form D2.
- 50 "Weekly Progress Report Forms."
- 1 pamphlet, "Drainage of Agricultural Lands: 1940."
- 2 8" x 10½" ruled scratch pads.
- 6 red pencils.
- 2 lead pencils.
- 1 eraser.
- 1 12" ruler.
- 15 franked envelopes, letter size.
- 6 9" x 12" franked manila envelopes.
- 15 sheets of carbon paper (8" x 10½") in envelope.
- 1 roll of masking tape.
- 6 sheets of tracing paper 20" x 20" minimum size.
- 6 registered labels.

Additional supplies of Form D2, and other items, will be furnished to the Drainage Special Supervisor. For North and South Dakota and Oklahoma—states in which Form D1 will be used—additional supplies if needed should be requested by the Area Supervisor.

E9. Enumerators Weekly Progress Report (Form 17Fld-61).—Each drainage enumerator and irrigation technician shall prepare and mail a Drainage Progress Report (Form 17Fld-61) on each Friday. The report shall be prepared in triplicate; the original to be sent to the Area Office for the Drainage Special Supervisor; the duplicate to the Chief of the Field Division, Bureau of the Census, Washington 25, D. C.; and the triplicate retained for the enumerator's use.

E10. Miscellaneous Expenses.—Many counties or enterprises may provide maps free of charge. Take advantage of such opportunities. You may buy maps or have maps reproduced that are needed in the enumeration if such purchases would be advantageous to the Government. For this purpose drainage enumerators are authorized, where necessary, to incur costs for maps of not to exceed \$10.00 for any county. If the cost of the maps would be in excess of \$10.00 for any county, consult with your Drainage Special Supervisor before arranging to procure them.

Map purchases may be paid for by the area office issuance of public voucher Form 1034. You may, however, pay for the map and claim reimbursement on your travel voucher. If you claim reimbursement, you must submit a signed detailed receipt if the amount is \$1.00 or more.

Telephone calls for official business may be made from and charged to district offices or be made collect to district or area offices. Such calls should be charged

to Project 5532. Reimbursement for official toll calls which you pay for may be claimed on your travel voucher. Such claims must be supported by a receipt for \$1.00 or more. If made from a pay station, reimbursement may be claimed by stating all of the pertinent facts.

E11. District Supervisors.—Drainage enumerator's should make themselves known to the district Census supervisor when they begin work in his district. The Area Supervisor will inform you more fully on this matter.

You will find that district supervisors may be of great help to you because of their knowledge of local conditions. He will also be able to provide you with various facilities when needed.

E12. Public Relations.—You must perform your work in a courteous, efficient manner so as to maintain good public relations. The regulations of the office in which you are working must be observed. Records and files must be carefully handled to avoid damage, and all materials promptly returned to their proper places as directed by the responsible official. No materials may be removed from an office for any purpose without the express permission of the official in charge. Written permission must be secured before valuable documents are taken to other agencies for reproduction. Receipt should be secured for the return of the material.

Under no circumstance should any criticism be made or implied of the records or lack of them, or of the manner in which records are maintained or of the legality of any act. It should be remembered that many counties cannot afford completely adequate record-keeping systems.

E13. Identification on first call.—You will make yourself known to the County Engineer, the County Auditor, or other official visited and state the purpose of your visit. While doing this you should present, for his inspection, your Census Bureau identification card. A copy of the D2 Drainage Questionnaire should also be readily available and should be handed to the official at some time during your introductory remarks. The chances are he will look it over and make comments regarding the availability of the data.

He may want to discuss the questionnaire with you before he arranges for you to have access to the files. In most cases he will show you the filing system and point out ledgers or file cabinets where drainage data are kept. When you have arranged for a working space and examined the data sources you are ready to fill the questionnaire.

E14. Filling the Questionnaire.—The entries on the D2 Drainage Questionnaire shall be made in ink. Each enumerator should furnish his own fountain pen. Write neatly. Explain any unusual situations fully in the Remarks Section of the questionnaire.

#### E15. INSTRUCTIONS FOR SPECIFIC INQUIRIES

##### Section I.—Management

Q. 1. What is the name of this drainage enterprise? For legally organized drains, districts, or corporations give the name of the drainage enterprise exactly as it appears on the county or public records. For enterprises under private ownership give the name of the individual, partners or firm.

E15.—Continued

Q. 2. What is the name and title of the official, board, or individual who controls this enterprise? (1) For an enterprise owned by an individual or by a private firm or company, give the name of that individual or firm. (2) For a drainage district or other enterprise organized under a drainage law, give both the name and the official title of the officer immediately in charge. (3) For any other drainage enterprise, give both the name of the company or association having control, and the name of the secretary or responsible executive officer. One purpose of this inquiry is to obtain the name and address of the official or other person responsible for directing the affairs of the enterprise, from whom additional authoritative information can be obtained, if needed.

Q. 3. What is the address? Give the business address of the official named in question 2.

#### Section II.—Type of Enterprise

Q. 4. Which of the following types of organization operates this enterprise? Classify the enterprise according to its type of organization, or to its primary purpose if that was not drainage. The name of the enterprise is not a reliable guide; for example, in a few States drainage districts should be classed as county drains for census purposes. Check the box in Question 4 which appropriately classifies the enterprise.

A drainage district is administered by officials elected or appointed for the particular enterprise.

A county drain is administered by county officials.

A township drain is administered by township officials.

A State project is administered by State officials.

An irrigation enterprise is one organized primarily to irrigate land, and may be either a Federal or a non-Federal irrigation enterprise. If it is operated by the U. S. Bureau of Reclamation, the U. S. Indian Service, or by other Federal officials, it should be classed as a Federal enterprise.

A commercial development drain is one controlled by an organization developing and selling land for profit.

An individual-ownership drain is an undertaking by an individual or partnership, without legal organization, for the drainage of a single farm.

A cooperative or mutual drain is an undertaking by two or more land owners, without legal organization and not a partnership, for drainage of their farms.

Q. 5. In what year was this enterprise organized? For a district or drain established by a decree or order of a court, or of some public official or board, the date is that of the decree or order. For a company incorporated for the purpose of draining land, it is the date of incorporation. For an enterprise

E15.—Continued

organized for some other purpose than drainage, which later found drainage to be needed, the date is that when drainage was undertaken. For an individual or cooperative enterprise, it is the time construction began.

Q. 6. Was drainage begun by a different enterprise or under a different type of organization, than the present enterprise? Check the "No" or "Yes" box for this question. If "Yes" is checked, give the name, date of organization and type of organization, for the earlier enterprise. Also, state the relation of the earlier enterprise to the present enterprise. In some States an area wholly, or partly, within an organized drainage enterprise may be organized as a subdistrict under the same or a different governing board. Each such subdistrict should be considered a separate enterprise from the main or parent district in which it is situated, and a separate questionnaire prepared for it.

#### Section III.—Purpose of Drainage, January 1, 1950

Q. 7. What was the principal purpose for which this drainage enterprise was organized? The three purposes listed are to be considered mutually exclusive. Consider (1) to include swampland that has been reclaimed; also, to include the improvement of land already in farms prior to drainage. (As here used, swampland is land normally too wet for profitable farming.) Consider (2) to include land that was subject to inundation by stream floods at such times and with such frequency that farming is unprofitable. If you check more than one of the boxes, explain in the Remarks Section the circumstances which require an answer of that sort.

#### Section IV.—Location of Enterprise, January 1, 1950

Q. 8. What is the name of the lake, stream, or ditch receiving discharge from this drainage enterprise? The lake, stream, or ditch to be named as receiving the discharge is that into which the water flows from the lower end of the drainage construction or improvement.

Q. 9. What is the location of the outlet of this drainage enterprise? The location of the outlet is the point where the drainage works discharge into a natural watercourse or other drain.

Q. 10. Are any of the lands in this drainage enterprise located in other counties? If a drainage enterprise extends into two or more counties, a separate questionnaire is required for the portion in each county. If the enterprise is not a public drain, the enumerator for the county in which the controlling body is located should prepare the reports for the part in each county.

Q. 11. What is the name of this county? Give the name of the county for which complete information for the enterprise is entered on this questionnaire.

#### Section V.—Land in Enterprise in the County, January 1, 1950

Q. 13. What is the total area of this enterprise in this county? This area should include all land within the enterprise as established by the decree

E15.—Continued

setting up the drainage enterprise. In most cases this area, which for census purposes is considered as the benefited area, is the same as the assessed area. Where there is a difference it is usually due to the fact that some tracts of land have been exempted from assessment for reasons of ownership. For example, lands benefited but exempt from drainage assessments may include school lands not taxable, State or other publically owned lands, rights-of-way for ditches, or church lands.

When the enterprise is an "Irrigation" project (see question 4) the area shown in answer to question 13 should be the area assessed for the drainage work. If the area actually drained differs from the assessed area, give the facts in the space for "Remarks." Include an estimate of the area served by the works for which costs are assessed.

Q. 15. What part of the total area reported in question 13 is NOT included in later enterprises? In the majority of counties there is no overlapping of enterprises, and the answer to question 15 is the same as the answer to question 13. In such counties, draw the boundary line of each enterprise on your county map and shade the area lightly with a red pencil. Also, show the name or number of the enterprise within the boundary line, or if space does not permit, identify it in the margin of the map.

If a part of the whole of the land in an enterprise has been included in an enterprise more recently organized, plot the lands in the enterprises in the order of the dates of organization of the enterprises, beginning with the latest or last one organized. The portion of the second or next to last enterprise which falls outside the area covered by the enterprise first plotted should be estimated and entered as the answer to question 15. Then cross-hatch the area covered by the second enterprise and enter its name or number within its boundary line. In a few cases the same land may be included in three enterprises. If so, the third enterprise would be plotted and the answer to question 15 determined in the same manner as previously stated.

When all the answers to question 15 for a given county are added, the total should show the actual area within that county which is drained by drainage enterprises. If the overlapping were not deducted the acreage of drained land shown within a county would be overstated by the amount of the overlap.

Two copies of each county map have been provided; if an additional map is needed it will be supplied from the Washington Office upon request of the Area Supervisor. However, there are usually good maps available locally in the county. These may be used if adequate. They may be used in preference to the ones supplied to you by the Census Bureau, if more suitable. If you use more than one copy, be sure to report that fact and include all copies in your transmittal for the county to which they apply. Remember whether there is overlapping or not, the boundary lines of each enterprise should be clearly shown.

IF A GOOD MAP OF A DRAINAGE ENTERPRISE CAN BE SECURED, YOU NEED NOT PLOT THE AREA INCLUDED IN THE ENTERPRISES. See that this map

E15.—Continued

is fully up-to-date as to the area drained and that it is properly identified. Attach it to the questionnaire for which you have filled the numerical information. If any of the land has been included in a later enterprise, identify that portion by cross-hatching it. Also indicate which enterprise succeeded it. Such maps will be of much help to the Washington Office in preparing over-all maps of drained lands.

If a copy of an existing map is not available and is on a different scale than the county map on which you are mapping all enterprises, you may wish to manually prepare a copy of it or to have a mechanical reproduction made. If a map has to be taken away from the office for reproduction, you must first secure written permission to do so.

Where it is economical to do so, you may make a tracing of a map. Extreme care must be taken to avoid damaging the original. A supply of tracing paper and masking tape has been provided for making tracings. The tracing should include sufficient location points to definitely locate the drained areas within the enterprise and within the county so that the drained areas can be properly transferred to another map. These location points should include township and range numbers on the boundaries of the map, and such township, range, and section lines within the map as are necessary to properly locate the drained land. If only a small area is drained, it will be necessary to trace only that portion of the county in which the drained area is located and sufficient of the immediate adjacent areas so that the location within the county can be unquestionably determined.

In the survey States where township, range and section lines are shown, it is not necessary to map rivers, unless they form a part of the drainage works, nor to show towns, roads or other culture. In the non-survey States, it will be necessary to show some rivers, roads, and other culture in order to definitely locate the drained areas within the county. In all cases the names of both the county and the State must be shown. The scale must also be indicated.

If the map is too large to be conveniently traced on a single sheet, the tracing may be made in sections. If made in sections, each section must adjoin properly, and each section must be clearly labeled as to county, State, scale and that it is section \_\_\_\_\_ of \_\_\_\_\_ sections.

In preparing maps you should use the best map available for the purpose.

Q. 16. What part of the area reported in question 15 has—

- (a) Poor drainage (unfit for cultivation)
- (b) Fair drainage (losses of cultivated crops occur frequently)
- (c) Good drainage (no loss of cultivated crops due to poor drainage)

Divide the area not included in later enterprises (question 15) into three parts, according only to its present need of drainage. The figures in answer to this question necessarily will be estimates, and

E15.—Continued

should be the carefully considered opinion of some person or persons familiar with the drainage condition of land. This question refers only to the degree of wetness of the land, regardless of its actual use. Thus, all classes of land including timberland should be reported under this question according to its degree of wetness.

Section VII.—Cost of Drainage, Indebtedness, and Assessments

Q. 17. (a) What was the total cost of construction and operation and maintenance of all drainage works for this enterprise in this county? Give the total of all costs paid or to be paid for new constructions and for improvements of old works and for operation and maintenance in this county, during each year from 1940 through 1949. Include costs for engineering, organization, rights-of-way, damages, construction and purchase of drainage works, legal services, administration and lands and buildings. Do not include payments on the principal or the interest on outstanding bonds or notes. Operation and maintenance should include the cost incurred for the operation of drainage pumping plants and the cleaning, repairing, and maintaining of all ditches, levees, tile drains, pumping plants, and other works used for draining the land. Include also, the cost for purchase or rental of machinery used and the cost of administration for the drainage enterprise. Combined costs of construction and/or of operation and maintenance incurred for drainage and for other purposes, such as irrigation, should be allocated between drainage and the other purpose.

Q. 17. (b) Of the total reported in (a) what portion represents expenditures for new drainage projects for lands not previously drained? Give the costs for new construction for the reclamation of lands not previously drained. The purpose here is to show what part of the costs shown in 17 (a) was spent for new works constructed to bring additional lands into agricultural use. Such new works may be either located on land not previously included in any drainage organization or may be subdistricts organized for the purpose of draining lands located in an older district that previously provided only outlet drainage.

Q. 18. What was the outstanding indebtedness of this enterprise, in this county, on December 31, 1949? Give the total of all outstanding bonds, and other amounts owed by the enterprise which were incurred for the drainage of lands. Make no deductions for any reserves or sinking funds on hand. If the enterprise extends into other counties, the proportionate cost should be determined for each county according to the acreage in the enterprise in each county.

If indebtedness was incurred jointly for drainage and for other purposes estimate the proportion chargeable to drainage. Explain in the Remarks Section.

Q. 19. Was this enterprise in arrears in payment of principal or interest on bonds or other obligations on December 31, 1949? If the "Yes" box is checked, enter in 19(a) the amount of the obligations past due and unpaid on the specified date, other than running accounts for current expenses.

E15.—Continued

Q. 20. What was the amount of taxes and other special assessments collected, in this county, to meet the cost of draining agricultural lands by this enterprise, for each of the following years? Give the total sum collected by this enterprise, during each of the years 1940 through 1949 inclusive, as taxes and assessments regardless of when levied. Include interest and penalties collected with delinquent taxes and the net proceeds of tax sales.

Q. 21. What area in this enterprise was delinquent in payment of drainage taxes, in this county, on December 31, 1949? Show the acreage on which taxes, levied by or for this enterprise, were due and unpaid on December 31, 1949, which were classed as delinquent under the laws of the State.

Section VIII.—Drainage Works, January 1, 1950

Q. 22. Have any of the following types of new drainage works been constructed by this enterprise in this county since January 1, 1940?

- (a) Open ditches? Give the total length of new artificial and/or natural waterways improved for the first time. Include those constructed by this enterprise but not those within the enterprise constructed by land owners on their own account.
- (b) Tile drains? Give the total length of new tile drains regardless of size. Include those constructed by this enterprise but not those constructed within the enterprise by land owners on their own account.
- (c) Levees or dikes? Give the length of new levees or dikes. The levees or dikes to be reported in question 22 are those owned or controlled by an enterprise which operates drainage works. Questionnaires should NOT be prepared for enterprises which have only levees or dikes.

Q. 23. How many drainage wells are pumped, by this enterprise in this county, to lower the groundwater table? Observe that this question relates to wells out of which water is pumped into a drain (which may be an irrigation ditch) on or near the ground surface. It does not relate to so-called "vertical drains" that give outlet into a relatively deep substratum for water accumulated on or near the surface of the ground.

Q. 24. How many pumping units does this enterprise operate in this county? Give the data for all pumping plants of the enterprise that are actually located in the county named in answer to Question 11. Show the capacity of each pump when operating at the rated head and speed. For average lifts give the average height of the water surface in the discharge bay or ditch above the water surface in the suction bay, or in the drainage wells when the pumps are operating.

An "axial-flow" pump is one operated by a screw-type impeller. The action is similar to that of a

E15.—Continued

screw of propeller of a ship. The direction of flow through the pump is in line with the axis or drive-shaft of the pump. The lift is usually under 20 feet. This type of pump is much used in areas where the lifts are low.

A "centrifugal" pump is one in which the water is rapidly whirled by a wheel or runner. This rapid rotation produces a centrifugal force and the resulting pressure forces the water through the outlet pipes. The lifts are commonly from 20 to 50 feet. This type is much used in the upper Mississippi regions.

A "deep-well turbine" is one in which the water passes through a "runner" or wheel which is inside a bowl. The pressure built up by the rapid rotation of the runner forces the water through the opening in the bowl and often into a second bowl which further increases the pressure. The runner and casing constitute a bowl or stage and there may be several bowls one above the other on the same shaft. Commonly, each bowl will lift the water from 40 to 50 feet. This type is much used where the lifts are high.

In a "mixed flow" pump the water is forced upward by a combination of screw and centrifugal action.

Q. 25. What part of the area reported in question 15 is served by pumps? Show how much of the area given in answer to question 15 is dependent for drainage, for any part of the time, upon the operation of the drainage pumps of this or of some other enterprise. It is the area that could not be drained adequately at all times without pumping.

## REMARKS

Use this space to explain where records were found and how you obtained the information for this report. Remember, you are in the best possible position to get the necessary information. If there is anything unusual, explain the facts fully. Be as explicit as possible; use the reverse side if necessary.

If actual information is not available, get the best estimate you can. In such cases you should comment in the Remarks Section that your answer is an estimate. Tell who made it and the circumstances under which it was secured.

## ENUMERATOR'S RECORD

Give all the information required. The Drainage Special Supervisor must check each questionnaire for completeness and accuracy and sign that he has done so.

## PART II. DRAINAGE SPECIAL SUPERVISORS INSTRUCTIONS

## Organization of Field Staff

- S1. Field Division.—All field activities in connection with the Census of Drainage will be conducted in accordance with procedures approved by the Chief of the Field Division.
- S2. Area Supervisors.—Area Supervisors are responsible for conducting all field operations in connection with the Census of Drainage.

S3. Drainage Special Supervisors.—Drainage Special Supervisors, under the direction of Area Supervisors, will direct and assist the drainage enumerators in their work. In addition to their supervisory duties, Drainage Special Supervisors are expected to enumerate some enterprises and to furnish weekly narrative reports on the problems and progress of the work.

S4. Drainage Enumerators.—Drainage enumerators are directly responsible to the Drainage Special Supervisors for the accuracy and completeness of the information on the drainage questionnaires.

## General Information and Procedures

S5. Period of the Canvass.—The Census of Drainage will be taken as of January 1, 1950. The enumeration should be completed by March 6, 1950, except where the Drainage Questionnaires are filled by Irrigation Technicians.

S6. Method of Canvass.—As indicated, all 48 States are to be included in the Census of Drainage. In 1940, the year in which the last Census of Drainage was conducted, there were no drainage enterprises in several of the States. For these States, the Washington Office will establish if there are any enterprises of the types which will be covered in the 1950 Census; if there are any, these will probably be covered by a mailed inquiry. Likewise, for those States with a very limited number of enterprises, the census will probably be conducted by mail. In all other States, drainage enumerators (or drainage supervisors) will make a personal visit to the counties having drainage enterprises to secure the required information. The enumerator should not go upon the land to determine the drainage condition nor to get information for pumps.

S7. Training.—Drainage Special Supervisors and enumerators will be trained by Washington personnel at the following training centers and dates:

Training Center City	Date	Number of Trainees	Attended by Enumerators from Areas
Salisbury, Maryland	January 16-18	8	III and IV
Atlanta, Georgia	January 16-18	7	V
St. Joseph, Missouri New Orleans, Louisiana	January 16-18	9	IX
	January 19-21	15	X and XIV

As outlined in Drainage Area Memorandum No. 2, the Census of Drainage will be entirely conducted by mail in Areas I and II and also in Area III except for the State of Delaware.

In Areas XI, XII, and XIII, and in the Supervisor's Districts of North Platte and Scotts Bluff, Nebraska, Beaumont, El Paso, Brownsville, Corpus Christi, Galveston, and San Antonio, Texas, and in Allen, Calcasieu, Cameron, Jefferson Davis, and Vermillion Parishes, Louisiana, the irrigation technicians will enumerate both irrigation and drainage enterprises in accordance with Irrigation Area Memorandum 1.

For the four training centers outlined for drainage personnel, three days of training are provided for classroom instruction and for demonstration in the training center County Courthouse. After this training the enumerators, working in groups of two or three,

S7—Continued

will completely enumerate nearby counties. Thereafter, the individual enumerators will singly enumerate enterprises in the States to which they are assigned. Assignments should be made on a county basis.

Before you start your field work, you should be thoroughly familiar with the Drainage Questionnaire (Form D2), with the definitions of drainage and drainage enterprise, and with the specific instructions for the inquiries.

- S8. Area Assigned.—The Drainage Special Supervisor will designate the counties which each enumerator assigned to him will cover. The order in which the counties will be visited should be determined to make the most advantageous use of time and at the least possible cost. The Drainage Special Supervisor should assist in the actual enumeration as much as possible. He should reserve some of the counties having only one or a limited number of enterprises for himself if that can be arranged to advantage.
- S9. Work Week.—The work week is 8 hours per day for the first 5 days of the week. Any work in excess of 40 hours per week must be authorized by your supervisor. The normal working hours are from 8:30 a.m. to 5:00 p.m.; however, local conditions may make other hours more desirable. The opening hours of the Court-house Offices vary from town to town. The Engineer for drainage frequently does his field work beginning early in the morning.
- S10. Weekly Report.—Each Drainage Special Supervisor shall prepare and mail a brief narrative report on each Friday. This report shall be prepared in triplicate, with the original to the Area Office, the duplicate to Chief of the Field Division, Bureau of the Census, Washington 25, D. C., and triplicate retained for his use.

In the report, the Drainage Special Supervisor shall outline his activities for the past week, and his proposed activities, itinerary and the address at which he can be reached for each day of the coming

S10—Continued

week. He shall make a brief report on progress being made and point out difficulties encountered and steps taken to resolve them.

- S11. Travel and Per Diem.—You will be instructed in travel regulations and in other administrative matters by the Area Supervisor or by his representative. Official stations will be designated for you and your enumerators. Per diem will be allowed in accordance with official travel regulations as they apply to area officials. Automobile travel and travel by common carrier may be authorized at the discretion of the area supervisor.
- S12. Contacts of Drainage Special Supervisor and Enumerators During Field Enumeration.—The Drainage Special Supervisor will give instructions to enumerators on how to contact him when, and if, problems are encountered in carrying out their assignments. As Drainage Supervisor, he will direct activities in the field and check the questionnaires which are filled. Enumerators should keep all completed questionnaires in their portfolios readily available for his inspection.
- S13. Transmittal of Completed Questionnaires.—Periodically, the Drainage Special Supervisor will pick up from the enumerators and review all completed questionnaires. After review, all satisfactorily completed questionnaires should be forwarded to the Chief of the Agriculture Division, Bureau of the Census, Washington 25, D.C. Form 17 Fld-62 should be used for making the transmittal. The number of questionnaires should be reported for each county. The forms should indicate if the county is completed.

Irrigation technicians should transmit their completed Drainage Questionnaires to Washington on Friday of each week. Form 17F1d-62 will be used for this purpose.

If a drainage enterprise lies in two or more counties, you, or the enumerator who gets the information, may find it necessary to hold the Questionnaire filled in the first county until the other county (or counties) is (are) visited.

DRAINAGE OF AGRICULTURAL LANDS

702-11  
Census of Drainage

U. S. DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS

Seventeenth Decennial Census: 1950

State \_\_\_\_\_

Sheet \_\_\_\_\_ of \_\_\_\_\_

LIST OF DRAINAGE ENTERPRISES OF 500 ACRES OR MORE

County \_\_\_\_\_

To the Person who is Checking this List:  
This list contains the names of known drainage enterprises of 500 acres or more in the above-mentioned county. If errors appear in the names or addresses of these enterprises, make the necessary corrections. Additional names of other enterprises of 500 acres or more and related information should be entered following the last name.

To the Enumerator who is Filling Drainage Questionnaires:  
Prepare a report for each drainage enterprise in the above-mentioned county of 500 acres or more. Use this list as a guide. If you learn of still other drainage enterprises of this size in the county, add them to this list and prepare a Drainage Questionnaire for each.

Name of enterprise	Individual, board or company controlling enterprise		Acres in this county	Other counties containing lands in this enterprise	Acres in other counties
	Name	Address			

DEPARTMENT OF COMMERCE  
BUREAU OF THE CENSUS  
WASHINGTON 25

(Date)

State Auditor  
State Capitol  
City, State

Dear Sir:

An Act of Congress requires that a Census of Drainage be taken every ten years. The next Census of Drainage will begin within a few weeks. Its purpose will be to gather, tabulate, and publish data relating to the drainage of agricultural lands in the United States.

We have no record of any drainage projects, organized under State laws, in a number of -- counties. If we know in advance that there are none in these counties we can save the expense of sending someone there to look through the official records. However, if there are drainage projects in any of these counties we want to include them in the coming enumeration.

On the enclosed form are the names of the counties for which we have no record of organized drainage projects or districts. If you have data for these counties will you please give the information requested on that form and return the form to us in the enclosed official envelope which requires no postage. If you do not have the required information in your Office will you please inform us as to where we are most likely to get it.

Your cooperation in furnishing the requested information will be greatly appreciated.

Sincerely yours,

Philip M. Hauser  
Acting Director  
Bureau of the Census

Enclosures