

# MASTER PLANS

A MANUAL OF STANDARD PRACTICE  
FOR USE IN THE  
NATIONAL PARK SERVICE



UNITED STATES  
DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

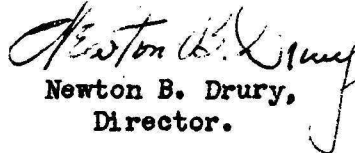
TO ALL NATIONAL PARK SERVICE EMPLOYEES

This Master Plan Manual is distributed as a guide for all administrative and professional representatives of the Service who in any way may have a part to play in the all-important program of planning--directly or otherwise--our national park and national monument areas.

It is hoped that by close adherence to the instructions herein contained uniformity and comprehensiveness in master plans will be established.

While the initial broad, general planning is the opportunity and obligation of all branches of the Service, the Branch of Plans and Design has been, and will continue to be, the unit specifically charged with the responsibility of coordinating the basic Master Plan.

Although the Manual is essentially a technical publication, it will be clear that every administrative and professional employee of the Service has his part to play in this endeavor and it is requested that the preparation of Master Plans closely follow the instructions herewith issued.

  
Newton B. Drury,  
Director.

Date

December 13-1941.



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**PART ONE**  
**PREPARATION AND PROCEDURE**

# CHAPTER I

## DEFINITION, PURPOSE AND SCOPE

### DEFINITION

The Master Plan, as developed and used in the National Park Service, is composed of two parts:

#### (1) DRAWINGS

Sufficient in number and kind to legibly portray all existing conditions, and to convey a comprehensive conception of the development proposed for the area.

#### (2) DEVELOPMENT OUTLINES AND CHARTS

Consisting of a series of written statements, and data recorded in chart form, prepared to supplement each drawing and to present all important factors which influence the policy of development.

The Drawings and the Development Outline are bound together to form the complete Master Plan document.

### PURPOSE AND SCOPE

The Master Plan is the controlling planning document which governs the orderly development of all areas administered by the National Park Service. Its purpose is to assure the soundness of that development. The Master Plan is prepared for the official use of the National Park Service only and is not to be considered a public document.

The Master Plan records and presents all factors which influence development. It coordinates the thought and effort of all persons engaged in establishing the policies which govern an area's planning, protection, preservation, interpretation, administration, and operation.

Devised and used as a medium of advance planning, the Master Plan is progressive. Revision of any or all of its parts must be made as often as necessary to record past accomplishments and to further determine the ultimate needs of an area. It therefore becomes a constantly improving documentation of development policies related to changing conditions.

# CHAPTER 2

## SUBMISSION

### Preliminary Editions.

A preliminary Master Plan should be prepared prior to the establishment of new areas. Its purpose is to aid in formulating development policies; to show the kind and extent of development contemplated; to assure a logical boundary and workable interrelation of contemplated developments.

It should show proposed development primarily in terms of kind, space needs, zoning, circulation and land use, as a basis for determining desirable and adequate boundaries. Proposed boundaries should be shown. Developed areas and development layouts which have been agreed upon should be included. Alternate schemes of development may be shown to aid in effecting decisions.

The preliminary Master Plan may serve as a guide for current work in new areas pending the preparation of more complete plans.

### Periodic Editions.

In order to reduce the time and labor devoted to the preparation of Master Plans, the annual submission of revised editions is not required for areas in which there is little development activity.

Recommendation for the omission of any Master Plan edition in any year will be made by the Regional Chief of Planning, subject to the approval of the Chief of Planning.

While the preparation of a revised Master Plan may require the major revision or redrawing of only a few sheets, in most instances the fact that a new Master Plan is needed indicates that most of the drawings need to be brought up-to-date to record past development or that they need corrections to bring them into agreement with new or altered development proposals. It is also necessary that the Master Plan and the Project Construction Program be reconciled. All development proposed by the one should be contained in the other.

The practice of submitting revised drawings together with a new Index sheet to replace corresponding sheets of the previous edition is discontinued.

When a revised Master Plan is issued it should contain prints of all drawings comprising the volume with the exception of such record drawings as the Vegetative Type Map, which may be transferred to the new edition.



Revisions.

Since Master Plans are prepared for the mutual information and use of all branches of the Service, recommended revisions designed to improve the proposed plan of development shall be recognized and given due consideration in preparing revised editions.

The Superintendent's uncolored or WORK COPY of the Master Plan shall be used as a clearing medium through which all parties concerned may suggest or recommend further development or revision of the Master Plan. This includes revision of the development outline as well as revision of the drawings.

Revision recommendations resulting from field inspections by members of the Director's staff or others should be recorded by the Superintendent or Resident Landscape Architect on the work copy at the time they are made.

Revision proposals emanating from the Director's office or from Branch representatives will be submitted in memorandum form through the Regional Director to the Superintendent or Custodian for recording on the work copy.

Not later than October 1, preceding the preparation of a revised Master Plan, the Superintendent shall review in detail his work copy of the Master Plan and prepare a memorandum summarizing all revision proposals that have accumulated since the preceding edition was compiled. This memorandum should set forth the revisions, corrections, or additions which have been recommended for incorporation in the revised edition. The Superintendent's memorandum of recommendation, together with the work copy, should then be transmitted to the Regional Headquarters for use in preparing the revised edition.

In case of controversy over the relative merits of a recommendation for revision, a written statement in the form of a minority report should be submitted to the Chief of the Branch proposing the change, with copies to the Chief of Planning and the Superintendent or Custodian of the Area.

Controversial recommendations will be referred to the Director for final decision when a satisfactory agreement cannot be reached otherwise.

# CHAPTER 3

## RESPONSIBILITY FOR PREPARATION

In the preparation of Master Plans it is important that close attention be given by field administrative officials to an appraisal of all values involved.

While development should meet public and administrative needs, and be appropriate to the area, above all the primary values inherent in that area must be preserved and overdevelopment avoided.

### Responsibility of the Superintendent or Other Administrative Officer.

The Superintendent shall prepare a memorandum summarizing all accumulated revision proposals that have been recorded on his work copy of the Master Plan and transmit it, together with the annotated work copy, to the Regional Headquarters for use in preparing the revised edition.

The Superintendent prepares the General Information portion of the development outline; cooperates with and advises the Branch representatives in compiling the development outlines and drawings which they prepare; and checks for completeness and accuracy the development outlines or drawings prepared by the Park or Monument personnel.

### Responsibility of the Regional Directors.

The Regional Directors, as the Director's field representatives on all Service matters, shall see that the policies of the Department and the Service are uniformly applied and reflected in the Master Plans prepared in their respective regions.

They are responsible for the administrative and professional personnel working under their direction and shall see that the Project Construction Program and individual job plans are coordinated with the Master Plans.

### Responsibility of the Branch of Plans and Design.

The Regional Chief of Planning is charged with the responsibility of coordinating all Master Plan preparation and, through the resident or regional technicians will prepare:

The Base Plan, the General Development Plan, the Land Status Map, the Cover Sheet, the Index Sheet, the Road System Plan and the Road Chart, the Trail System Plan and the Trail Chart, the Forest Fire Control Plan, the Developed Area Plans and their accompanying development outlines and charts, the final drafts of all special subject drawings prepared from work drafts submitted to it by the interested branches.

Responsibility of the Branch of Forestry.

The Regional Forester in cooperation with the park or monument personnel will prepare the Forest Protection Development Outline and will compile and furnish to the Branch of Plans and Design all data for the preparation of the Forest Protection Drawings.

Responsibility of the Branch of Engineering.

The Regional Engineer will prepare and furnish to the Branch of Plans and Design ready for binding:

The Topographic Map, the Communications and Utilities Plan, the Utility Layout Plans, and their accompanying development outlines and charts.

Responsibility of the Branch of Interpretation.

The Acting Regional Naturalist, in cooperation with the superintendent, will prepare and furnish to the Branch of Plans and Design all interpretive data for scenic-scientific areas, including the work drafts of interpretive drawings.

Responsibility of the Section on National Park Wildlife.

In cooperation with the Superintendent, the Regional Biologist will prepare and furnish to the Branch of Plans and Design all wildlife conservation data, including the work drafts of wildlife drawings.

Responsibility of the Branch of Historic Sites.

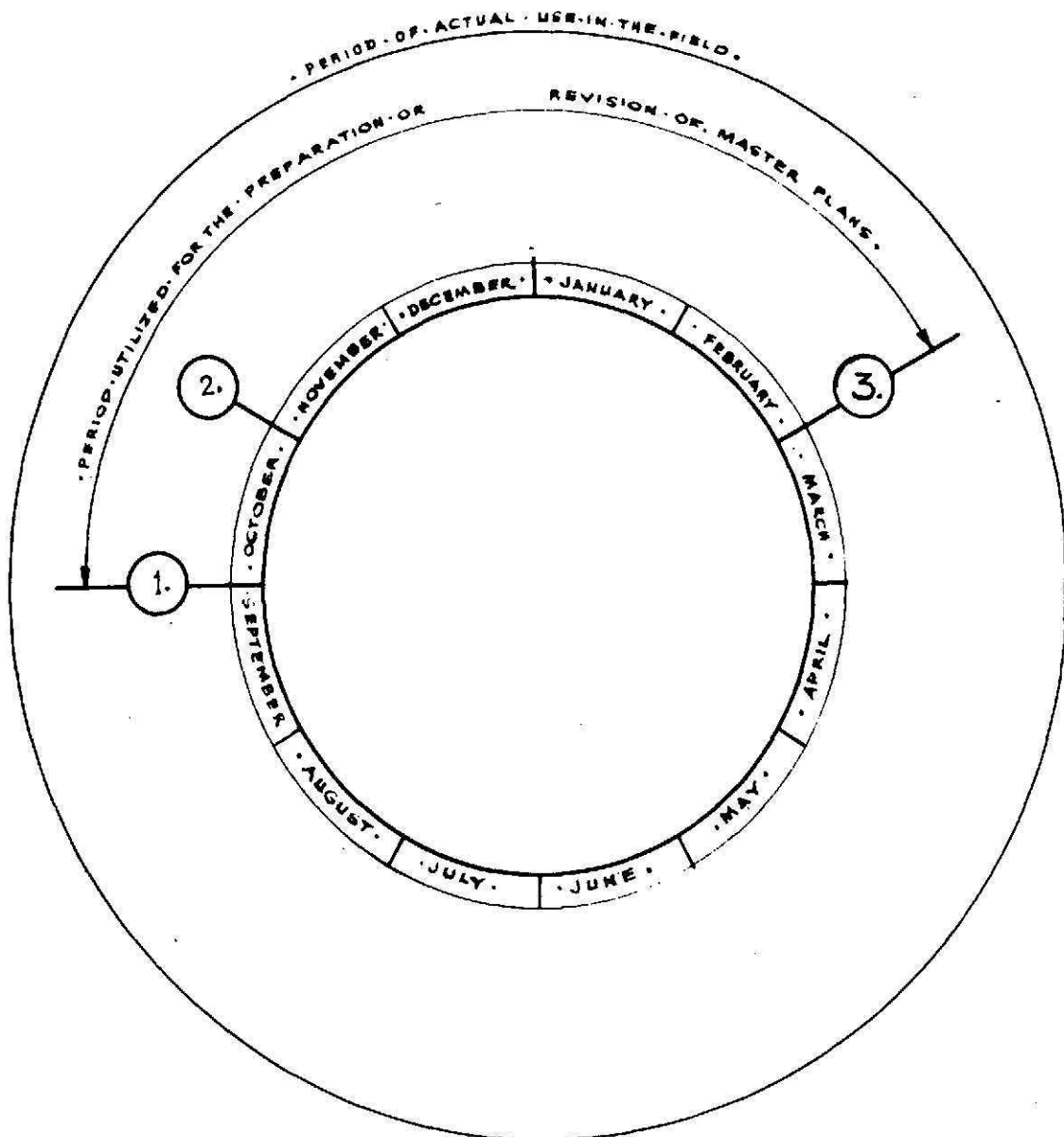
For historical or archeological areas the Regional Supervisor of Historic Sites will prepare the required portions of the development outline and will furnish to the Branch of Plans and Design the work drafts of all historical or archeological drawings.

Responsibility of the Branch of Recreation and Land Planning.

The Branch of Recreation and Land Planning will furnish suggested boundaries and planning data regarding resources, which are useful for preliminary Master Plans prepared prior to the establishment of new areas to show how they might be used should they be established; furnish correct information regarding approved proposals for boundary adjustments; and will cooperate in determining acquisition priorities for alienated lands.

## CHAPTER 4

### PREPARATION SCHEDULE



1. October 1: Date the work copy and recommendations of the Superintendent or Custodian are forwarded to the Regional Chief of Planning.
2. November 1: Latest date revisions should be started.
3. March 1: Completion and distribution date.

# CHAPTER 5

## THE DEVELOPMENT OUTLINE

### General Instructions.

The Development Outline consists of a series of typewritten statements and data charts prepared to supplement each Master Plan drawing by presenting all important factors which influence the policy of development.

The Outline should clearly differentiate between all existing and proposed conditions. The date of outline compilation should be shown.

Specific instructions covering the form and content of the Development Outlines are contained in Part Two of this manual.

The first Development Outline compiled may not offer more than a brief report on existing conditions. As it is re-edited, rewritten and corrected to conform to the plan revisions of later Master Plan editions, the Outline will gradually be amplified until it includes all items to be considered in the ultimate development of the area.

### Typing.

The outline should be typed on a good grade of tracing paper. It is essential that a clear, crisp impression be obtained. The usual typewriter ribbon does not print sufficiently heavy for clear reproduction without the use of a black carbon to secure a typed imprint on the reverse side of the tracing. Special typewriter ribbons which give extra heavy impressions, thereby eliminating the necessity for using back carbons, are available and may be used.

### Sheet Size.

The overall size of the development outline sheets printed and ready for binding in the Master Plan is standardized at 16" x 22". The width of the printed data appearing on these sheets is 11", so placed on the sheet as to leave a margin of 1/2" along the right edge of the printed sheet. This arrangement automatically leaves a binding edge of 4 1/2" along the left side of the sheet. The top and bottom margins may vary.

### Reproduction.

The individual sheets of the outline are printed in black on white by a process similar to that used in the reproduction of the drawings. Reproduction by such method is important due to the economy of time and labor and the uniformity of result.

When ordering the black line prints of the outline, the printer should be cautioned to leave sufficient binding edge in trimming the prints.

# CHAPTER 6

## THE DRAWINGS

The Master Plan includes as many drawings as are necessary to adequately portray all existing conditions and to convey a comprehensive conception of the ultimate development proposed for the area. Each drawing, supplemented with its related development outline, is intended to emphasize in its delineation and contents, a specified area or subject. Separation into specialized sheets is adopted as a means of avoiding the congestion and illegibility that usually results when an attempt is made to place on one drawing the great quantity and different kinds of information that normally enter into the design of the larger areas. However, this does not prohibit the combining of sheets in cases where it will not result in illegibility.

Specific instructions for the delineation of the various subject drawings are contained in Part Two of this manual.

### General Instructions.

The following instructions apply to all drawings included in the Master Plan:

#### Use of Symbols.

Standard symbols as contained in this Manual should be used in the delineation of all Master Plan drawings prepared at such a scale as to require their use for legibility. The various basic and general drawings particularly require the use of abstract symbols to avoid confusion. Where the scale of the drawing permits, however, a much clearer conception of conditions can often be had if certain elements such as roads, intersections, parking facilities, building layouts, etc., are presented in their actual plan arrangement rather than to rely on the use of symbols. The value of using progressive indication, whether by abstract symbol or otherwise, cannot be over-emphasized as a means of differentiating between existing and proposed conditions. It is important that each drawing include an explanatory legend of the symbols used on that drawing.

#### Materials.

Use waterproof black ink on a good grade of linen tracing cloth.

Authorized Volume Size.

22" x 36", measured to the trim lines, has been established as the authorized overall size for all Master Plan volumes.

Existing Master Plans which do not meet this standard shall eventually be reduced or enlarged. It is not intended that volumes closely approximating these dimensions shall be redrawn simply for the sake of standardization. It may be found in many instances that existing tracings can be satisfactorily adjusted by redrawing the border lines or, in the case of smaller tracings, by having them printed with a wider margin.

It is intended, however, that all new drawings and all drawings undergoing major revision shall be drawn to conform to the established size even though some sheets in the volume may remain temporarily unchanged. Under this procedure the size of all Master Plan volumes will eventually be standardized.

Certain variation in the length of individual drawings included in the Master Plan is permissible, as follows:

Authorized Sheet Sizes.

- (a) 22" x 36" measured to the trim lines.
- (b) 22" wide, and as long as necessary, with additional length over 36" in multiples of 6".

NOTE: A concerted effort should be made to reduce all Master Plan drawings to the 22" x 36" size. In some instances it will be necessary for legibility or convenience to utilize the variation permitted under "b," but the number of such drawings should be kept to a minimum.

## THE DRAWINGS

### Scale.

The scale of all drawings should be adequate to permit intelligible delineation of the proposals shown. The choice of scale will be determined by the sheet size and the amount and type of detailed information to be presented.

For convenience in use, architectural and engineering scales having a common multiple of four are recommended. A graphic scale and north point should appear on each Master Plan drawing.

### Titles.

Each drawing will carry its appropriate standard title block and drawing number as shown in the Standard Symbols section of this manual. The sheet number, as listed on the Master Plan Index Sheet should appear in the lower right-hand corner. Since the sheet number may vary in succeeding editions due to the addition or deletion of drawings from the Master Plan, the numbering of sheets to denote position in the volume may be placed only on the reproduced prints.

### Reproduction.

All Master Plan drawings should be reproduced as black line prints on a heavy grade of white paper.

Blue prints are not to be used in Master Plan editions, due to the requirements of presentation in color.

### Coloring.

Coloring of the black line prints is easily and quickly accomplished by using a light application of powdered paint pigment in a limited range of color, thoroughly and evenly rubbed into the surface of the paper with cotton or cloth pads. The use of paper strips to control the limits of coloring and the lifting of unwanted color by erasure will aid in achieving neatness.

A good grade of colored pencil is used to emphasize and pick out the finer details and to complete the symbol indications which require color.



A light application of fixative sprayed on the finished sheet will prevent smudging, but this is seldom necessary if the pigments have been sufficiently rubbed into the surface of the paper.

Care should be exercised that pleasing combinations of color are chosen, and that proper colors are used where NPS land, SP land, existing, proposed, etc., are being indicated.

### THE BASE PLAN

A Base Plan is prepared for reproduction in the form of tracings, which in turn serve as the basic drawings used in delineating the Road System Plan, Trail System Plan, General Development Plan, or any other special subject plan requiring the portrayal of existing basic data.

Reproductions of the Base Plan should in every case be made by the best available process on a durable grade of linen tracing cloth.

The number of reproduced tracings required will depend upon the extent of the area, the scope of the development proposed, and the completeness of the Master Plan edition.

The Base Plan itself is not included as a part of the Master Plan. The original drawing is filed for permanent record and for later use in reproducing such additional tracings as may be needed in the preparation of revised Master Plan editions.

The Base Plan should show such constant basic data and existing natural and cultural elements as are common to the requirements of the several general development drawings that will be delineated on the reproduced tracings. The completeness of the data shown and, to a certain extent the method of delineation used, will necessarily depend upon the size and complexity of the area, and the scale of the drawing. Ideally the Base Plan would show all existing conditions, but in most instances it will be necessary, for legibility, to eliminate the less important elements.

## THE DRAWINGS

The following data, subject to the limitations of scale and legibility, should be shown on the Base Plan.

- (1) A notation, usually placed in the lower left-hand corner of the sheet, to record the source and the date of all basic data used in preparing the Base Plan. The principal source of information is the topographic map.
- (2) Orientation: A north point to indicate true or magnetic north. It is preferred that drawings be oriented with north at the top of the sheet.
- (3) Boundary Lines: Accurately locate and properly designate all national, state, county, town, or other boundary lines within or adjoining the area proper that occur within the limits of the drawing. Section lines and township and range numbers should be carefully indicated if a rectangular system of land lines has been established.
- (4) Topography: The contour interval and datum should be clearly designated. The interval used or the alternate method of topographic indication selected for legibility (hachure or stipples) will depend upon the type of topography and limitations of scale.
- (5) Water: The indication of all water forms, showing the directional flow and high water lines of streams, with soundings of important ponds or lakes, and the acreage and names of all large water areas.
- (6) Structures: Indicated in plan as accurately as the scale will permit, or by standard symbol and key reference when the scale is small.
- (7) Circulation: Roads and trails, distinguished by the proper symbol.
- (8) Features: Outstanding topographical features of geological or scenic interest and special features of historic importance.
- (9) A small supplementary key map for the purpose of presenting special information of a regional nature may be added.

## CHAPTER 7

### BUILDING AND SITE NUMBERING SYSTEM

For identification purposes it is necessary that building numbers be assigned to all existing buildings, regardless of their ownership or operation. Numbers should also be assigned to all sites for proposed buildings.

Once established, this identification numbering system shall be used in all future references pertaining to buildings or building sites, such as in Master Plan development outlines and drawings, Project Construction Programs, project plans, individual building reports, and in correspondence.

Each building, regardless of size or multiple use, shall be considered as one unit for numbering purposes. Care should be taken to see that there is no duplication of numbers within any park or monument area.

The building and site numbering system should be separate and distinct from any "quarters" or "room" numbering system which may be in use in any area.

Each park area will establish its own system of numbering buildings and proposed building sites.

# CHAPTER 8

## ASSEMBLY

### Sequence.

The type and number of drawings included in the Master Plan will vary with the size and nature of the area and the completeness of the edition. For uniformity it is desired that the drawings be assembled in the following sequence.

- The Cover Sheet
- The Index Sheet
- The Interpretive Plan for scenic-scientific areas  
or
- The Historical or Archeological Drawings
- The Wildlife Conservation Plan
- The Vegetative Type Map
- The Soil and Moisture Conservation Plans
- The Vegetation Treatment Plan
- The Topographic Map
- The General Development Plan
- The Land Status Map
- The Communications and Power System Map
- The Road System Plan
- The Trail System Plan
- The Forest Fire Control Plan
- The Developed Area Plans
- The Utility Layout Plans
- The Minor or Outlying Area Development Plans

### Binding.

Each development outline or chart should be stapled to its corresponding drawing, the various sections then assembled in proper sequence and securely bound together.

# CHAPTER 9

## RECOMMENDATION AND APPROVAL

The following officers are responsible, as noted, for the clearance and recommendation of Master Plans:

### Clearance

The Regional Branch Representatives  
The Regional Director  
The Branch Chiefs

### Recommendation

The Superintendent or Coordinating Superintendent  
The Chief of Planning

### Signatures

The Director's copy of each Master Plan will carry the original signature of each authorized reviewer with the exception of the Superintendent or Coordinating Superintendent, whose signatures, due to the method of distributing Master Plan copies, will necessarily be affixed through authorization by memorandum.

All signatures are placed in their appropriate places in the review and clearance panel and in the approval block, which appear only on the Index Sheet of the Master Plan. (See Plate I)

The Superintendent shall simultaneously inform the Director, the Regional Director, and the Chief of Planning the date of his signature of recommendation. A period of one week following the receipt of his copy of the Master Plan is generally adequate for the Superintendent's review.

The Chief of Planning shall simultaneously inform the Regional Director and the Superintendent the date of his signature of recommendation. For record purposes the signatures of all reviewers should be noted on all copies of the Master Plan edition. The original Master Plan tracings should not be signed, since they are subject to revision at periodic intervals.

### Comments and Exceptions

In the event any authorized reviewer takes exception to any of the development proposals contained in either the development outlines or the drawings, he may so indicate his exception by attaching a memorandum of comment to the Index Sheet of the Master Plan, noting after his signature that a comment is attached.

CLEARANCE,  
RECOMMENDATION  
AND APPROVAL

A concerted effort should be made, however, to reconcile all differences of opinion regarding development prior to the preparation of the Master Plan.

Approval by the Director.

When the Director's copy of each Master Plan has been signed by all authorized reviewers it will be presented by the Chief of Planning, together with a summary of all attached comments, to the Director for approval.

When the Director has approved a Master Plan, the Regional Director, the Superintendent, and the Chief of Planning will be advised. At the time this advice is transmitted to the field a copy of the reservations, comments or suggestions made by the Director at the time of signature will also be transmitted. The date, signature, and record of action by the Director concerning any Master Plan or portion thereof should be noted on all copies.

# CHAPTER 10

## DISTRIBUTION AND FILING

### Copy Distribution

When the signatures denoting Regional review and clearance have been recorded on all copies of the Master Plan the following simultaneous distribution shall be made:

Director. . . . .	one (1) colored copy
Coordinating Superintendent (if any). . .	one (1) colored copy
Superintendent or Custodian . . . . .	one (1) colored copy
	one (1) uncolored work copy
Regional Headquarters . . . . .	one (1) colored or uncolored copy
Park Operator . . . . .	pertinent sheets, uncolored

### Filing

The Director's copy of each Master Plan will be filed in the office of the Chief of Planning for permanent record.

Non-current work copies will be filed in the Regional Headquarters for record.

The original Master Plan tracings will be filed in the Regional Headquarters unless the Regional Chief of Planning directs otherwise.

### Road Plan Reductions

With each revised Master Plan edition there shall be submitted to the Chief of Planning the following:

2 colored photostat reductions of the Road System Plan and the photostat negative from which they were made. The reductions should be eighteen inches by twenty-four inches (18" x 24") in size with a two and one-half inch ( $2\frac{1}{2}$ " ) margin provided along the left edge for binding.

1 full-sized copy of the Road System development outline and chart.

**DISTRIBUTION  
AND FILING**

For all areas whose major road problems are handled by the Deputy Chief of Planning, one (1) colored photostat reduction of the Road Plan and one copy of the development outline and chart shall be submitted to him.



**PART TWO**  
**CONTENTS OF THE MASTER PLAN**

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

# THE MASTER PLAN



ACADIA NATIONAL PARK

M A I N E

1 9 4 2

# CHAPTER II

## BASIC AND GENERAL DATA

### THE COVER SHEET

The Cover Sheet of the Master Plan presents the following general information: (See illustration, opposite page)

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

THE MASTER PLAN

Illustration  
(one or more)

THE NAME OF THE AREA

ITS LOCATION  
(State)

THE YEAR OF EDITION

A pictorial quality is often introduced in the composition of this sheet through the use of sketches or reproduced photographs which symbolize some outstanding feature or characteristic of the area. It is important that a medium of delineation be selected which will assure a clear reproduction.

The subject, type and composition of the illustrative material used and the sheet arrangement is left to the discretion and judgment of the delineator.

The same cover sheet tracing may be used from year to year. The year of edition will change, but the other information will not necessarily be subject to revision.

[illegible]

This is a detailed black and white map of the El Paso region, showing the border between the United States and Mexico. The map includes major cities like El Paso, Juarez, and San Antonio. It also shows the Rio Grande, various roads, and military installations. A large area in the center is labeled 'Orange Grove' and is shaded with a cross-hatch pattern. The map is titled 'EL PASO' at the top and 'MEXICO' on the right side.

VICINITY MAP

1	GENERAL DEVELOPMENT PLAN	NMPF	-2100 B
2	ROAD & TRAIL SYSTEM PLAN	"	-2105
3	LAND STATUS MAP	"	-2101 B
4	HEADQUARTERS AREA	"	-2102 B
5	HEADQUARTERS-AREA UTILITY PLAN	"	-5313

6 FIRST, SECOND & THIRD FOREST AREAS NMPF-2103 B \_\_\_\_\_  
7 PAINTED DESERT DEVELOPED AREA " -2104 B \_\_\_\_\_  
8 PAINTED DESERT-UTILITY PLAN " -5314 \_\_\_\_\_  
9 INTERPRETATIONAL PROGRAM PLAN " -2106A \_\_\_\_\_

RECOMMENDED \_\_\_\_\_ DATE \_\_\_\_\_  
CHIEF OF PLANNING

RECOMMENDED \_\_\_\_\_ DATE \_\_\_\_\_  
SUPERINTENDENT

APPROVED \_\_\_\_\_ DATE \_\_\_\_\_  
DIRECTOR

## THE INDEX SHEET

All Master Plans, regardless of the number of sheets contained in the volume, shall include an Index Sheet incorporating the following information: (See illustration, opposite page.)

The Master Plan Title  
The Index Tabulation  
The Vicinity Map  
The Review and Clearance Panel  
The Approval Panel

### 1. The Master Plan Title.

The Master Plan Title includes the following data only:

THE MASTER PLAN  
THE NAME OF THE AREA  
UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE

HAROLD L. ICKES, SECRETARY OF THE INTERIOR

NEWTON B. DRURY, DIRECTOR

JOHN DOE, SUPERINTENDENT

or

COORDINATING SUPERINTENDENT

### 2. The Index Tabulation.

The Index tabulates in progressive sequence all drawings included in the Master Plan except the Cover Sheet and the Index Sheet. The following information, in the order named, is required in the tabulation:

The sheet number, to denote the sequence of drawings in the assembled volume. A point frequently overlooked is that the assigned sheet number must appear on the Master Plan drawings as well as in the Index Tabulation.

BASIC AND  
GENERAL DATA

The title of the drawing.

The drawing number.

A comment line, to follow the drawing number; to be at least 3" in length; and to be reserved for the Director's exclusive use in indicating comments or non-approval of those drawings in the Master Plan which he does not approve.

Example:

Sheet No.--Title of Drawing--Drawing No.--Director's Comment

2      Land Status Map      NP-RM-2026      \_\_\_\_\_

Space may be reserved in the tabulation for drawings contemplated for inclusion in later editions.

For convenience in use a simple, compact tabulation of the index data in one or more vertical columns placed along the right side of the sheet is preferred. Readability, as well as the amount of tabulation required, should be considered in determining the size and type of lettering to be used. Any attempt to fill up the sheet might better be directed toward enlarging and improving the value of the vicinity map than toward too greatly emphasizing the index tabulation.

3. The Vicinity Map.

The vicinity map is intended to be similar in delineation, content and purpose to a good road map such as those published by Rand McNally and various oil companies. As an aid to orientation the map should be sufficient in scope to include at least one important and well-known city.

Basic data of regional significance or specific importance to the area, such as the following, should be shown:

Political subdivisions, seats of government, cities and towns with their names and population.

National and State parks, monuments, forests and reservations.

Roads: Federal State, Parkway, County, or other, with their proper designations and route numbers. Mileage between points of major concern to the area should be noted.

Railroads, railheads, airports, waterways, or other public means of approach.

Outstanding topographical features such as mountain ranges, deserts, large water bodies. Topography, if shown, should be subordinately indicated.

The scale and orientation of the vicinity map should be shown.

4. The Review and Clearance Panel.

A review and clearance panel shall be placed just outside the border line along the left side of the Index Sheet. (See Plate I.)

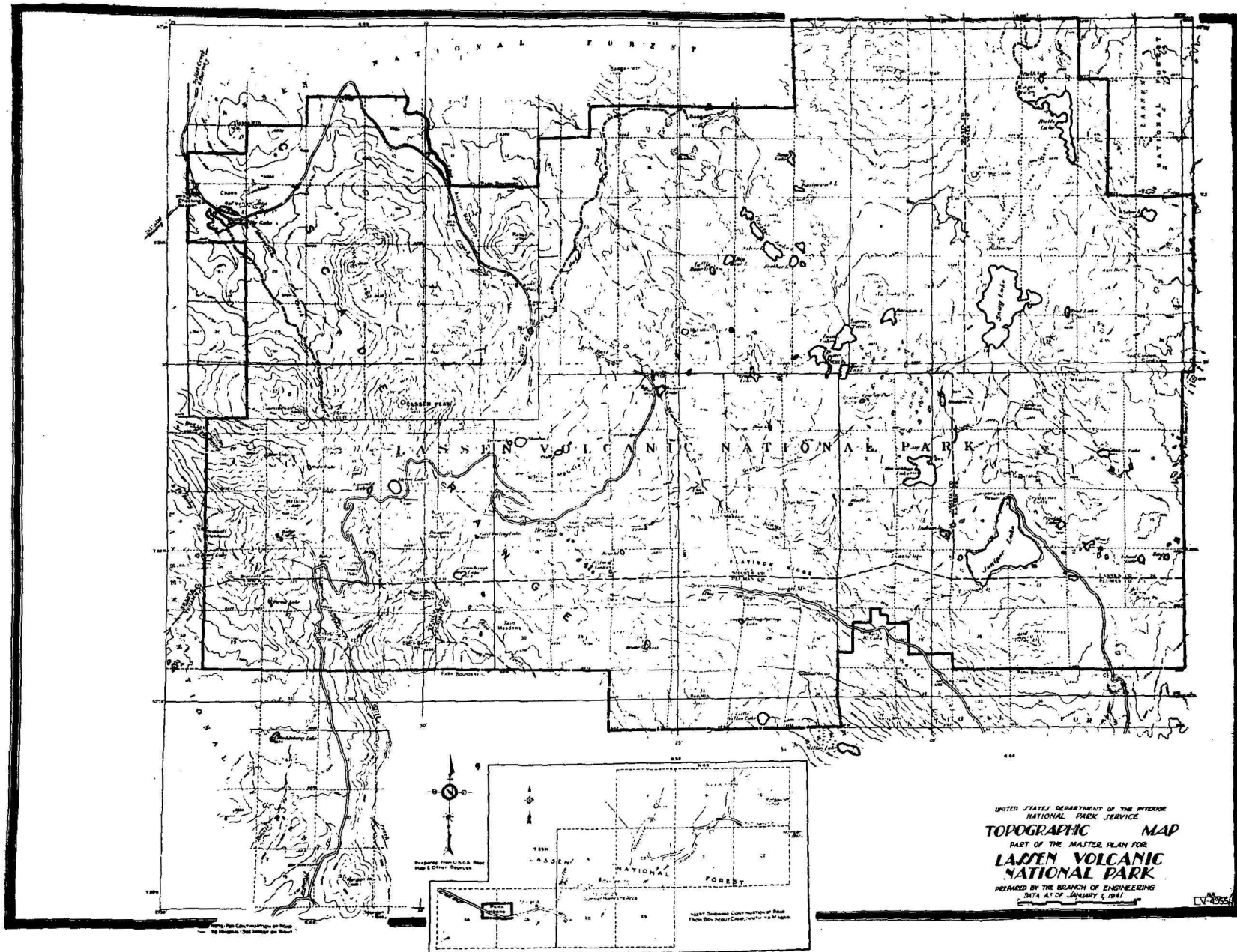
5. The Approval Panel.

An approval panel shall be placed in the lower right corner of each Index Sheet only. It should show the following:

Recommended: \_\_\_\_\_, \_\_\_\_\_  
Chief of Planning Date

Recommended: \_\_\_\_\_, \_\_\_\_\_  
Superintendent Date  
or  
Coordinating Superintendent

Approved: \_\_\_\_\_, \_\_\_\_\_  
Director Date



UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE  
**TOPOGRAPHIC MAP**  
PART OF THE MASTER PLAN FOR  
**LASSEN VOLCANIC NATIONAL PARK**  
PREPARED BY THE BRANCH OF ENGINEERING  
DATA AS OF JANUARY 4, 1961



## THE TOPOGRAPHIC MAP

The topographic map is usually prepared by the Branch of Engineering. Data, in the majority of cases, is taken from U. S. Geological Survey maps with the scale adjusted by photostat or other method of reduction or enlargement. The scale and size of the drawing should correspond to that of the General Development Plan. The use of USGS sheets is permissible for preliminary and early Master Plan editions pending preparation of standard size drawings.

The Topographic Map prepared for inclusion in the Master Plan shows the following data:

1. The topography, contour interval and datum.
2. Water forms, directional flow of streams, soundings of important ponds or lakes, acreage and names of all large water areas.
3. Names of important mountain ranges, peaks, canyons, desert areas or other outstanding land forms.
4. All national, state, county, town or other boundary lines occurring within or adjoining the area proper.
5. Range, section and township lines and numbers.
6. Scale and orientation of the drawing.
7. No physical improvements are shown on this map except all public use roads within the limits of the drawing.
8. A Key Map is sometimes added to show the regional location of the area and its relation to other important areas.

BASIC AND  
GENERAL DATA

DEVELOPMENT OUTLINE - GENERAL INFORMATION

This section of the Development Outline will be prepared by the Superintendent or Custodian and will be bound with the General Development Plan.

I. Basic Data

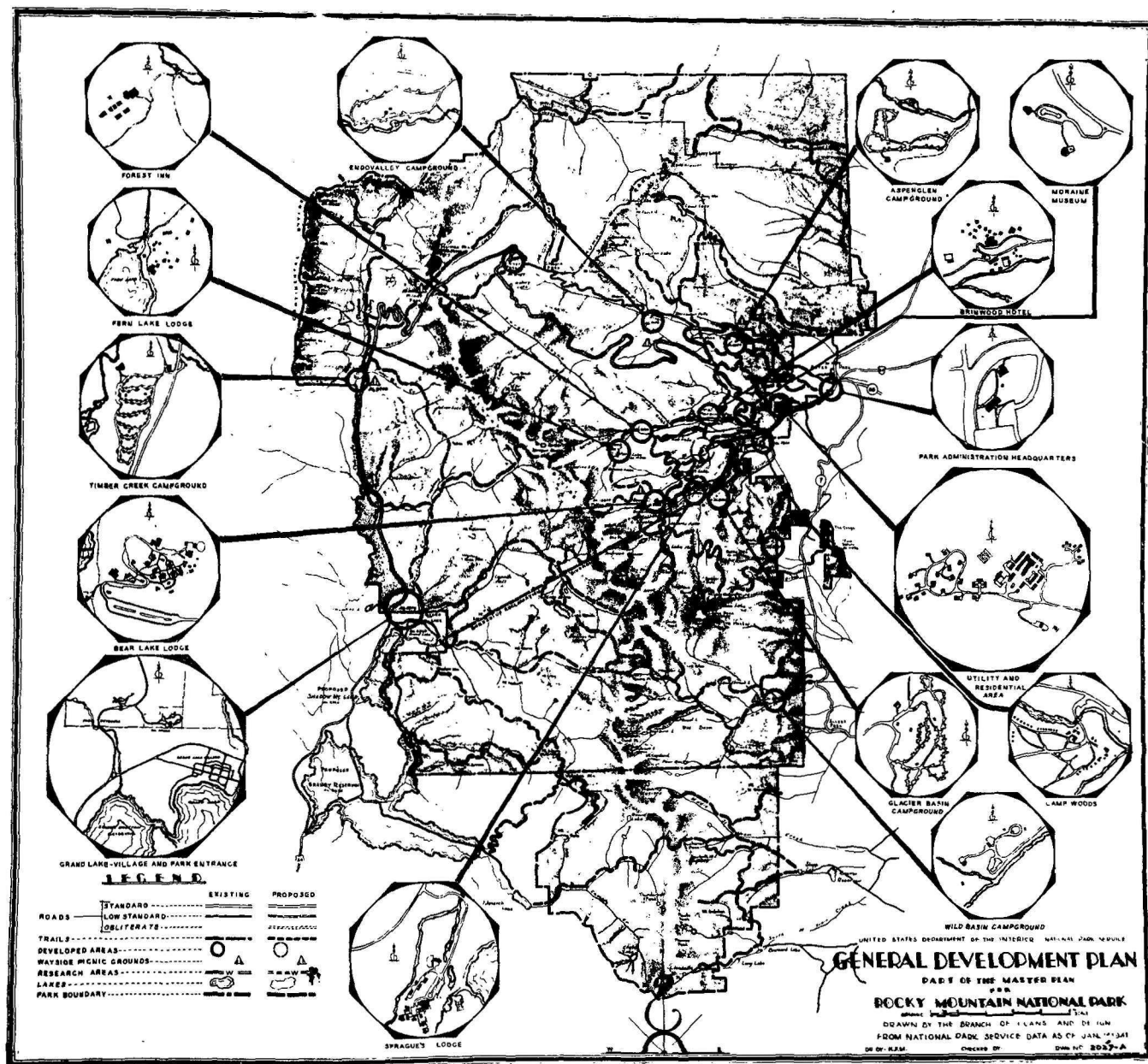
- A. Park Name and Origin
  - 1. Significant Theme
    - a. Scenic or Inspirational
    - b. Historical or Archeological
    - c. Geological, Botanical or Zoological
- B. Geographic Location
  - 1. Population Data
    - a. Racial and Occupational Characteristics
    - b. Recreational Habits
    - c. Other
  - 2. Accessibility
    - a. Highways
    - b. Railways
    - c. Airlines
    - d. Waterways
- C. Relation to Park System
  - 1. National
  - 2. State
  - 3. County
  - 4. Metropolitan
- D. Climate
  - 1. Range of Temperature
  - 2. Average Precipitation: Summer, Winter
  - 3. Normal Construction Season: Begins, ends
- E. Characteristics and Acreage
  - 1. Land Areas
  - 2. Water Areas
  - 3. Range of Elevation: High, Low
- F. Noteworthy Features
  - 1. Number, Location and Nature

- G. Objectionable Features in or near the Park area
1. Railways
  2. Highways
  3. Power or Pipe Lines
  4. Easements
  5. Water Rights: Supply, Control, Pollution, Other
  6. Lands
    - a. Inholdings
    - b. Leases
    - c. Claims: Mining or Other
- H. Adjoining Lands
1. Type and Nature
  2. Ownership and Value
  3. Present Use
    - a. Undeveloped
    - b. Farm
    - c. Residential
    - d. Industrial
    - e. Public
    - f. Other
- I. Land Status
1. Acreage
    - a. Government
    - b. Private (Include appurtenant water rights or water claims)
    - c. Other
- (For "b" and "c" give metes and bounds description by parcels).
- J. Public Use
1. Type and Nature
    - a. Physical Recreation
    - b. Social
    - c. Educational or Inspirational
    - d. Other
  2. Period of Use
    - a. Year Round
    - b. Seasonal (Normal Duration)
    - c. Attendance
    - d. Fees Charged: Entrance or Other

BASIC AND  
GENERAL DATA

II. Policy and Objectives

- A. Primary Purpose
- B. Development
  - 1. Degree
  - 2. Type and Location
- C. Land Acquisition (Include acquisition priority by parcels.)
  - 1. Boundary Adjustments
  - 2. Inholdings
- D. Public Utility Service
  - 1. Ownership and Operation
    - a. Government
    - b. Park Operator
- E. Tourist Facilities: Ownership and Operation
- F. Administration
  - 1. Employee Housing
  - 2. Other



BASIC AND  
GENERAL DATA

DRAWINGS

GENERAL DEVELOPMENT PLAN

The General Development Plan is drawn on a reproduced tracing of the Base Plan by the Branch of Plans and Design. (See Page 11 for preparation of the Base Plan). By locating, classifying and designating the various special-use and development areas, it shows the inter-relation of all existing and proposed elements of the ultimate scheme of development.

The detailed layout of developed areas need not be shown on the General Development Plan if the scale does not permit reasonable accuracy and legibility. The general limits of each area may be outlined with a thin line, keyed by reference line to a projected marginal sketch at larger scale and referred to the proper large scale Developed Area sheet of the Master Plan. All outlying buildings, such as trailside shelters, patrol cabins, maintenance camps, etc., which do not appear on any developed area plan should be shown on the General Development Plan and described in the accompanying development outline.

For comparatively small areas it may be possible to fully interpret the detail and intent of the individual developments on the General Development Plan, but ordinarily the inclusion of supplementary developed area plans will prove beneficial.

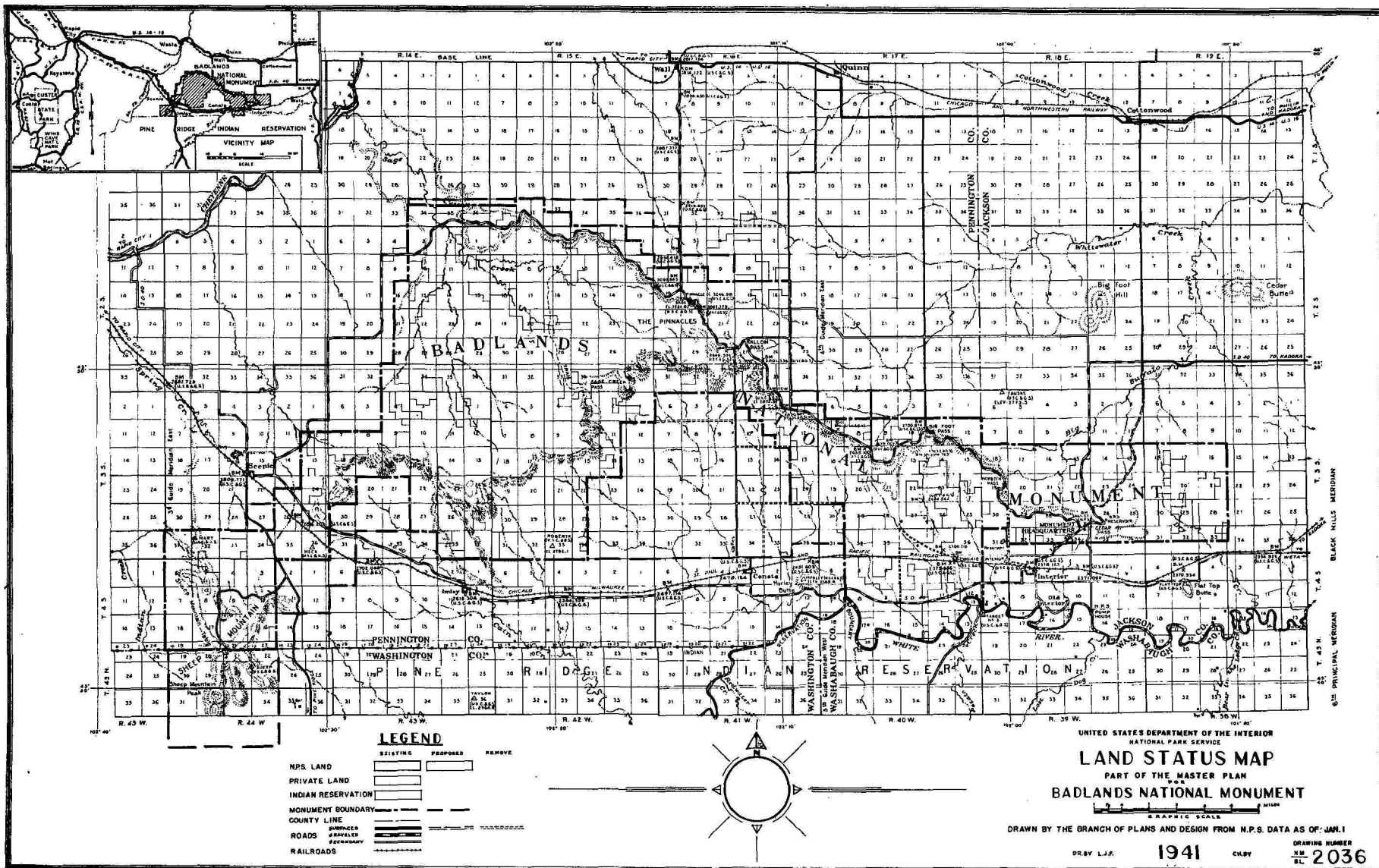
This sheet is, in effect, a Zoning Plan, since it is used as a basis for determining the distribution of use areas and to record the extent of facilities that will be required in their development.

LAND STATUS MAP

The Land Status Map is drawn on a reproduced tracing of the Base Plan by the Branch of Plans and Design. Before preparing the land status map in final form a preliminary check should be made through the office of the Branch of Recreation and Land Planning to insure that boundary proposals and acquisition priorities for alienated lands are correct; and through the Office of the Chief Counsel to insure that the information reflected by the map is accurate and legally correct. It records, in comprehensive detail form, all available information and data pertaining to the status, ownership and use of lands lying within and/or adjoining the area proper, and shows all acquisition and boundary change proposals.

The reproduced prints of this drawing are colored to indicate land ownership. (For color key, see Plate VII.)

In instances where the status of land and/or acquisition proposals are not complex, the Land Status Map may be eliminated and the required information shown on the General Development Plan, provided that legibility is not sacrificed.



REFER TO PLATE VII FOR STANDARD COLORS

BASIC AND  
GENERAL DATA

UTILITY SYSTEMS

DEVELOPMENT OUTLINES

The following sections of the Development Outline will be prepared in chart form by the Branch of Engineering. The charts will be bound with the drawings indicated if such are prepared; otherwise, they will be bound with the General Development Plan.

It is intended that separate charts will be prepared for each type of utility system listed below, but that each separate chart will tabulate, as required by the chart headings, all pertinent data on existing and proposed utility installations for the entire park or monument. There will be contained in the Master Plan, therefore, one telephone chart, one radio chart, one water system chart, etc., although more than one chart may be placed on the same sheet if desired. Additional utility data not covered by the charts will be given in narrative form to accompany the large scale Utility Layout Plans. (See page 78.)

The following Utility System Charts are desired: (See Plates III and IV.)

The Telephone Chart

The Radio Chart

The Power Chart

The above three charts should be bound with the Communications and Power System Map.

The Sewerage and Sewage Disposal Systems Chart

To be bound with the General Development Plan.

The Water Systems Chart

To be bound with the Water Rights and Water Systems Map, if one is prepared; otherwise, with the General Development Plan.

WATER RIGHTS

As pertinent data on water rights is assembled and is made available by the Water Rights Section it should be recorded as may be directed, and bound with the Water Rights and/or Water Systems Map, if such a map is prepared; otherwise, with the General Development Plan.



DRAWINGS

COMMUNICATIONS AND POWER SYSTEM MAP

A Communications and Power System Map is included in the Master Plan to show the general location and extent of all existing and proposed telephone, radio, and power system installations which serve the park or monument.

The plan is prepared by the Branch of Engineering at a scale corresponding to that of the General Development Plan. The communications and power data should be somewhat emphasized in delineation while topography and such elements as roads, trails, developed area locations, patrol and shelter cabins, and fire lookouts should be subordinately but clearly indicated. Standard Symbols are used to indicate the following data:

Existing and Proposed

The Telephone System

General location of aerial and underground lines designated by sections to conform to the telephone chart. Show also the location of all telephone stations.

The Radio System.

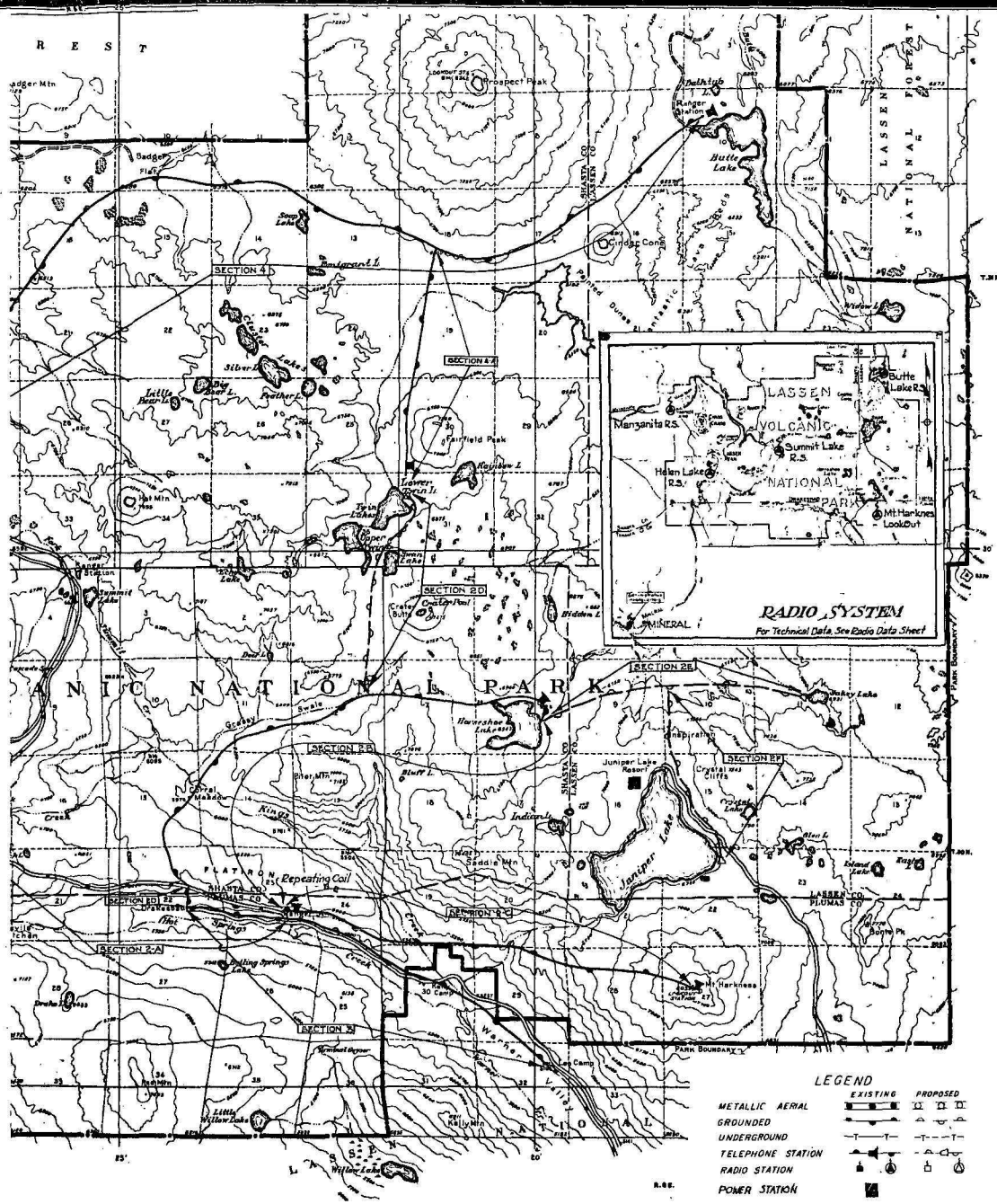
The location of all radio transmitting and receiving stations, with their call letters, should be shown. For clarity the radio system may be drawn on a small scale outline map of the area, placed conveniently on the sheet.

The Power System

If the park or monument is served by a central power system whose source of supply is from commercial or other lines outside the park, or from a central power plant inside the park, the location of the source and of the main distributing lines should be shown. Where the various developed areas of a park or monument are served by individual power plants, the general locations of such plants may be shown on this plan provided their delineation does not confuse the drawing. The distributing lines of individual systems should be omitted, since the scale of the drawing will in most cases preclude their legible delineation and since they will appear in detail on the Utility Layout Plan for the developed area concerned.

WATER RIGHTS AND WATER SYSTEMS MAP

Instructions for the preparation of such a map, when required, will be obtained through the Branch of Engineering or the Hydraulic Engineer of the Water Rights Section. Refer also to "Water Rights Influence on National Park Service Water Systems," dated January 6, 1940, by A. Van V. Dunn.



Prepared from U.S.G.S. Base Map & Other Sources

NOTE: THIS ILLUSTRATION SHOWS ONLY A PORTION OF A COMPLETE MAP.

UNITED STATES DEPARTMENT OF THE INTERIOR  
NATIONAL PARK SERVICE  
**COMMUNICATION & POWER SYSTEMS**  
PART OF THE MASTER PLAN FOR  
**LASSEN VOLCANIC NATIONAL PARK**  
PREPARED BY THE BRANCH OF ENGINEERING  
DATA AS OF JANUARY 1, 1940

PREPARED BY: E.L. CHECKED BY: W.C.H. DRAWN BY: V.5302

# CHAPTER 12

## INTERPRETATION SCENIC SCIENTIFIC AREAS

### DEVELOPMENT OUTLINE

This section of the Development Outline will be prepared by the Branch of Interpretation and will be bound with the Interpretive Plan, if one is prepared; otherwise, with the General Development Plan. For areas having no naturalist, the outline will be prepared by a representative of the Branch of Interpretation designated by the Regional Director upon the recommendation of the Regional Naturalist and the administrative officer in charge of the area.

### I. SCIENTIFIC RESEARCH AND INTERPRETATION

#### A. General Interpretive Statement.

Include a concise summary in order of importance of:  
(1) What the area presents in the way of scenic, scientific and recreational values and (2) the inspirational, educational and recreational opportunities these values offer for human experience.

The interpretive statement should be more than a mere listing of the principal values or blend of values of the area; it tends to be expository rather than narrative or descriptive in content.

As an account of the function of the area in offering opportunity for human experiences, the interpretive statement should be the basis for the interpretive program. In preparing this very important statement the naturalist or other interpretive officer should seek the advice and opinions of those most intimately acquainted with the features and administrative problems of the area.

Descriptions by prominent scientists, educators, and historians should be analyzed. For a number of the national parks valuable suggestions are available in official reports such as "Individual Reports of the Committee on Educational Problems in National Parks," and "Reports with Recommendations from the Committee on Study of Educational Problems in National Parks."

#### B. History of Interpretive Service in the Area.

This should be a brief statement of the growth of staff, appropriations and development of interpretive service in the area.

## II. SCIENTIFIC RESEARCH PROGRAM

### A. Major Scientific Research Accomplished and in Progress.

A concise statement of the major scientific research accomplishments, projects conducted by the staff and others before and since establishment of the area. Projects in progress should be briefly described.

### B. Proposed Scientific Research Program.

This important program will serve as a basis for coordinating staff and collaborator research. Its preparation should receive considered and close attention, in order that research may keep abreast of demands made by the interpretive program.

## III. THE INTERPRETIVE PROGRAM

### A. General Factors Significant to the Interpretive Program.

Briefly describe the following factors only insofar as they are of distinct significance to the Interpretive Program: geographic location of the area, climate, periodic aspects of natural phenomena, characteristics of visitor use of the area, operator activities, adjoining lands and their relationship to the park program.

### B. Methods and Facilities.

#### 1. Public Contact Services. (Existing and Proposed)

##### a. Conducted Trips

List type of conducted trips, including distance, duration, frequency, major objectives, average attendance, facilities available, and cooperation of other agencies.

##### b. Lectures

Location, frequency, general range of subjects, duration, illustrative material used, facilities available, cooperation of other agencies, and entertainment accompanying.

c. Other.

Include all other public contact services, such as entrance checking, information and fire lookout stations. Staff and operator employee training programs should be briefly described.

2. Museum Facilities.  
(Existing and Proposed)

Museum facilities should be described primarily from the standpoints of their character and function. The description should be a brief of the prospectus of the museum development plan, if such a plan has been approved; otherwise, a brief description of museum facilities. The Museum Development Plan which has formerly been included in Master Plans for some of the scenic-scientific areas will hereafter be incorporated in the Interpretive Plan (refer to "Memorandum for the Washington Office and all Field Offices," March 13, 1940).

- a. Central or Headquarters Museum.
- b. Branch Museums.
- c. Observation Stations.
- d. Other Interpretive Devices.
  - (1) Trailside--roadside exhibits.
  - (2) Exhibits in place.
  - (3) Nature trails, self-guiding.
  - (4) Field reconstructions.
  - (5) Stabilized ruins.
  - (6) Other.

3. Miscellaneous Interpretive Aids.  
(Existing and Proposed)

- a. A brief summary of interpretive facilitation afforded by roads, trails, parking areas, campgrounds, picnic areas, and other general development when such are of distinct significance to the Interpretive Program.
- b. Operator's interpretive facilities and co-operating personnel.
- c. Publications.
- d. Library facilities (if not included under central museum). List literature on hand; proposed additions with cost.

INTERPRETATION--  
SCENIC-SCIENTIFIC AREAS

DRAWINGS

THE INTERPRETIVE PLAN

The Interpretive Plan will be prepared by using a reproduction of that particular sheet of the Master Plan that will best serve to receive the Interpretive Data. The choice of the sheet to be used, normally a print of the Base Plan or of the General Development Plan, will be subject to the approval of the Branch of Plans and Design. On a print of the work sheet selected the park naturalist will insert such existing and proposed major development as specifically aids interpretation and such other interpretive devices, aids, facilities, and data as can be effectively shown graphically. Data shown include museums, observation towers, parking overlooks, orientation discs, interpretive markers and exhibits, routes of self-guiding as well as conducted tours, with a brief notation of the nature of the tour and its major points of scenic or scientific interest. (Refer to Illustration, Page 50, for example of a similar drawing for an historical area.)

The Interpretive Plan will be drawn in final form by the Branch of Plans and Design.

# CHAPTER 13

## INTERPRETATION

### HISTORICAL ARCHEOLOGICAL AREAS

#### DEVELOPMENT OUTLINE

This section of the Development Outline will be prepared by the Administrative Officer in charge of the area, with the assistance of the Branch of Historic Sites. It will be bound with the Historical or Archeological Base Map.

#### I. GENERAL INFORMATION

##### A. General Statement

##### 1. Type of Site

- a. Name and Location
- b. Description
- c. Basic Theme

##### 2. Historical or Archeological Significance

- a. National
- b. Local

##### 3. Period of Maximum Importance

- a. Historical or Archeological Evidence
- b. Sequence of Use
- c. Material Remains
- d. Characteristics

##### 4. Evaluation of Site

- a. Scientific
- b. Educational
- c. Commemorative
- d. Other

##### 5. Source of Historical or Archeological Data cited in the outline and in the drawings (unless included in 3-a above).



INTERPRETATION--  
HISTORICAL AND  
ARCHEOLOGICAL AREAS

II. THE INTERPRETIVE STATEMENT

The Interpretive Statement will be prepared by the Branch of Historic Sites and will be bound with the Historical or Archeological Base Map. In all cases involving the remains of structures the Interpretive Statement will be prepared in collaboration with the Branch of Plans and Design.

- A. The Interpretive Statement is a concise interpretation of the meaning or significance to the American people of the historical or archeological events or processes which occurred within the area. It makes clear the broad interpretive story to be set before the public, defines the essential theme of the park program, gives the keynote of its museum message, and indicates how these basic thoughts are to be presented. It is intended, through an explanation of underlying purposes, to be a lucid, directional guide for those engaged in planning the development of the area.
- B. The interpretive statement tends to be expository rather than narrative or descriptive in content. For instance, Abraham Lincoln's Gettysburg Address is a classic interpretation of the meaning of Gettysburg to the American people. That is to say, the interpretive statement transcends a mere recital of names and dates and expresses in a brief compass the historical significance of the area, not only from the standpoint of American military history, but also as it relates to American history as a whole. While such a statement is a generalization, it should be specifically related to the area concerned, i.e., an interpretive statement for a Civil War battlefield interprets that battle--not the whole War Between the States.
- C. The preparation of the interpretive statement for an historical area is the duty of the historical technician, who finds his material in historical documents, historical works, dedicatory speeches, and in verbal or written statements of great national leaders who participated in the event commemorated by the area or who visited it afterward, either for the purpose of making an address (e.g., Lincoln) or for the purpose of obtaining patriotic inspiration (William Wirt at Saratoga). A sound interpretive statement combines the best thought of contemporary and later-day statesmen, corrected and tempered with the best thought of the outstanding historians of the present.



- D. The interpretive statement for archeological areas may be prepared by the custodian or attached archeologist, or, in the absence of a properly qualified technician at the area, may be prepared by the staff in the office of the coordinating superintendent or in the regional headquarters.

Specifically, the significance of the archeological remains in the area in terms of chronology, cultural connections, span of civilizational development represented, individual outstanding buildings, structures, features, should be emphasized.

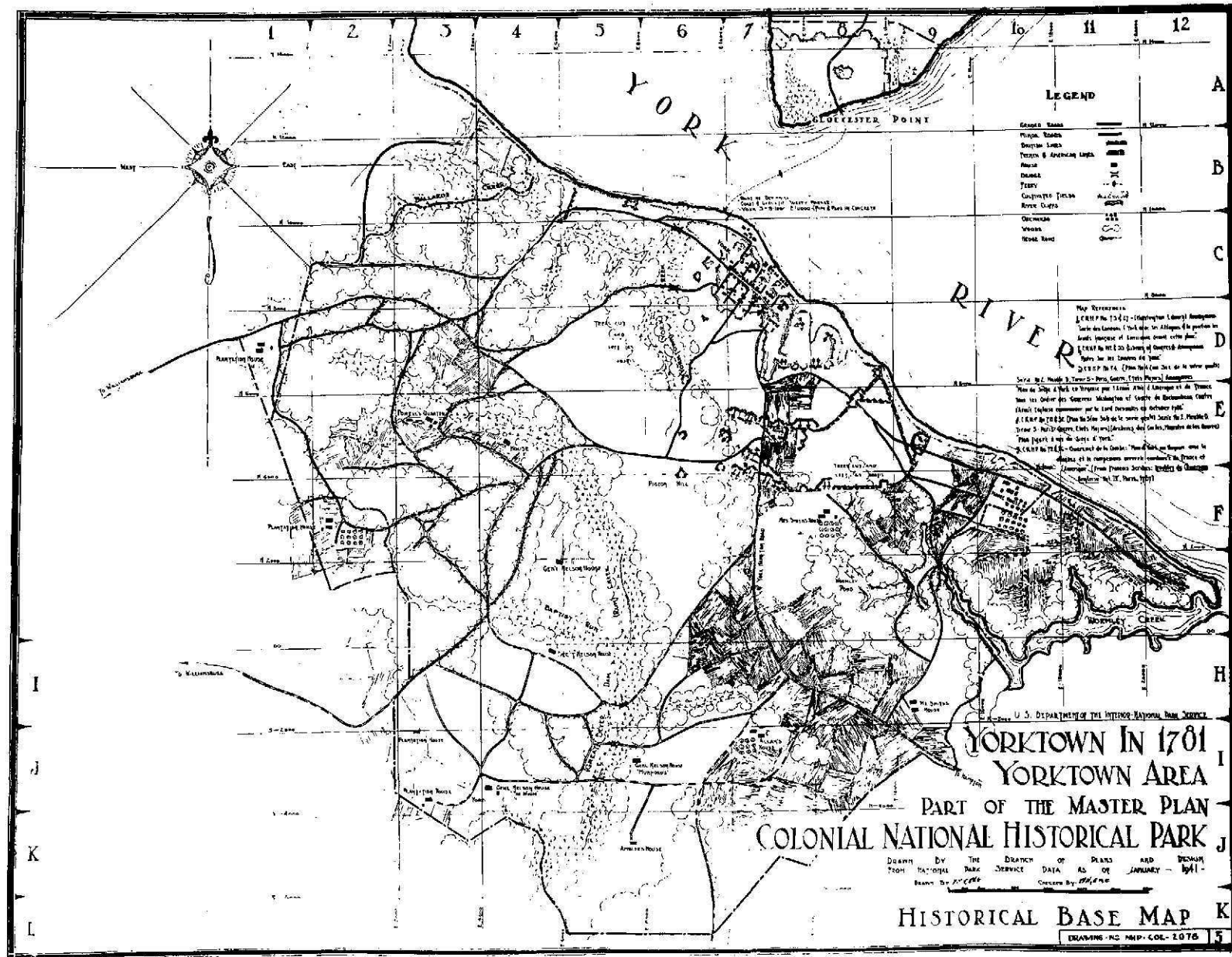
The sources of information for the interpretive statement should be found in current research and reliable archeological journals.

In an archeological area, distinction in terms of national or regional scientific synthesis should be emphasized primarily, but the treatment of interpretation should incorporate the human interest values to the public as well as the scientist.

### III. THE HISTORICAL OR ARCHEOLOGICAL NARRATIVE

The preparation of this narrative is the duty of the historical or archeological technician. It will be bound with the Historical or Archeological Base Map.

- A. The historical or archeological narrative is a brief account of the battle, event, or physical remains commemorated by the park.
- B. It tells the historical or archeological story of the area with relation to political, military, social, religious, economic, cultural, or other special factors, or may combine several or all of these themes, depending upon the character of the area and its physical remains.



## DRAWINGS

Historical and archeological maps as described below are included in the Master Plans for areas designated as being of special historical or archeological significance. The type and number of Maps included will depend upon the importance and complexity of the data to be presented. The Historical and Archeological Maps are drawn in final form by the Branch of Plans and Design from work drafts prepared by the Branch of Historic Sites in collaboration with the Branch of Plans and Design.

### THE HISTORICAL BASE MAP

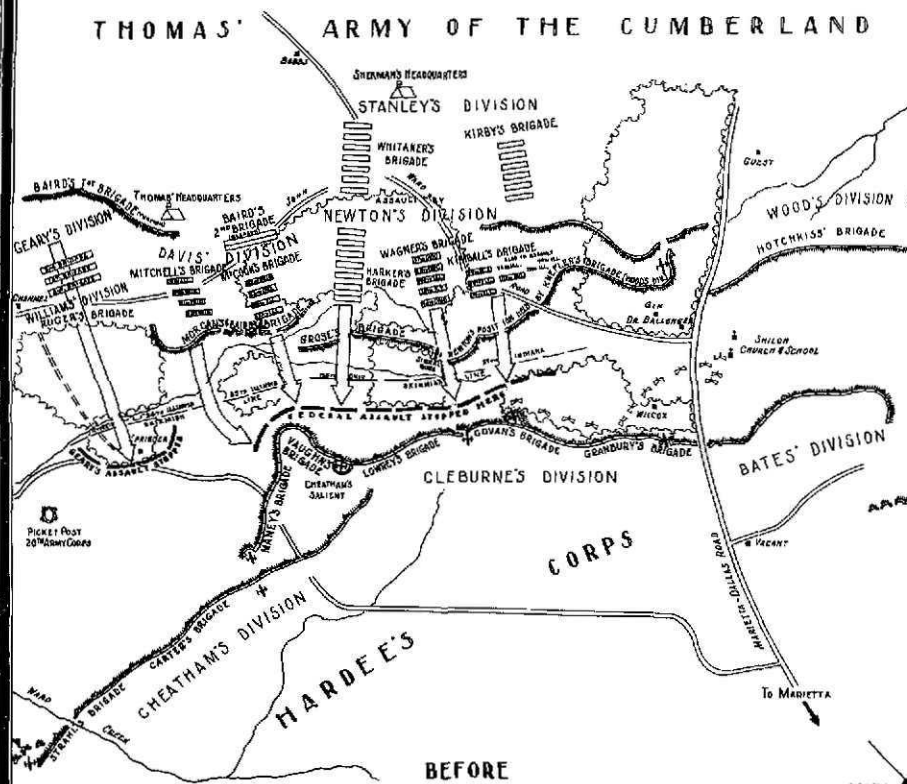
The Historical Base Map is prepared to show the actual conditions existing at the time of the event which made the area historically important, and to serve as a guide in planning the development of the area.

The map is prepared by using an outline map of the area of a size and type approved in each case by the Branch of Plans and Design. The drawing selected should show the park boundaries, rivers, streams, lakes, swamps, and where available, topography. Modern intrusions should not appear.

On a work sheet of this type, historical information necessary to make the historical base map is inserted by the historian. Standard symbols are used. Data given include trenches, fortifications, fixed encampment areas, historic roads, bridges, fords, buildings, woods, fences, railroads, telegraph lines, streams, swamps, cultivation, and all other important physical objects or features existing in the area at the time of its maximum historical importance, and likely to have influenced human action or to have operated as conditioning forces during the battle or events which gave the area its prime historical significance. The primary sources of the data shown are authentic and reliable maps made in historic times, old surveys, military maps of the period, official military and engineering reports, historical photographs and sketches, diaries and letters of officials or travelers of the period. The source of the historical data used in preparing the maps is included as supporting evidence in the outline accompanying the drawing.

A system of grid lines is superimposed on the historical base map to facilitate correlation of the plan data and the textual data appearing in the development outline. The spaces along the horizontal border of the drawing are designated by numbers and the spaces along the vertical border of the drawing are designated by letters.

# THOMAS' ARMY OF THE CUMBERLAND

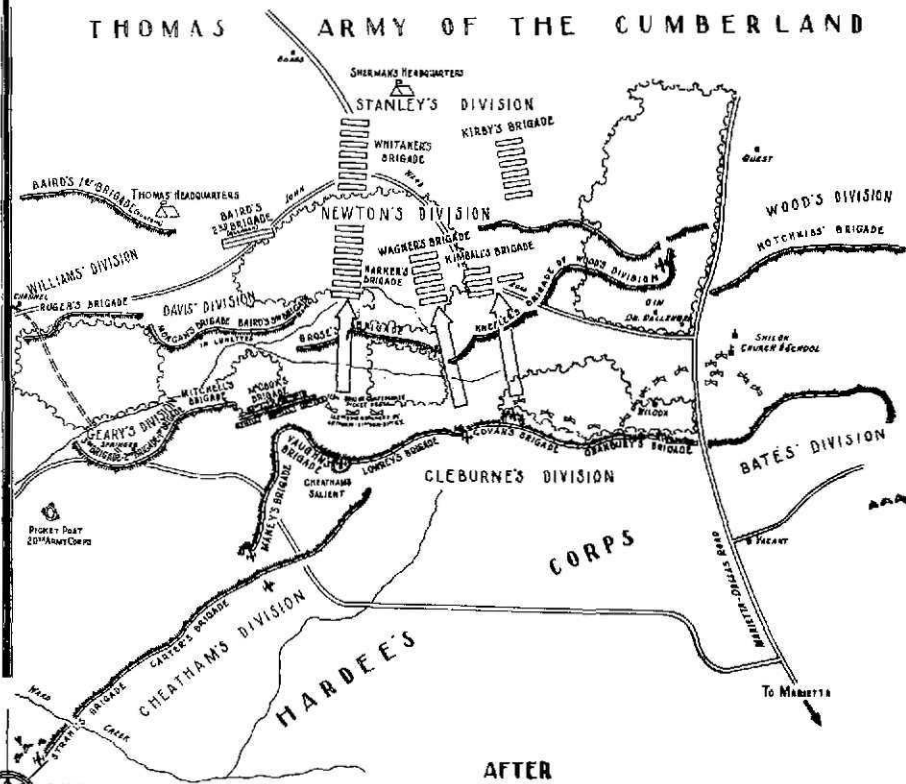


BEFORE

ASSAULT STARTED ABOUT 9:00 A.M.

FEDERAL ASSAULT ON CHEATHAM'S SALIENT

# THOMAS' ARMY OF THE CUMBERLAND



AFTER

MOMENTUM OF ASSAULT CHECKED 80 MINUTES

BATTLE OF KENNESAW MOUNTAIN JUNE 27, 1864.

U.S. DEPARTMENT OF THE INTERIOR

NATIONAL PARK SERVICE

## TROOP POSITION MAP

PART OF THE MASTER PLAN  
KENNESAW MOUNTAIN NATIONAL BATTLEFIELD PARK

SCALE: ONE INCH = 400 FEET  
DRAWN BY BRANCH OF PLANS AND DESIGN

DELINEATED BY FROST - TRACED BY FROST - CHECKED BY FROST

DATA AS OF JANUARY 1942

DRAWING - NO-MBP-KM-2060

5A



KEY MAP

### LEGEND

HEADQUARTERS		DIRECTION OF MOVEMENT	
FEDERAL TRENCHES		ROADS	
CONFEDERATE TRENCHES		BUILDINGS	
PICKETS		WOODS AREA	
BATTERIES		CAMPED AREA	
TROOPS IN COLUMN		TROOPS IN LINE	

### THE TROOP POSITION MAP

Troop Position Maps are graphic explanations of the battle or action which made the area famous. They show where important events occurred. They plot the battle line positions of the contending forces and determine park development by indicating the location and extent of the areas of intensive fighting. They are preferably clear-cut battle maps of the type used by modern journalists. Standard symbols, greatly emphasized in delineation, are used to portray the required information. The areas of most intensive fighting may be shown by color, stippling, or light cross-hatching, or by a judicious combination of such devices.

In some instances it will be desirable and necessary to include several maps of this type to record a series of important events.

### THE ARCHEOLOGICAL BASE MAP

The Archeological Base Map records the location, kind and extent of all known archeological sites or features, the existence and importance of which are the basis for the preservation, interpretation and development of the area; findings resulting from significant archeological research and exploration; and the location of sites or areas within the park or monument proposed for further archeological study.

The extent of authentic data available for use in the preparation of this map will vary considerably in the various archeological areas concerned. In many cases specific knowledge exists only for major ruins or remains, while information concerning other sites in the area is very generalized or limited to knowledge of their location and extent.

The map is prepared by using an outline map of the area (approved for size and type by the Branch of Plans and Design) which shows park boundaries, streams, lakes, or other natural features and, where available, topography. In the final draft of the map, these basic elements are shown subordinately and the archeological data placed thereon are greatly emphasized in delineation. Modern development and intrusions do not appear.

A system of grid lines is superimposed on the archeological base map to facilitate correlation of the plan data and the textual data appearing in the development outline. The spaces along the horizontal border of the drawing are designated by numbers and the spaces along the vertical border of the drawing are designated by letters.

INTERPRETATION--  
HISTORICAL AND  
ARCHEOLOGICAL AREAS

Archeological symbols are included in the Standard Symbols section of this Manual (Plate XIII). It is important that the Standard Symbols be used, that they be emphasized in delineation and that each drawing include an explanatory legend of the symbols employed. In rare instances there may be unique or special archeological features for which no symbol is provided. In such event the ingenuity of the delineator is relied upon for adequate representation of the condition.

The Archeological Base Map is intended to show the following:

1. An inventory of all known sites concerning which specific knowledge is available; the kind and location of individual sites to be shown by appropriate standard symbols.
2. Areas of aboriginal occupation concerning which only generalized information is available; such areas to be outlined, colored and explained in an accompanying legend.

Example:

An "Area of Occupation," colored green on the map would include opposite a key block of green in the legend a note such as the following:

"Several large pueblo ruins, multiple units of Pueblo III and IV as determined from a study of surface sherd collections, with strong indications of Basket Maker II pit houses covering the whole area and extending up Canyons to X and Y."

Any known or definitely classified sites occurring within such an area should be shown by the appropriate standard symbol.

3. The location and status of Archeological research investigation; shown by hachure (see Archeo. symbols) to indicate "proposed," "partial" or "completed" surveys. The history and findings of such research will be given in detail in the text of the development outline which accompanies the archeological base map.

While initial maps will deal essentially with site inventory and location as related to prominent terrain and other physical landmarks, the Archeological Base Map should be prepared with a long-ranged perspective of expanding archeological synthesis based on new research. From simple site inventory, location and extent, the map will gradually be amplified and supplemented by marginal sketches and/or separate drawings or groups of drawings to record at intelligible scale all significant and basic archeological facts that can be graphically



INTERPRETATION--  
HISTORICAL AND  
ARCHEOLOGICAL AREAS

portrayed. As the archeological drawings are revised from time to time to record the latest stage of archeological knowledge, they will incorporate, insofar as can be shown graphically, the scientific interpretation of archeological features of an area in terms of classification, cultural and chronological position and relationship of sites, and the ecological grouping of these as architectural and communal adaptations to physiographic and other environmental factors. Much of the interpretive data will necessarily be more completely covered in the development outline than in the drawings. The combination of drawings and text will thus give an adequate representation of the archeology of the area.

THE HISTORICAL OR ARCHEOLOGICAL TOUR MAP

The Historical or Archeological Tour Map shows the route of the historical or archeological guided tour or tours, both existing and proposed; and indicates the historical or archeological remains, sites, interpretive devices (museums, observation towers, parking overlooks, orientation discs, historical markers, monuments, etc.) available or proposed for presenting the park story to the public. This map is accompanied by a textual statement on a side sheet explaining the reason for the routes taken. It is also important to indicate the personnel available for present interpretive work and the personnel needed to execute properly the interpretive program that is proposed. (See illustration, page 50).

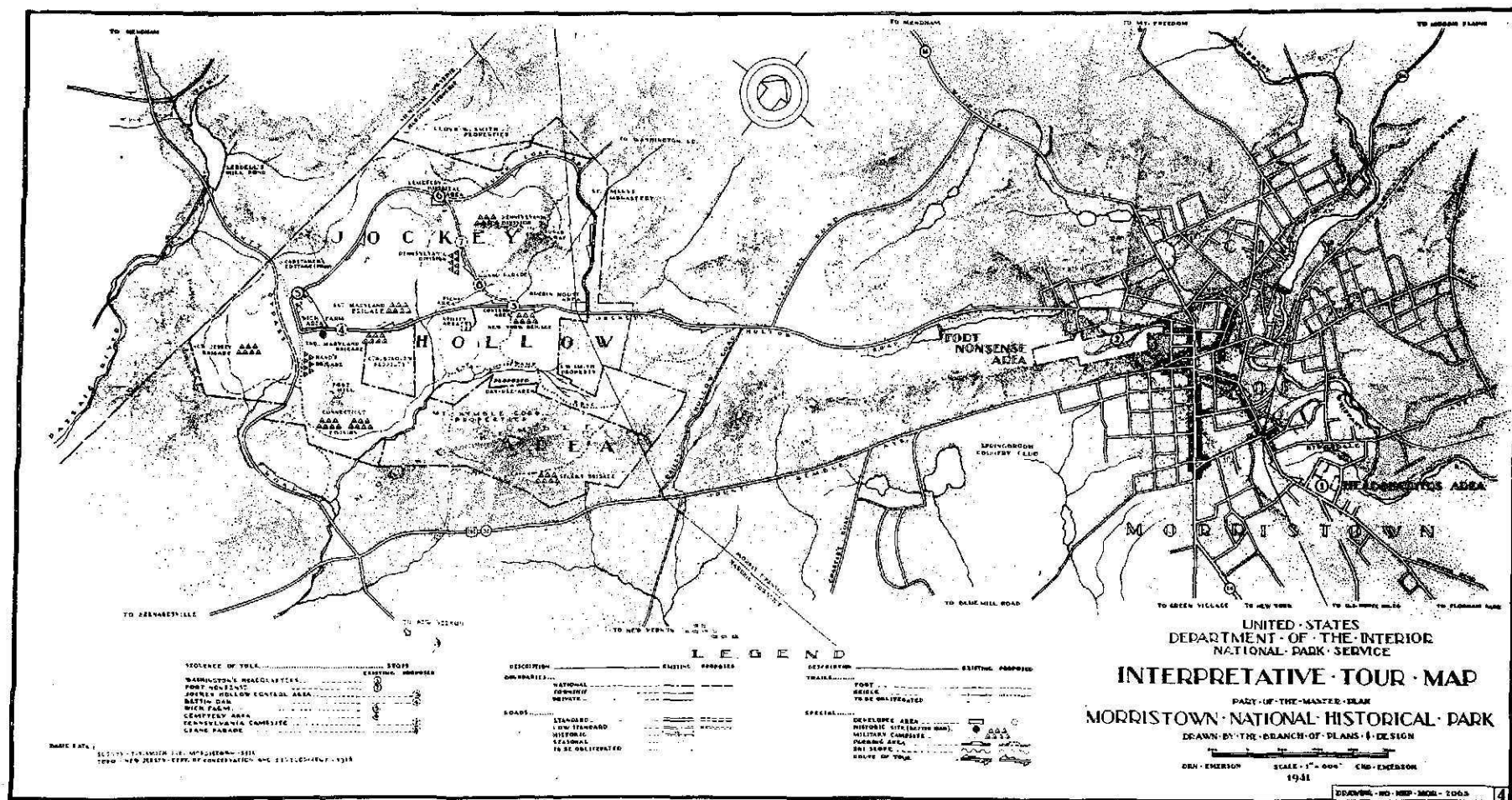
ASSEMBLY SEQUENCE FOR HISTORICAL AND  
ARCHEOLOGICAL DATA

Development Outlines

General Information  
Interpretive Statement  
Historical or Archeological Narrative

Drawings

Historical or Archeological Base Map  
Troop Position Maps or Special  
Archeological Drawings  
Historical or Archeological Tour Maps





# CHAPTER 14

## CIRCULATION

### DEVELOPMENT OUTLINE

The road section of the Development Outline will be prepared by the Branch of Plans and Design and will be bound with the Road System Plan.

### THE ROAD SYSTEM--CHART

All road system data included in the Master Plan should be presented in the Road Chart (See Plate II). This includes designated approach roads, major and secondary park roads, truck trails or other means for vehicular circulation, and all related structures or facilities such as bridges, tunnels, parking areas, and overlooks.

The chart headings require the following data for each road or section of road:

Name of road; route number, section number of sub-section number; termini; length of road in miles and hundredths; road width, graded and surfaced; type of top surface, asphalt or concrete; construction dates, started, completed; built by, PRA, State, County; total cost; notes--to give additional pertinent and essential data about the road, bridge, parking area, etc., concerned.

All data pertaining to existing roads and related structures should be grouped in logical sequence at the beginning of the chart under the heading "Existing." Following this tabulation any explanatory notes should be inserted. At the close of the "existing roads" tabulation should be inserted the heading "Proposed," and the appropriate column headings (See Plate II), followed by a complete tabulation of all proposed road projects.

A system of route and section numbering should be devised for each park or monument area. The route number designates the entire length of a certain road. Example: The East Rim Road, Route 1, extends from the Virgin River Bridge to the east park boundary, a distance of 11.25 miles. For identification and reference purposes Route 1 is divided into sections and, if necessary, further divided into sub-sections. Example: Section 1A1 extends from the Virgin River Bridge to the West Tunnel Portal, a distance of 3.93 miles; section 1A2 is the Zion Tunnel whose length is 1.09 miles; section 1A3 extends from the East Tunnel Portal to the county line, a distance of 3.63 miles. The total length of the various sections or sub-sections comprising a route should equal the tabulated length of the route as a whole. Section numbers should be assigned on the basis of recognizable units of roadway, not on the basis of contract numbers. Station numbers may be used, however, to denote termini of sections, in the absence of place names.

## CIRCULATION

### DRAWINGS

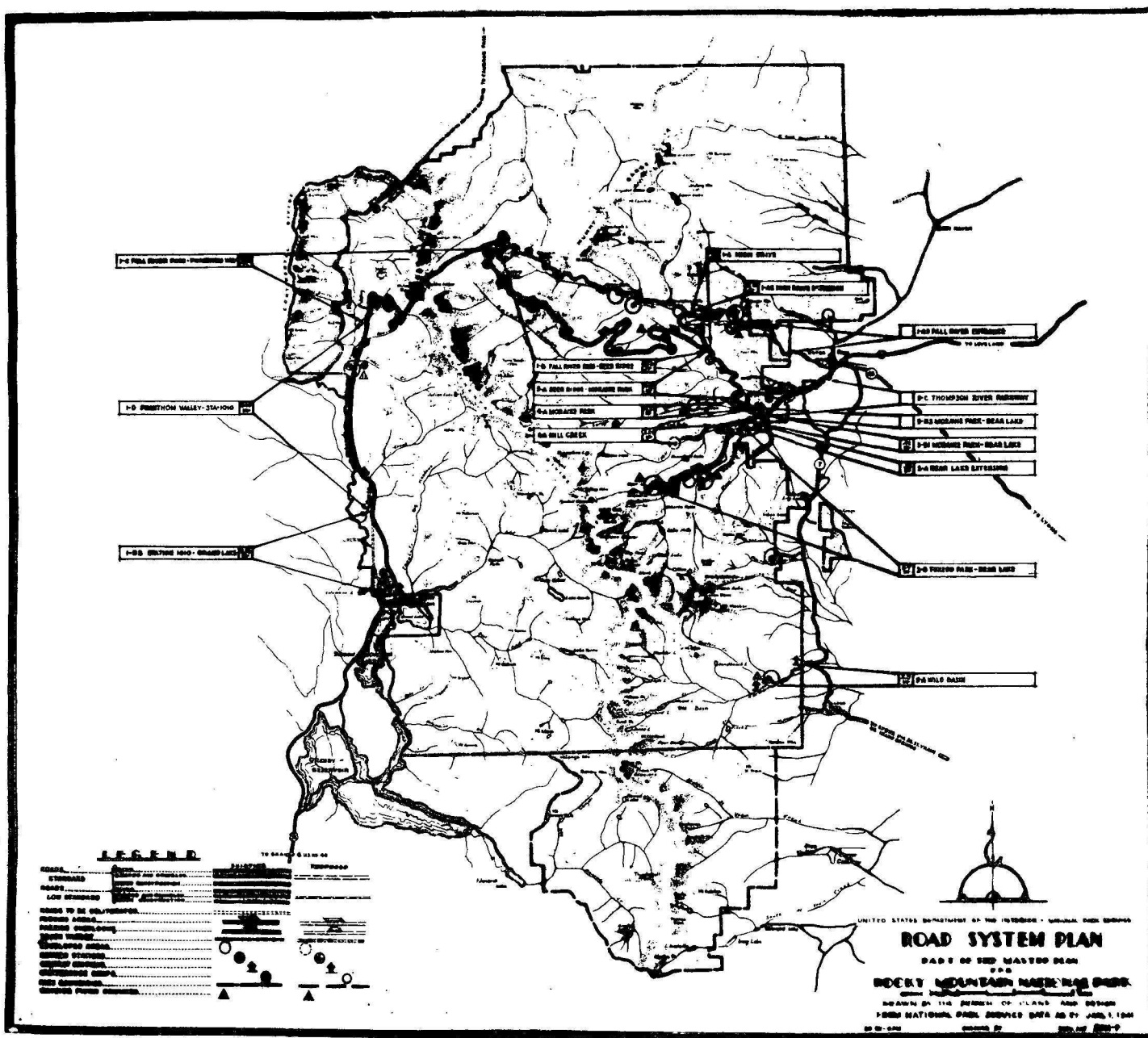
#### THE ROAD SYSTEM PLAN

The Road System Plan delineates all existing and proposed means for vehicular circulation, and all related structures or facilities, such as bridges, tunnels, parking areas, and overlooks. This includes designated approach roads, major and secondary park roads and truck trails. Non-vehicular trails are not shown on this plan.

The Road System Plan is prepared by the Branch of Plans and Design. A reproduced tracing of the Base Plan which shows all basic information and existing conditions is usually used as the basic drawing. In addition to the road system data, developed area locations should be shown. Standard Symbols are used. It is desired that the road system be emphasized in delineation. The drawing should have the clarity of a good road map, be sufficiently clear to be viewed at a distance, and be suitable for reproduction at reduced size.

A system of clearly indicated boxes and reference lines should be superimposed on the drawing to show a breakdown of the road system into routes and sections for ready reference and correlation of the plan and the data tabulated in the accompanying road system chart. The information contained in the boxes should include the route number, section number, place names of section or route termini, and the distance in miles. Example: Route 1, Section 1A, West Entrance to Noname Ranger Station, 6.8 miles.

For small areas or areas having a limited road system, a separate plan is not required. In such cases the required information may be shown on the General Development Plan or combined with the Trail System Plan, provided that legibility is not sacrificed.



DEVELOPMENT OUTLINE

The Trail Section of the Development Outline will be prepared by the Branch of Plans and Design and will be bound with the Trail System Plan.

THE TRAIL SYSTEM--CHART

All trail system data included in the Master Plan (except truck trails or other means for vehicular circulation, which should appear in the Road System Chart) should be presented in the Trail System Chart. This includes foot trails, horse trails, manways, administrative trails of all types, whether they be for patrol, fire control or other use. Trail bridges should be included.

The Trail Chart headings (See Plate II) require the following data for each trail or section of trail:

Name of trail; route number, section number, termini; length of trail in miles and hundredths; trail width; type of surface; construction dates, started, completed; total cost; the grid coordinate locations, tabulated from the plan; notes --to give additional pertinent and essential data about the trail or bridge concerned.

All data pertaining to existing trails should be grouped in logical sequence at the beginning of the Trail Chart under the heading "Existing." Following this tabulation any explanatory notes should be inserted.

At the close of the "existing trails" tabulation should be inserted the heading "Proposed," and the appropriate column headings (See Plate II) followed by the complete tabulation of proposed trails.

A system of trail route and section numbering should be devised for each park or monument area. The route number designates the entire length of a certain trail. Example: The High Sierra Trail, Route 1, extends from Crescent Meadow to Mt. Whitney, a distance of 60.8 miles. For identification and reference purposes, Route 1 is divided into sections. Example: Section 1A extends from Crescent Meadow to Severn Mile Hill Trail, a distance of 6.3 miles; section 1B extends from Severn Mile Hill Trail to Bearpaw Meadow, a distance of 4.7 miles, etc. Under this system of numbering a spur or loop trail leaving any route would require a separate route number and, if necessary, section numbers.

Manways or trails of very minor concern need not be assigned route or section numbers but their grid locations should be noted.

## CIRCULATION

### DRAWINGS

#### THE TRAIL SYSTEM PLAN

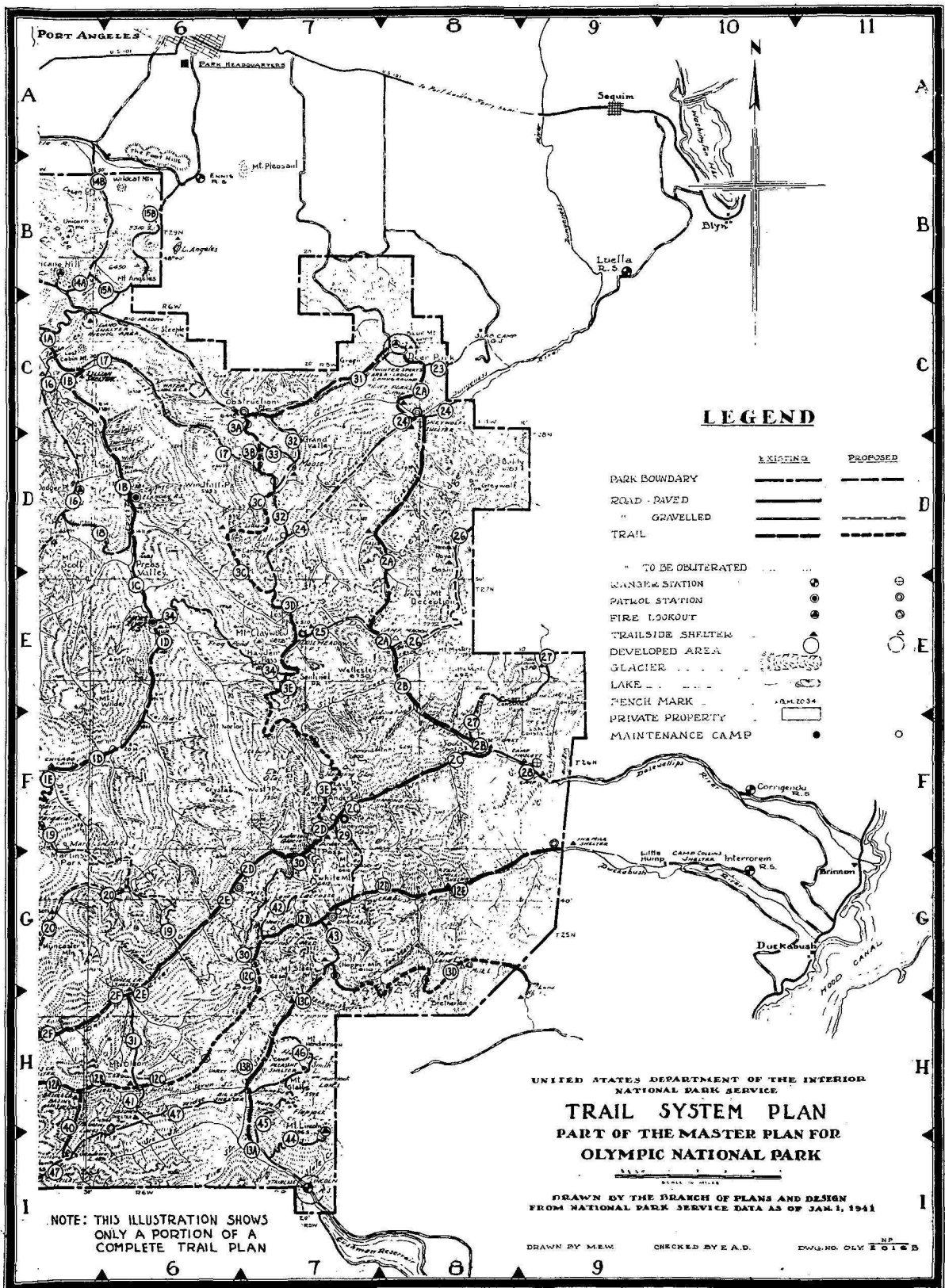
The Trail System Plan delineates all existing and proposed non-vehicular trails and related structures or facilities such as trailside shelters and trail bridges.

The Trail System Plan is prepared by the Branch of Plans and Design. A reproduced tracing of the Base Plan is usually used as the basic drawing. Standard Symbols are used. It is preferred that the main public use trails be somewhat emphasized in delineation to aid in quickly determining their relative extent and differentiation from trails whose primary function is for administration or protection. Other elements of the plan, such as roads, developed areas, outlying buildings, topography, etc., should be subordinately but clearly indicated.

To facilitate identification and to correlate the plan and its accompanying Trail System Chart, a system of rectangular coordinates should be indicated in the border lines of the sheet. Letters are used to designate the spaces between clearly marked coordinate points in the vertical border lines and numbers are used similarly in the horizontal border lines of the sheet. To avoid confusion the coordinate or grid lines should be omitted from the drawing.

It is essential that route numbers be assigned to all trails. Trails of considerable length should be divided into sections for convenient identification; each section should carry its assigned route number plus a section identification designated by letter. Example: Route 1 might be divided into sections 1A, 1B, 1C, etc.; Section 1A covering that portion of Route 1 from Rook Creek to Alpine Summit, Section 1B from Alpine Summit to Noname Ranger Station, etc. All place names used in identifying trail termini, junctions, or sections must be shown on the plan. For uniformity the route number or section number of each trail shall be shown by a numeral or numeral and letter, placed within a circle. The circles should be drawn at readable scale; should be placed to interrupt the trail delineation, not alongside it; and should occur at sufficient intervals for positive identification.

For small areas or areas having a limited trail system a separate plan is not required. In such cases the desired information may be shown on the Road System Plan, Fire Control Plan or General Development Plan, provided legibility is not sacrificed.



# CHAPTER 15

## WILDLIFE CONSERVATION

### DEVELOPMENT OUTLINE

This section of the Development Outline will be prepared by a representative of the Section on National Park Wildlife in cooperation with the administrative officer in charge of the area. It will be bound with the Wildlife Plan, if one is prepared; otherwise, with the Interpretive Plan or the General Development Plan.

#### I. RARE BIOTIC COMMUNITIES AND SPECIES

##### A. Rare Biotic Communities.

###### 1. Community

- a. Predominant species (plants, animals).
- b. Location
- c. Original status
- d. Investigation (completed, continuing, proposed)
- e. Protection and restoration
- f. Noteworthy secondary species.

##### B. Rare Species.

1. Original status (including breeding areas)
2. Present status (including breeding areas)
3. Location
4. Investigation (completed, continuing, proposed)
5. Restoration
  - a. Restoration or preservation of habitat
  - b. Restocking
    - (1) Need
    - (2) Source of stock
    - (3) Procedure
6. Protection from enemies
7. Outlook for future

#### II. BROWSING AND GRAZING CONTROL

##### A. Overuse by Wildlife.

###### 1. Species

- a. History and causes of overbrowsing
- b. Localities affected (park lands, adjacent lands)
- c. Stocking (actual, potential)
- d. Range plots (established, proposed)
- e. Investigations (completed, continuing, proposed)
- f. Browse protection program
  - (1) Trapping and removal of animals
  - (2) Other control methods
- g. Cooperation with other agencies in control measures adjacent to park
- h. Outlook for future



B. Grazing by Pack and Saddle Stock

1. Important grazing areas on recreational routes
  - a. Location and size
  - b. Type and degree of use
  - c. Effect of use on wildlife habitats
    - (1) Winter range
    - (2) Summer range
    - (3) Water resources
  - d. Management program
    - (1) Fencing (drift, bar, or complete enclosure)
    - (2) Stay limit
    - (3) Signs
    - (4) Rotational use
    - (5) Disposition of surplus stock during other than seasonal peak use
      - (a) Permit holder, grazing area, number of stock permitted, season of use
  - e. Outlook for future

C. Grazing by Cattle, Sheep, Goats

1. Grazing allotments
  - a. Permit holders
  - b. Location and size of area
  - c. Type and degree of use
  - d. Management program
    - (1) Opening and closing dates
    - (2) Number and kind of stock
    - (3) Distribution controls (fencing, salting, herding, watering)
  - e. Effect of land use on wildlife
    - (1) Species affected
    - (2) Winter range
    - (3) Summer range
    - (4) Water resources
  - f. Outlook for future

III. AQUATIC RESOURCES AND THEIR CONSERVATION

A. Water Resources Important for Fish and Other Aquatic Animals

1. Physical inventory
  - a. Streams (describe for each watershed or drainage basin as follows:)
    - (1) Location, length, depth, width, seasonal use, flow, average gradient
    - (2) Character of terrain and of bottom
    - (3) Temperature (seasonal range, winter ice, etc.)
    - (4) Chemical characteristics
    - (5) Location and character of obstructions to fish migration



WILDLIFE  
CONSERVATION

- b. Lakes
    - (1) Location, size or area, depth
    - (2) Character of shore line, type of bottom
    - (3) Temperature range
    - (4) Chemical characteristics
  - 2. Biological Inventory
    - a. Streams (according to key lists as in "1. Physical Inventory")
      - (1) Characteristic fish species and relative abundance
      - (2) Importance as an angling resource
      - (3) Non-food species and invertebrates as fish forage
    - b. Lakes (treat as for "a. Streams")
    - c. Importance of animals other than fish
  - 3. Maintenance of original conditions
    - a. Streams (significance as virgin or non-fishing waters)
    - b. Lakes (treat as for streams)
  - 4. Angling as a recreational resource
    - a. Accessibility of angling waters
    - b. Accommodations for angling
    - c. Number of anglers
    - d. Estimated drain on fish supply
    - e. Prospective demand for angling
    - f. Possibility of satisfying demand without artificial aids
- B. Management of Fishery Resources
- 1. Promoting natural reproduction and survival by regulating fishing
    - a. Existing regulations
    - b. Proposed modifications in problem waters (size limits, creel limits, license quotas, open fishing days or seasons by waters)
    - c. Angler census, creel census and management plans
    - d. Correction of environmental deficiencies resulting from artificial changes
  - 2. Supplementing natural reproduction by hatcheries and stocking
    - a. History of stocking (by waters, species and number per year)
    - b. Fish propagation structures (existing and proposed, location, number, type or purpose, and operator)
      - (1) Holding ponds
      - (2) Egg-collecting stations
      - (3) Hatcheries
      - (4) Counting Wiers

- c. Other structures (existing and proposed)  
noting kind, location, purpose, results
- d. Fish planting program
  - (1) Summary of approved program
    - (a) Native species, relation to Service  
planting policy, areas to be planted
    - (b) Exotic species (as above)
  - (2) Cooperating agencies (name, functions,  
written agreement with Service,  
necessary changes)
  - (3) Investigations (completed, continuing,  
proposed)

C. Fishing Waters Presenting Special Problems

1. Summary of Problems

- a. Areas
- b. Type of use
- c. Present problems
- d. Investigations (completed, continuing, proposed)

DRAWINGS

THE WILDLIFE PLAN

Wildlife Plans are included in the Master Plan for those areas whose wildlife features are of special significance or whose wildlife conservation involves comprehensive programs of protection and management. Their function is to locate the outstanding wildlife areas, and to integrate their specialized protection and use programs with the general land use program of the area as a whole. When the wildlife resources of an area do not justify the preparation of a separate drawing, the required data may be shown on the Interpretive Plan or the General Development Plan, provided legibility is not sacrificed.

The Wildlife Plan will be prepared in draft form by a representative of the Section on National Park Wildlife, who will compile and insert the necessary data on a work sheet (approved for type and size by the Branch of Plans and Design), which shows topography, stream lines, existing roads, trails, developed areas, ranger stations, shelter and patrol cabins, and fire lookouts.

It is important that the Standard Wildlife Symbols be used, that they be emphasized in delineation, and that an explanatory legend of the symbols used on the drawing be shown. From the work sheet thus prepared the Wildlife Plan will be drawn in final form by the Branch of Plans and Design.

WILDLIFE  
CONSERVATION

For some areas it may be necessary, for legibility, to prepare two drawings: one for terrestrial plants and animals; the other for aquatic plants and animals.

The Wildlife Plan for terrestrial plants and animals should show as many of the following features, indicated by approved symbols, as are important in the area: Existing rare biotic communities comprised of plants and animals of outstanding interest, or communities that may be restored; distribution of important, rare, vanishing, or reintroduced animals, with special reference to breeding localities, wintering grounds, migration routes, and other areas of vital importance; location of habitats of wildlife species whose range may be endangered by livestock, human or other use; important grazing areas used by pack and saddle stock, permanent drift fences and bars, fenced range study plots, strategically important watering places, including springs and waterholes that have been improved for wildlife; permanent animal control structures, such as elk and deer trapping devices, and electric fences; research areas; and lands where undisturbed seasonal use may determine the fate of rare wildlife species, such as bighorn lambing ground, winter range for antelope, and nesting site for trumpeter swans.

The Wildlife Plan for aquatic plants and animals should show the following: Water resources for important animal species other than fishes; waters supporting fishes but not open to fishing; waters of outstanding importance where fish are not present; fishing waters which are subject to such heavy use as to constitute a major problem; structures, with appropriate symbols, established or proposed for the primary purpose of fishery management, such as barriers, hatcheries, rearing pools and holding pools, egg collection stations; present fish distribution, and fish planting program, by species; and research areas.

# CHAPTER 16

## SOIL AND MOISTURE CONSERVATION

For Soil and Moisture Conservation problems, except those of a very minor nature, data prepared in accordance with the following instructions should be included in the Master Plan. Less comprehensive problems should be included under Miscellaneous Development (See Chapter 20, Page 82).

### DEVELOPMENT OUTLINE

This section of the Development Outline, covering pertinent data arranged in the sequence given in the following check list, will be prepared in narrative form by the Regional Soil Conservationist in collaboration with the administrative officer in charge of the area. It will be bound with the Erosion Type Map, if one is prepared; otherwise, with the Vegetative Cover Type Map.

#### I. SOIL AND MOISTURE CONSERVATION SURVEY

- A. Vegetation
  - 1. Summarize pertinent vegetation data
  - 2. Effect of wildlife on natural vegetative reproduction
- B. Agricultural practices affecting park lands
  - 1. Kind and extent within the park or monument prior to its inclusion in the National Park System
  - 2. Existing agriculture within the area, including grazing permits
    - a. Program of control or elimination
  - 3. Effect on park lands of agriculture practiced on non-park lands
- C. Inholdings
  - 1. Effect on Erosion problem
  - 2. Effect on Soil and Moisture Conservation Program
- D. Soils--erodability and infiltration characteristics
- E. Erosion type classifications
  - 1. Natural
  - 2. Accelerated
  - 3. Correctible natural
- F. Land use capability
  - 1. For Grazing
  - 2. For Wildlife

#### II. SOIL AND MOISTURE CONSERVATION PROGRAM

- A. Objectives
- B. Operations
- C. Cooperation with other agencies.

## SOIL AND MOISTURE CONSERVATION

### DRAWINGS

Soil and Moisture Conservation drawings, when required, will be prepared by the Regional Soil Conservationist in collaboration with the administrative officer in charge of the area.

### EROSION TYPE MAP

The following data will be added to a reproduced tracing of the Base Plan:

Drainage units

Boundaries of accelerated and correctible natural erosion areas

Type and degree of erosion present (sheet erosion, gulley erosion, etc.)

Fences

Areas open to grazing permits

Vegetative Cover Types, including grasses, if such are not shown on a Vegetative Cover Type Map of the area

### SOIL CONSERVATION PLAN

The following data will be added to a reproduced tracing of the Base Plan:

Drainage units

Existing and proposed Soil and Moisture Conservation Operations

Boundaries of developed or special areas on which conservation operations are not authorized

In many instances the scale of the Base Plan will preclude legible and complete delineation of the above data for which a scale not smaller than 1:800 is essential. In such cases the general limits of each area on which conservation operations are contemplated may be outlined with a thin line and keyed by reference line to a marginal drawing at a scale of 1:800 or greater in a manner similar to that provided for delineating the General Development Plan. In the event that the use of such marginal enlargements is impractical because of limitations of scale or lack of space, an additional sheet or sheets may be prepared on which should be grouped enlarged drawings of the areas concerned.

# CHAPTER 17

## FOREST PROTECTION

### VEGETATIVE COVER TYPES

#### DEVELOPMENT OUTLINE

This section of the Development Outline will be prepared by the park or monument personnel with the assistance of the Branch of Forestry and will be bound with the Vegetative Cover Type Map.

#### I. VEGETATIVE COVER

##### A. Types

1. Description
  - a. Predominant species
  - b. Associate species
2. Aggregate Area
3. Special Types
  - a. High Fire Hazard
  - b. Erosion

##### B. Species

1. Name
2. Condition
  - a. Entomological
  - b. Pathological
  - c. Physiological

### DRAWINGS

#### VEGETATIVE COVER TYPE MAP

Vegetative cover type maps are prepared by the Branch of Forestry and are included as a part of the Master Plan to furnish basic information required for the most efficient forest protection and preservation planning. See "Suggestions for the Mapping and Study of Vegetative Cover Types in Areas Administered by the National Park Service," June 5, 1934.

This map should contain the following elements: topography; vegetative cover types according to recognized classifications; area covered by each type designated by a distinctive color; type boundaries by conventional type line symbols and type names and age classes by symbols. This graphic record of the vegetative cover present at the time of mapping provides a valuable source of information for fire hazard rating, protection planning, insect and tree disease control, campground development, wildlife food and range conditions, reforestation, erosion control, and plant succession.

Copies of this map may be transferred from one edition to another as revision is not ordinarily required and the old copy is simply inserted in the new edition of the Master Plan.

DEVELOPMENT OUTLINE

This section of the Development Outline will be prepared by the park or monument personnel with the assistance of the Branch of Forestry and will be bound with the Forest Fire Control Plan.

FIRE CONTROL

- A. Summary of Fire History to Date
- B. Fire Protection Personnel
  - 1. Year-round Protection Force
  - 2. Seasonal and Temporary Protection Force
- C. Fire Protection
  - 1. Prevention
    - a. Public Control and Education
    - b. Fire Hazard Reduction
  - 2. Presuppression
    - a. Organized Personnel Training
    - b. Summary of Fire Equipment
      - (1) Maintenance of Equipment
    - c. Physical Improvement
      - (1) Roads--Protection Motorways
      - (2) Trails--Fire, Horse, and Foot Trails, and Manways
      - (3) Firebreaks
      - (4) Detection Structures
      - (5) Ranger Stations, Fire Guard and Patrol Cabins
      - (6) Communication System
      - (7) Water Sources
      - (8) Boat Landings
      - (9) Fire Toolboxes and Caches
  - 3. Suppression
    - a. Duties of Protection Organization
    - b. Cooperation with Other Agencies
    - c. Use of Equipment
    - d. Specific Recommendations, especially for immediate action

## FOREST PROTECTION

### DRAWINGS

#### FOREST FIRE CONTROL PLAN

A Forest Fire Control Plan is prepared for each park or monument having a fire problem in forest, brush or grass vegetative types.

The plan will be drawn on a reproduced tracing of the most suitable basic Master Plan drawing which shows topography, boundaries and the complete circulation system. Normally, the Base Plan will meet these requirements. The plan will be drawn in final form by the Branch of Plans and Design from data compiled by the park or monument personnel with the assistance of the Branch of Forestry.

The Forest Fire Control Plan should show the following data:

All existing and proposed forest protection improvements required in the prevention, presuppression, and suppression of fires, such as firebreaks, lookout stations, fire guard cabins, communication systems, fire tool locations and capacities, and water sources. In addition it is essential that the complete circulation system be shown. This includes major highways, park roads, entrance roads, service roads, truck trails, fire trails, horse trails, foot trails, and manways.

For small areas or areas having limited problems of fire control, a separate plan is not required. In such cases the desired information may be shown on the General Development Plan or other general drawing provided that legibility is not sacrificed.





## FOREST PROTECTION

### VEGETATION TREATMENT

#### DEVELOPMENT OUTLINE

This section of the Development Outline will be prepared by the park or monument personnel with the assistance of the Branch of Forestry and will be bound with the Vegetation Treatment Plan, if one is prepared; otherwise, with the Forest Fire Control Plan.

#### I. REFORESTATION

- A. Purpose and Objective
- B. Location
  - 1. History
  - 2. Adjacent Areas
  - 3. Species
    - a. Amount
    - b. Proportion
- C. Planting Program
  - 1. Location of stock
  - 2. Method
  - 3. Costs
  - 4. Maintenance

#### II. TREE DISEASE CONTROL

- A. General
  - 1. Name of disease
  - 2. Causal organism or agency
  - 3. Host species
  - 4. History of disease and its control in the area
- B. Present Status
  - 1. Occurrence of host and/or alternate host vegetation
  - 2. Location, boundaries, and area of infection
  - 3. Areas, if any, on which control will not be sought
  - 4. Areas on which control will be sought
  - 5. Areas on which initial control measures have been applied
  - 6. Areas requiring annual or periodic maintenance
- C. Control
  - 1. Personnel
  - 2. Equipment
  - 3. Supplies

III. TREE INSECT PEST CONTROL

A. General

1. Areas in which intensive control measures always will be needed
2. Areas in which control measures will be applied only to prevent general epidemic infestations from developing
3. Areas in which no control measures are contemplated

B. Status of Insect Pest Attacks

1. Name of Insects and vegetative species attacked
2. History of infestation

C. Status of Control

1. Occurrence of host vegetation
2. Location of infestation

DRAWINGS

THE VEGETATION TREATMENT PLAN

With the exception of the data required to be shown on (1) The Vegetative Cover Type Map, and (2) The Forest Fire Control Plan, it is intended that The Vegetation Treatment Plan will combine on one drawing wherever possible, all additional forest protection measures of sufficient magnitude to require graphic presentation in the Master Plan. Separate drawings may be prepared, if necessary, to show varying types of treatment applied to a given location.

The Vegetation Treatment Plan will be drawn on a reproduced tracing of the most suitable basic Master Plan drawing which shows topography, boundaries and the circulation system. Normally, the Base Plan will meet these requirements. The plan will be drawn in final form by the Branch of Plans and Design from data compiled by the park or monument personnel with the assistance of the Branch of Forestry.

The Vegetation Treatment Plan presents the following types of data, depending upon the needs and problems of the area:

1. Reforestation Data.

Large scale forest plantings, boundaries and extent of planting areas, species and relative proportion of each contemplated to correct erosion, or to restore primeval or historical forest conditions where they have been destroyed or disrupted by fire, insects, diseases, logging, cultivation, overgrazing, other use or abuse by man or by natural forces of destruction.

2. Tree Disease Control Data.

Location, boundaries and area of infection. Areas on which control will be sought. Areas on which initial control measures have been applied. Other data, if applicable, as listed in the Development Outline under "II. Tree Disease Control." (See Page 70).

3. Tree Insect Pest Control Data.

Areas in which intensive control measures will always be needed. Areas in which control measures will be applied only to prevent general epidemic infestations from developing. Other data, if applicable, as listed in the Development Outline under "III, Tree Insect Pest Control." (See Page 71).

# CHAPTER 18

## DEVELOPED AREAS

### DEVELOPMENT OUTLINES

Development outlines covering pertinent data on circulation, buildings and operator's areas, arranged in the sequence given in the following check lists will be prepared by the Branch of Plans and Design to accompany each Developed Area Plan.

#### I. CIRCULATION

It is desirable that pertinent circulation system data be included in the development outline which accompanies each developed area plan.

However, since all road data will be summarized in the road chart which accompanies the Road System Plan, and all trail data will be summarized in the trail chart which accompanies the Trail System Plan, it is not required that this information be repeated in chart form to accompany the individual developed area plans. The data desired for each developed area may be given in narrative or outline form to (1) summarize the general aspects of the circulation system as it affects the area concerned; (2) to call attention to special problems in the area; and (3) to explain in detail any road or trail system data which, for lack of space or other reason, may have been consolidated in the road or trail chart tabulations. Circulation system data applicable to the developed area concerned should be arranged in the sequence given in the following check list:

#### Name of Area

##### A. Road System (Existing and proposed)

1. Include a general statement for each through route, loop road, spur road, service road, or other type of road in the area.
2. For each of the above give:  
Road name, purpose, location and relationship to the major road system; length, width, type of surface, condition and maintenance data; related structures and facilities such as bridges, tunnels, parking facilities, noting whether for public or administrative use.

##### B. Trail System (Existing and proposed)

1. Include a general statement for each system of foot trails, paths or walks; horse trails or other types of trails in the area.

DEVELOPED  
AREAS

2. For each of the above give:  
Trail name and location; purpose (public or administrative use); width, type of surface, condition, maintenance data; related facilities (bridges, etc.)

## II. BUILDINGS

Since there is no single plan which records all buildings (as the Road System Plan records all roads), it is essential that the data on all buildings, identified by their assigned building numbers, be presented in chart form as an integral part of the development outline accompanying each developed area plan on which buildings are indicated. (For example of Building Chart see Plate III).

The Building Chart for each developed area will have two main divisions; one for existing and one for proposed buildings. In each of these classifications the buildings will be listed under the appropriate sub-heading--Government Owned or Operator Owned.

The headings "1. Administrative Group," "2. Residential Group," etc., which appear for convenience in tabulating the following check list may be omitted from the building chart if desired, but the buildings should be tabulated in the sequence given in the check list.

Any narrative descriptions or explanatory remarks regarding buildings that may be desirable to include in addition to the information contained in the charts should be placed to follow the completed charts. Differentiate between white and negro facilities.

### Name of Area

#### A. Government Owned Buildings. (Existing and Proposed)

1. Administrative Group
  - a. Office buildings
  - b. Museums, central, branch, or trailside
  - c. Checking stations, ranger stations
  - d. Other
2. Residential Group
  - a. Employee residences
  - b. Dormitories
  - c. Other
3. Utility Group
  - a. Garages
  - b. Storage buildings
  - c. Shops
  - d. Other

DEVELOPED  
AREAS

4. Tourist Facilities

- a. Hotels, lodges, cabins, stores
- b. Campground and picnic ground facilities such as shelters, comfort stations, laundries.
- c. Sports area facilities, such as bathhouses, boathouses, ski shelters.
- d. Other

B. Operator Owned Buildings  
(Existing and Proposed)

1. Non-tourist units

- a. Administrative offices (often in hotel)
- b. Employee residences, dormitories
- c. Utility buildings, warehouses, garages, shops
- d. Other

2. Tourist Facilities

- a. Hotels, lodges, cabins, stores
- b. Gasoline filling stations, comfort stations, laundries
- c. Other

III. RECORD OF PARK OPERATOR SITES, LEASES, USE PERMITS

There has developed a need for complete and accurate data in the Master Plan relative to all sites leased to or authorized for use by park operators. It has been determined that the Master Plan will in the future constitute the only recorded source of this information.

The park operator is obligated to furnish to the Service, at his own expense, a plat of each site which he is authorized to occupy. The boundaries of each plot so occupied will be recorded on the appropriate developed area plan.

In addition to the data required on the drawings, the following information is required in the development outline:

A. Name of Area

- 1. Name of operator
- 2. Indicate whether lease or use permit, and purpose
- 3. Duration of authorization; temporary, seasonal or otherwise. Give dates.
- 4. Metes and bounds description of each plot, including a tie to some point in the recorded survey of the park





## DEVELOPED AREAS

### DRAWINGS

#### DEVELOPED AREA PLANS

The Developed Area Plans are drawn by the Branch of Plans and Design. The layout of each major developed area in the park or monument is shown on an individual Developed Area Plan prepared to portray in detail all existing and proposed development of the area. Minor or outlying areas which do not warrant the preparation of individual drawings may be grouped on one or more sheets as required. Examples: Headquarters Area Plan; Park Utility and Residential Area Plan; Minor Developed Areas Plan.

The Developed Area Plans are usually drawn at large scale for legibility and to permit showing the relationship of the component parts of the ultimate development. The location of all existing and proposed buildings, identified by their assigned building numbers or site numbers, roads, trails, bridges, parking areas, and even such minor features as flagpoles, hitch racks, drinking fountains, etc., are shown, together with all other pertinent data influencing the selection and treatment of the area. Topography, if available, should be shown.

On those developed area plans which show development owned or operated under lease or use permit by park operators, it is required that the lease lines or boundaries of all such plots be clearly shown and identified.

To promote advance planning directed toward unification of opinion, the inclusion of thumbnail sketches on developed area plans is encouraged. Such sketches should indicate space needs, plan arrangement, and more particularly architectural style, regardless of the remoteness of actual construction. (See illustration).

Until a studied and practical interrelationship of all structures of a utility group, headquarters area development, residence area, operator's development, etc., has been reached, such groupings of structures should be shown as an allocation of ground space and not as a pattern of individual buildings.

When the General Development Plan of a small park or monument is drawn at such a scale that all development can be legibly and clearly shown thereon, individual developed area plans are not required.

DEVELOPED  
AREAS

UTILITIES

DEVELOPMENT OUTLINES

Development Outlines covering data on utilities (existing and proposed) pertinent to the developed area concerned, and arranged in the sequence given in the following check lists, will be prepared in narrative form by the Branch of Engineering. They should accompany each Utility Layout Plan and should briefly summarize, amplify or supplement the information appearing in the several utility system charts and on the Utility Layout Plans.

NAME OF AREA

I. WATER SYSTEM

A. Water Supply

1. Source

- a. Springs
- b. Wells
- c. Streams
- d. Artesian Basins
- e. Municipal
- f. Other

2. Location and volume available

3. Pertinent water rights data

4. Supply lines

- a. Size, type, length, capacity
- b. Gravity or pump

(1) Pump make, type, capacity, and kind of power used

B. Storage Facilities

1. Reservoir Type

- a. Impounded (Dam, size, type)
- b. Tank (type, open, covered, capacity)

C. Distribution

- 1. Water Treatment (Fully describe methods and type of apparatus used.)
- 2. Distribution main
  - a. Size, length, type and capacity

D. Use

- 1. Normal monthly use during travel season
- 2. Maximum peak use (Day, week, month)

II. POWER SYSTEM

A. Source of Supply

B. Power Plants

C. Transmission and Distribution System

- 1. Length of lines and conductor sizes
  - a. Aerial
  - b. Underground

III. SEWERAGE SYSTEM

A. Site Factors

- 1. Describe briefly general topography, character of the soil, or other special factors peculiar to the area.

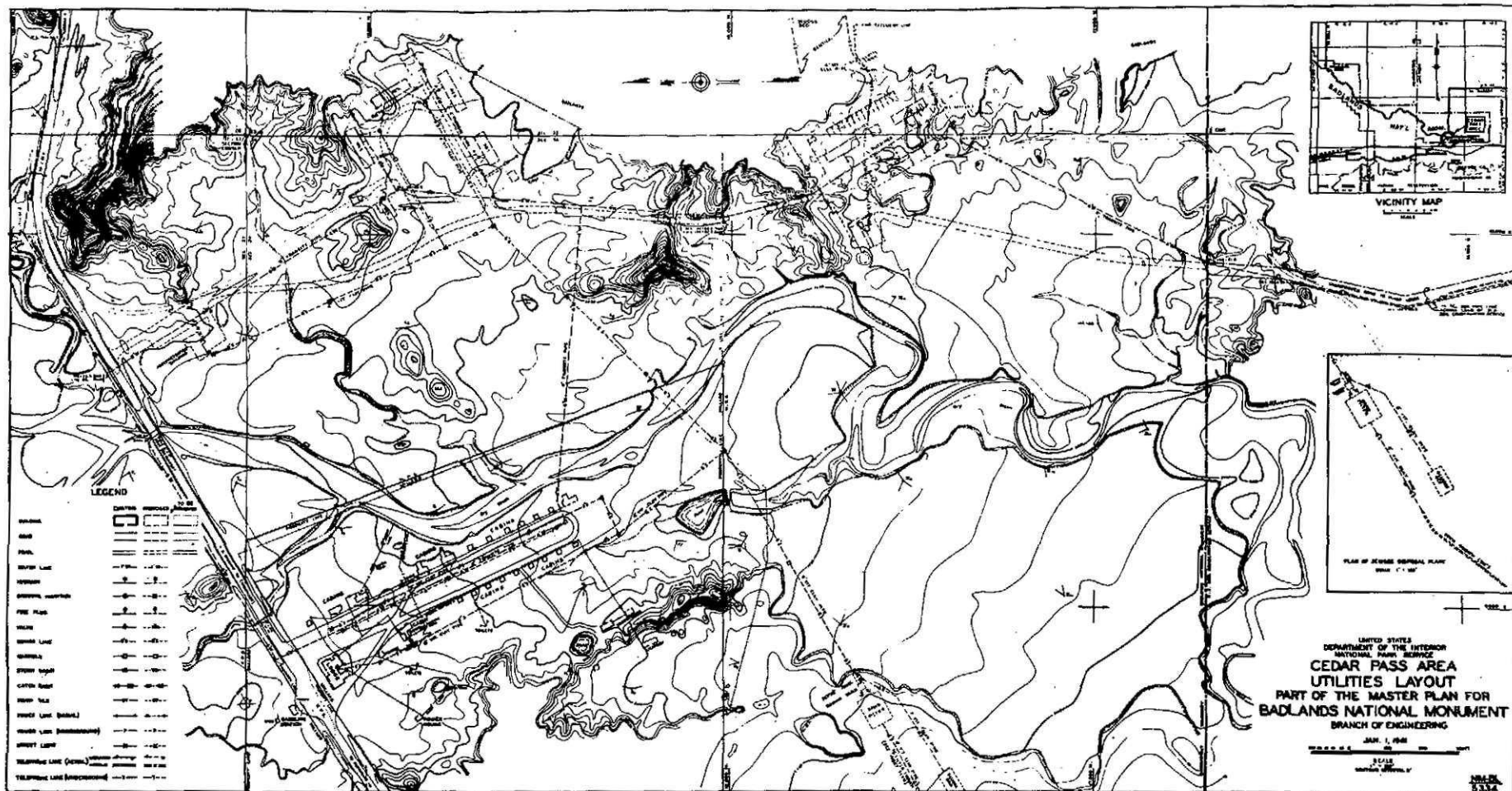
B. Collecting Systems

1. Pumps and Pumping Stations
  - a. Make, type, location, capacity, and kind of power used.
2. Length, size, kind and capacity of sewer pipe lines
3. Manholes, type and size
4. Flushing devices
5. Other
- C. Sewage Treatment
  1. Type of Tank
    - a. Imhoff
    - b. Septic
    - c. Sedimentation
    - d. Other
  2. Disinfection method used
    - a. Chemical, activated sludge, other
- D. Sewage Disposal
  1. Effluent
    - a. Pumps, type, make, capacity, and kind of power used
    - b. Method of disposal
      - (1) Spray field, leaching trench, stream, filtration galleries, other
    - c. Disinfection method used
  2. Sludge
    - a. Method and intervals of removal
    - b. Method of disposal

#### IV. MISCELLANEOUS UTILITIES

- A. Garbage Disposal System
  1. Collection, truck, other
  2. Method of disposal, incinerators, other
  3. Distribution of facilities
    - a. Number, location, capacity and load
- B. Gas Installations
  1. Illumination
  2. Heat
    - a. Natural
    - b. Artificial
- C. Water Control System
  1. Drainage
    - a. Storm Water
    - b. Ground Water
    - c. Other
  2. Dams
    - a. Impounding
    - b. Check
    - c. Other

NOTE: Date of Installation, when available, to be shown for all utilities.



## DRAWINGS

### UTILITY LAYOUT PLANS

Utility Layout Plans are prepared by the Branch of Engineering to supplement the Developed Area Plans. They should record in detail the kind and location of all existing and proposed utilities necessary to the operation and development of the area.

The Utility Layout Plans are made at the scale of their corresponding Developed Area Plans and should show all building, road and trail layouts. When the quantity of utility data to be shown is not large a separate plan is not required; in such cases the data may be placed on the Developed Area Plan provided legibility is not sacrificed.

Where the locations of the sources of water and power supply or of sewage disposal fall beyond the limits of the drawing, proper explanatory notations or small scale insert maps should be included.

Standard Symbols are used to indicate in detail the LAYOUTS and APPURTENANCES of the following:

#### The Water System

Including location of source of supply and storage facilities.

#### The Power System

Including location of source of supply.

#### The Sewerage System

Including location of disposal area.

#### The Telephone System

#### Miscellaneous Utilities

Garbage disposal facilities, gas installations, drainage and water control facilities.

The Branch of Engineering is responsible for the accuracy of the utilities data shown on these plans.

## CHAPTER 19

### OUTLYING UNITS AND ISOLATED BUILDINGS

#### DEVELOPMENT OUTLINE

This section of the Development Outline will be prepared by the Branch of Plans and Design and will be bound with the appropriate Minor or Outlying Development Plans, if such are prepared (see page 77); otherwise, with the General Development Plan or other drawing on which the development is shown.

It is preferred that the following data be presented in chart form, using the standard Building Chart headings. However, if only a few buildings or outlying units require tabulation in this section of the development outline, the chart may be omitted and the data presented in narrative form.

#### I. Outlying Units and Isolated Buildings (Existing and Proposed)

For each of the following give building identification number, location, type of construction, year built, cost, condition, etc., as required by the Building Chart. (Plate III).

- A. Ranger Stations
- B. Trailside Shelters
- C. Patrol Cabins
- D. Maintenance Camps
- E. Other

## CHAPTER 20

### MISCELLANEOUS DEVELOPMENT

This section of the Development Outline will be bound with the General Development Plan or other drawing on which the development is shown.

#### I. MISCELLANEOUS DEVELOPMENT (Existing and Proposed)

Include a general statement for each of the following:

- A. Soil and Moisture Conservation (unless treated as provided in Chapter 16).
- B. Fences
- C. Signs
- D. Other

**PART THREE**  
**STANDARD SYMBOLS**

## MASTER PLAN SHEET LAYOUT AND TITLE

36" or 42" or 48" when necessary.

EDGE OF PAPER

BORDER LINE

REVIEW AND CLEARANCE PANEL (Left)  
to be placed outside and adjoining the Border Line on the left side of the INDEX SHEET only. Space is provided for the signature of a superintendent or a custodian which is to be used only when the Area is under the administration of a Coordinating Superintendent.

CLEARED

REGIONAL DIRECTOR

DATE

REC. & LAND PLANNING

SUPERINTENDENT (or Custodian)

INTERPRETATION

CHIEF COUNSEL

BORDER LINE

FORESTRY

HISTORY

REVIEWED

PLANS & DESIGN

ENGINEERING

EDGE OF PAPER (TRIM EDGE)

22"

EDGE OF PAPER

Variable, Minimum -  $\frac{1}{2}$ "

APPROVAL BLOCK (Below) is to be placed on INDEX SHEET only in the lower right-hand corner where the Title Block appears on other sheets of the Master Plan.

RECOMMENDED ..... DATE .....

CHIEF OF PLANNING

RECOMMENDED ..... DATE .....

SUPERINTENDENT (or Coordinating Superintendent)

APPROVED ..... DATE .....

DIRECTOR

BORDER LINE

EDGE OF PAPER

TITLE BLOCK (Below) is to be placed on EACH sheet of the Master Plan except the Index Sheet and the Cover Sheet. It will appear in the lower right-hand corner of the drawing. Lettering may vary in size and type.

U. S. DEPARTMENT OF THE INTERIOR NATIONAL PARK SERVICE

**NAME OF SHEET**

PART OF THE MASTER PLAN FOR

**KINGS CANYON NATIONAL PARK**

SCALE: ONE INCH EQUALS TWO MILES

MILES.....

DRAWN BY BRANCH OF PLANS AND DESIGN

DELIN. BY A. GOOD TRACED BY B. BETTER CHECKED BY C. BEST

DATA AS OF JANUARY 1941 D'W'G. NO. KC 5434

SHEET **3**

BORDER LINE

EDGE OF PAPER

Variable, Minimum -  $\frac{1}{2}$ "

3"  $\frac{1}{2}$ "



## DEVELOPMENT OUTLINE CHARTS

ROADS		EXISTING 1941						ZION		
NAME OF ROAD	ROUTE	TERMINI	LENGTH	WIDTH	TYPE OF GRAD. SURF.	TOP SURF.	DATES START COMPL.	BUILT BY	TOTAL COST	NOTES
EAST RIM R'D.	1	VIRGIN R. BRIDGE - EAST PARK B'DARY.	1.25	VARIED	VARIED		1928 1937	VARIED	2,039,151	
	1A1	Virgin R. Bridge - West Tunnel Portal	3.93	24'	24'	Asphalt	1928 1934	PRA	677,506	a.
	1A2	Zion Tunnel	1.09	20'	20'	Concrete	1928 1937	PRA	878,000	b.
	1A3	East Tunnel Portal - County Line	3.63	24'	20'	Asphalt	1929 1934	PRA	448,645	c.
	1A4	County Line - East Park Boundary	2.60	22'	20'	Asphalt	1930 1934	Utah	35,000	d.
List all Roads and their Sections, including Truck Trails, Approach Roads, and then give Totals followed by Notes as shown.										
TOTALS	ALL		2						2	
EXISTING ROAD NOTES	a.	Includes Virgin R. bridge - 3 span steel girder, masonry abutments, 200' long, 24' roadway and curb + 2'-6" sidewalks... Pine Creek bridge, 93' long, masonry arch... 3,530' masonry guard wall reconstructed 1940.								
	b.	16' max. clearance, 6 gallery openings with masonry guardwall, 247 masonry lining at west portal; reinforced concrete or gunite lining.								
Continue on same chart form with inserted column titles as shown to tabulate all proposed road projects.										
ROADS		PROPOSED						ZION		
NAME OF ROAD	ROUTE	TERMINI	LENGTH	WIDTH	EST. COST	P. C. P. NO.	DATE	PROPOSED PROJECT TITLE		
EAST RIM R'D.	1A1	Virgin R. Bridge - West Tunnel Portal	3.93	No change	45,000	R-172	10-39	Slope stab, masonry guard walls, 2 parking areas - Pine Ck. bridge - W. Portal		
FLOOR OF VALLEY ROAD.	2A	Virgin R. Bridge - Grotto Campground	3.14	No change	41,000	R-283	10-39	Completion slope treatment; planting; construct turnaround U.P. garage; replace drop inlets; 2 parking areas.		
Thus all Existing and Proposed road data for entire area is to be shown on one continuous tabulation. When separate Developed Area sheets are prepared, a similar road chart may be prepared to accompany each. The information therein or a summary of it must however appear in the "entire area" Road Chart.										

ROAD CHART TRUCK TRAILS INCLUDED

TRAILS		EXISTING 1941						SEQUOIA		
NAME OF TRAIL	ROUTE	TERMINI	LENGTH	WIDTH	TYPE SURF.	DATES START COMPL.	TOTAL COST	GRID	NOTES	
List all Trails and their Sections, first noting entire route in upper-case letters. Subdivisions (Sections) follow in lower-case and totals of Length and Cost should equal corresponding figure in preceding upper-case line concerning entire route. Spur routes must be given different route numbers than the main trails. Data concerning trail bridges, etc., should be included.										
HIGH SIERRA TR.	1	CRESCENT M'DOW - MT. WHITNEY	6.0	VARIED	VARIED	— 1936	360,000			
	1A	Crescent Mdw - Sevenmile Hill Trail	6.3	4'	Part. Oiled	— 1933	26,000	P-12		
	1B	Sevenmile Hill Trail - Bearpaw Meadow	4.7	4'	Not earth	1931 1933	30,000	Q-11		
	1C	Bearpaw Mdw - Lone Pine Camp	2.0	4'		1932 1933	12,000	Q-10		
	et cetera									
JOHN MUIR TRAIL	2	HIGH SIERRA TRAIL - FORESTERS PASS	11.0	3'	NAT. EARTH	— 1929	55,000	R-12		
	2A	High Sierra Trail - Tyndall Creek	6.0	3'	Nat. Earth	— 1929	30,000	S-11		
	2B	Tyndall Creek - Foresters Pass	5.0	3'	Nat. Earth	— 1929	20,000	S-12		
Continue on same chart form with inserted column headings as shown to tabulate all proposed trail improvement and construction. Under NOTES include Special Uses as FIRE CONTROL and ADMINISTRATIVE; omission of such note will indicate general public use.										
TRAILS		PROPOSED						SEQUOIA		
NAME OF TRAIL	ROUTE	TERMINI	LENGTH	WIDTH	EST. COST	P. C. P. NO.	DATE	PROPOSED PROJECT TITLE		
JOHN MUIR TRAIL	2A-B	High Sierra Trail - Foresters Pass	11.0	4.0	12,000	R-451	3-40	Widening, minor realignment, improvement		

TRAIL CHART EXCLUDING TRUCK TRAILS

## DEVELOPMENT OUTLINE CHARTS

**BUILDING CHART** *MAKE ONE FOR EACH DEVELOPED AREA.*

11

BUILDINGS		EXISTING 1941				LONGMIRE			MT. RAINIER				
NO.	NAME	PLAN NO.	TYPE	PERM. OR TEMPORARY	UTILITIES W-S-E	SQ. FT.	CUBIC FT.	VALUE	CONDIT ION	YEAR BUILT	BUILT BY	FORCE AC OR CONTR.	REMARKS
<b>GOVERNMENT OWNED</b>													
103	Administration Building	R-91	Mos. & Fr.	Perm.	W-S-E	2210	66,410	39,846	Good	1933	REG.	Contr.	
209	Wood Storage & Drying Shed	RAI-3140	Frame	Perm.	E	2976	38,688	9,672	Fair	1936	ECW	F.A.	
<b>OPERATOR OWNED</b>													
263	Hotel	RAI-9008	Frame	Perm.	W-S-E	2520	65,520	16,380	Fair	1915	Owner	Contr.	
301	Community Bldg.	R-8A	Frame	Perm.	W-S-E	2593	23,994	8,380	Good	1927	Owner	Contr.	

BUILDINGS		PROPOSED				LONGMIRE			MT. RAINIER				
NO.	NAME	PLAN NO.	TYPE	PERM. OR TEMPORARY	UTILITIES AVAILABLE	SQ. FT.	CUBIC FT.	ESTIM. COST	P. C. P. NO.	DATE	PROPOSED WORK		
<b>GOVERNMENT OWNED</b>													
810	Garage & Machine Shop	No Plans	Mos. F.P.	Perm.	W-S-E	2200	26,400	88,000	B-5	12/15/38	Replacement of old inadequate structure.		
862	Warehouse	RAI-3805	Mos. F.R.	Perm.	W-S-E	5000	150,000	44,000	B-10	3/2/39	To provide adequate fireproof storage facilities.		
<b>OPERATOR OWNED</b>													
906	Employees Garage	No Plans	Frame	Perm.	E	2000	20,000	5,500	B-9	2/15/38	To provide adequate facilities for equipment		

NOTE - Type Classifications should be in accordance with the N.P.S. Building Code. Note utilities by W (Water), S (Sewer), E (Electricity).

**TELEPHONE CHART** *MAKE ONE FOR ENTIRE PARK*

[illegible]**RADIO CHART** *MAKE ONE FOR ENTIRE PARK*[illegible]

## DEVELOPMENT OUTLINE CHARTS

### ELECTRIC POWER CHART *MAKE ONE FOR ENTIRE PARK*

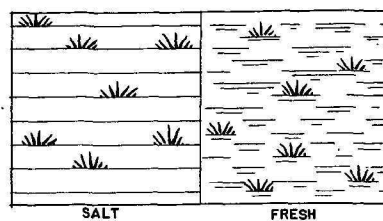
ELECTRIC POWER										EXISTING 1941										YOSEMITE									
LOCATION	YEAR INSTALLED	POWER SOURCE			GENERATOR				TRANSMISSION AND DISTRIBUTION										REMARKS										
		TYPE	M.P.	AC-DC	KVA	PHASE	VOLTAGE	VOLTS	PRIM.	SECOND	NO. OF WIRES	TRANSFORMERS	AC	KVA	PHASE														
Wildwood	1935	Diesel	120	AC	75	3	2400	2400	120/240	3	3	2	3	1															
Crosstey	1932	Gasoline	-15	AC	10	1	120/240	—	120/240	—	3	—	—	—															
Watertown	1927	Columbia Power Co.				3		66KV 11 KV	3			3	750	1		Power Co. Trans. L. NPS System													
Paradise	1925	Hydro-Elec.	1000	AC	750	3	2400	2400	120/240	3	3	5	50	1															

**WATER SYSTEMS CHART** *MAKE ONE FOR ENTIRE PARK*

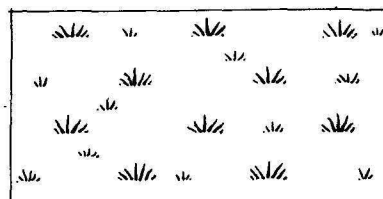
[illegible]SEWERAGE SYSTEMS AND SEWAGE DISPOSAL CHART *MAKE ONE FOR ENTIRE PARK*[illegible]

# LAND CLASSIFICATION AND DRAINAGE

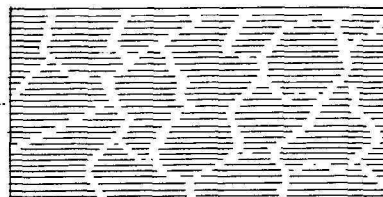
MARSH



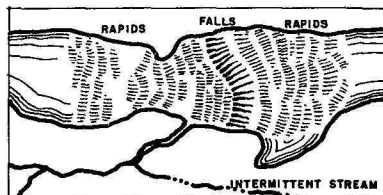
BOTTOM GRASSLAND, WET MEADOW



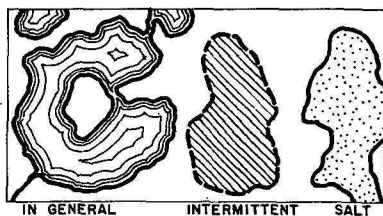
TIDAL FLATS



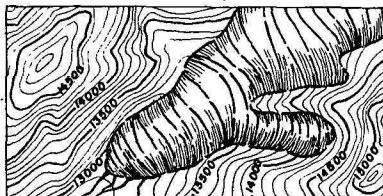
FALLS AND RAPIDS



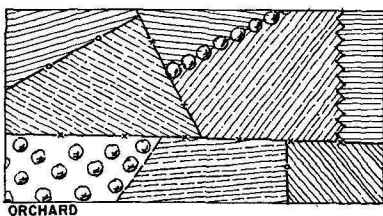
LAKES AND PONDS



GLACIER

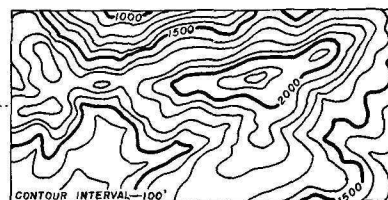


CULTIVATED FIELDS

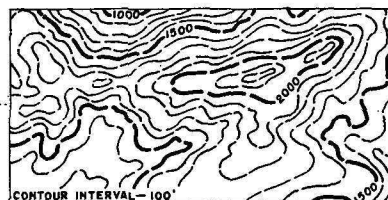


# RELIEF

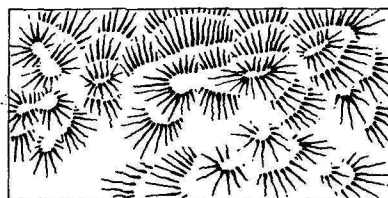
**CONTOURS**.....*For Existing Topography where no changes are proposed.. For Proposed Topography where ex- is shown by Dashed Line Contours.*



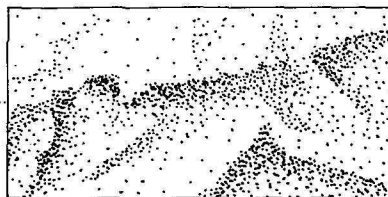
**CONTOURS**.....*For Existing Topography where changes are proposed.. Usually drawn in brown on reverse of tracing.....*



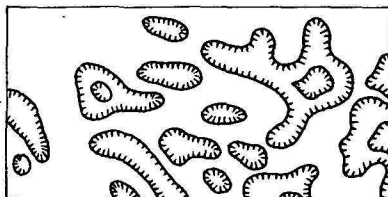
**HACHURES**.....*For approximate pictorial indication of topography..*



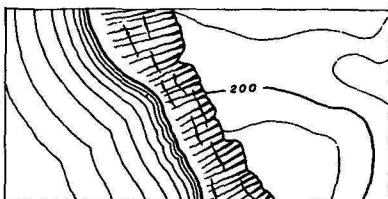
**STIPPLES**.....*For approximate pictorial indication of topography..*



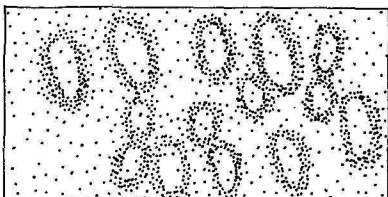
**DEPRESSION CONTOURS**.....








**ROCK CLIFFS, BLUFFS**.....



**SAND AND DUNES**.....



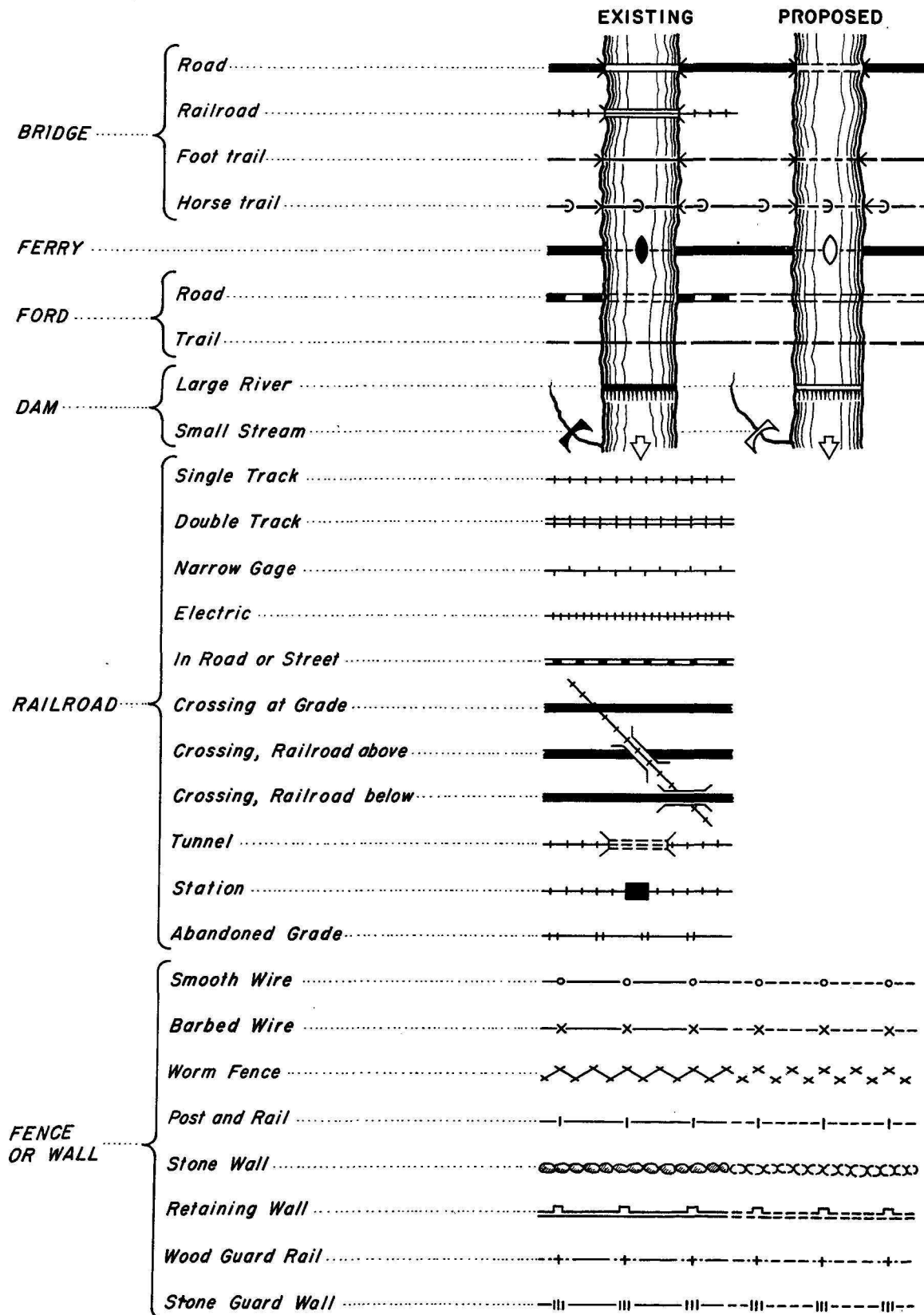
## BOUNDARIES AND COLOR KEY

BOUNDARY LINES	National	.....	-----
	National Park Service	.....	-----
	Proposed National Park Service	.....	-----
	State	.....	-----
	County	.....	-----
	Township	.....	-----
	City or Village	.....	-----
	Private	.....	-----
SECTION LINE			-----
QUARTER SECTION LINE			-----
BOUNDARY MONUMENT			----- 
TRIANGULATION STATION			----- 
PERMANENT BENCH MARK			----- 
SECONDARY OR TEMPORARY BENCH MARK			----- 
SURVEY INSTRUMENT POINTS			----- 
NATIONAL PARK AREA			VIOLET
NATIONAL MONUMENT AND OTHER SERVICE AREAS <i>(Other than parks)</i>			DARK BLUE
MILITARY RESERVATION			LIGHT BROWN
INDIAN RESERVATION			GOLDEN YELLOW
WILDLIFE PRESERVE			OLIVE GREEN
FEDERAL LAND <i>(Other than parks, monuments, reservations, forests.)</i>			PINK
FORESTS			DARK GREEN
STATE LAND			LIGHT BLUE
PRIVATE LAND			DARK BROWN
WITHIN N. P. S. BOUNDARIES	Developed Area		RED
	Sacred Area		PURPLE
	Primitive Research Area		DARK GREEN
	Biotic Succession Research Area		LIGHT GREEN
	Wilderness Area		ORANGE

# WORKS AND STRUCTURES







































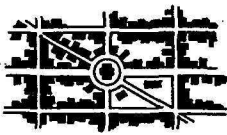




		EXISTING	PROPOSED
ROADS	Standard Width	Top Surfaced	
		Base Surfaced	Blank spaces Yellow
		Graded	Blank spaces Yellow
		Grading under Construction	Yellow between lines
		Proposed	Orange between lines
	Narrow	Surfaced	
		Graded or Graveled	Blank spaces Yellow
		Grading under Construction or under Contract	Yellow between lines
		Proposed	Orange between lines
	Truck Trail		
	Carriage Road	Blank spaces Yellow	Blank spaces Orange
	Historic Road		
	To be Obliterated		
PARKWAY			
FREEWAY			
TRAILS	Foot	Underscore with Yellow	Underscore with Orange
	Horse	Underscore with Yellow	Underscore with Orange
	Manway		
	Appalachian		
FIRE BREAK			
TUNNEL			
PARKING AREA			
PARKING OVERLOOK			
GRADE SEPARATION			
CLOVERLEAF			
TRAFFIC CIRCLE			
CULVERT AND HEADWALL			
CATTLE GUARD		Shown with Barbed Wire Fence	

# WORKS AND STRUCTURES




































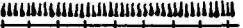





# WORKS AND STRUCTURES

		EXISTING	PROPOSED
BUILDINGS IN GENERAL	Small Scale		
	Large Scale		
	To be Removed		
SHELTER CABIN			
RANGER STATION			
CONTACT STATION			
MAINTENANCE CAMP			
PATROL OR SNOWSHOE CABIN			
FIRE LOOKOUT OR OBSERVATION TOWER			
COMFORT STATION			
TOOL CACHE			
SCHOOL			
CHURCH			
HOSPITAL			
RADIO STATION			
TELEGRAPH STATION			
SAWMILL	Stationary		
	Portable		
HISTORIC BUILDING	Restored		
	To be Restored		
	To remain Unrestored		
CITY, TOWN, VILLAGE	Generalized		
	Small Scale		
	Capital		
	County Seat		
	Other		

On Colored Copies of Plans, "Proposed" Symbols should be colored RED.

# WORKS AND STRUCTURES

	EXISTING	PROPOSED
AIRPORT		
CAVE	<div>Artificial Entrance</div> <div>Natural Entrance</div>	
HISTORICAL TABLET		
HISTORICAL MONUMENT		
MARKER		
PICNIC TABLE AND BENCHES		
FIREPLACE		
CORRAL		
WEATHER STATION	<div>United States</div> <div>Cooperative</div>	
CAMPGROUND		
CAMPSITE		
ORGANIZED CAMP		
DEVELOPED AREA		
CEMETERY		
CANAL	 Blue between Outside Lines	
CANAL LOCK	 Blue between Outside Lines	
FORT		
WINDMILL		
AMPHITHEATER		
LEVEE		
RAILROAD CUT		
RAILROAD FILL		
DOCK		
DOCK AND WAREHOUSE		
BOATHOUSE		
LIGHTHOUSE		


















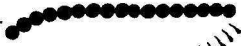






















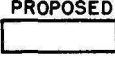



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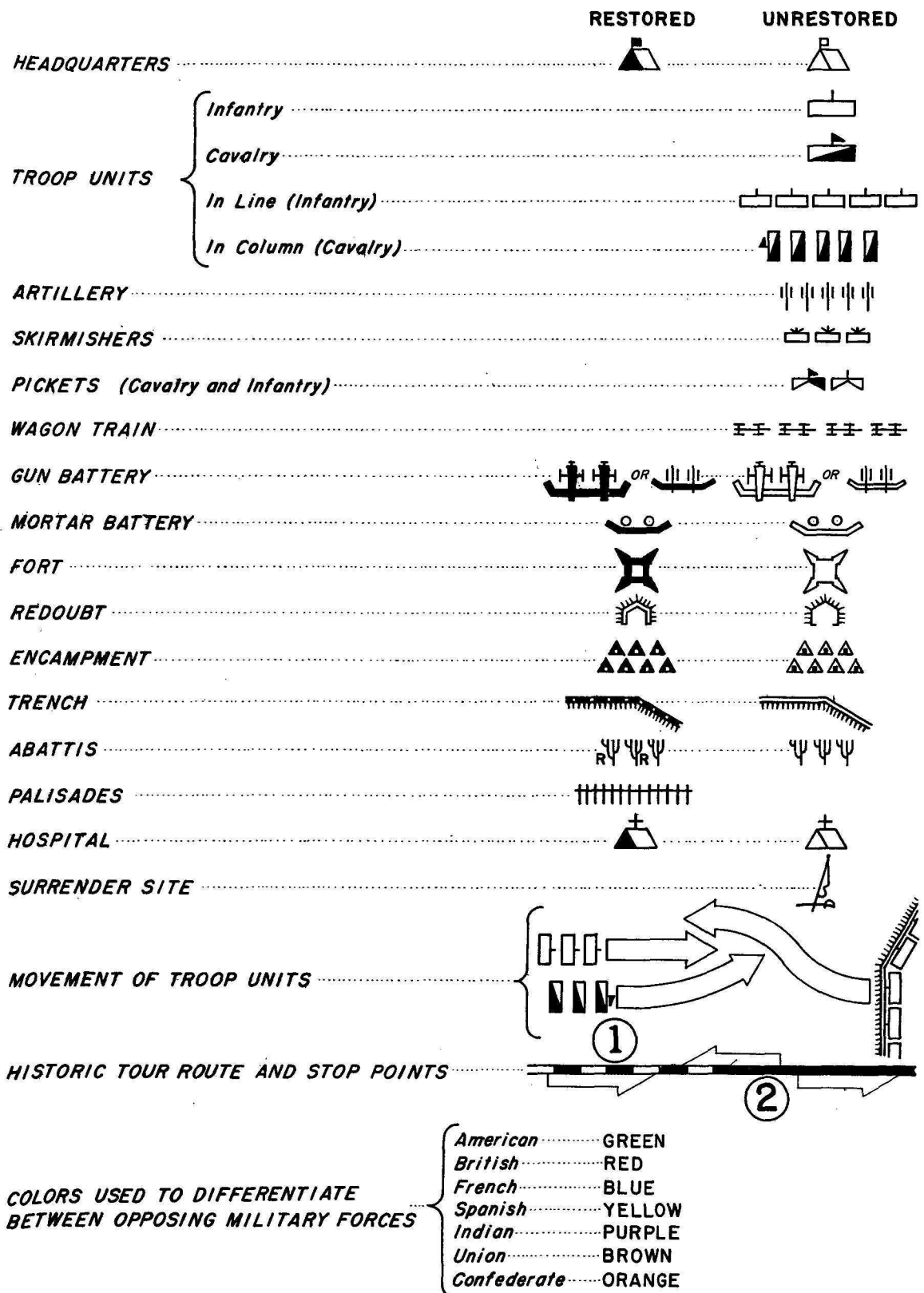
## WORKS AND STRUCTURES

	EXISTING	PROPOSED	
TELEPHONE LINE	Metallic		
	Grounded		
	Underground		
TELEPHONE STATION			
POWER LINE	Aerial		
	Underground		
ELECTRIC LIGHT STANDARD			
POWER PLANT			
GAS LINE			
WATER LINE			
HYDRANT			
FIRE PLUG			
VALVE			
STORAGE TANK OR WELL			
PUMP WITH WELL			
PUMP CHANGE			
DRINKING FOUNTAIN			
STORM DRAIN			
CATCH BASIN			
MAN HOLE			
OPEN DITCH			
DRAIN TILE			
SANITARY SEWER			
DISPOSAL TANK OR CESSPOOL			
DISPOSAL BED			
INCINERATOR			
MINE OR QUARRY			

## ARCHEOLOGY

	EXCAVATED	UNEXCAVATED	
MOUNDS --- Note with S if Stone.	General		
	Conical		
	Linear		
	Pyramidal		
	Effigy		
VILLAGE SITE			
CAMP SITE			
CEMETERY			
GRAVE			
REFUSE PIT			
ENCLOSURE	Stockade		
	Embankment		
CANAL - Irrigation			
INDIAN TRAIL			
BORROW PIT			
PICTOGRAPH			
CAVE			
ROCK SHELTER			
CAVEATE LODGE			
TRENCH EXCAVATION			
STRATIGRAPHIC TEST PIT			
PIT HOUSE			
PUEBLO - Single and Multiple			
HOGAN			
HOUSE SITE - Eastern			
SHELL HEAP			
STAGE OF ARCHEOLOGICAL SURVEY	PROPOSED 	PARTIAL  COMPLETE 	
TEEPEE RING			

MILITARY



## WILDLIFE

# EXISTING

# PROPOSED

Proposed for Reintroduction

**MAMMALS**—Rare or Vanishing of National Significance or involving Special Problems.\*

**BIRDS**—Rare or Vanishing of National Significance or involving Special Problems.\*

\*Use first letters of Generic and Specific names or first and second letters of each.

**GRAZING ALLOTMENT** Note Cattle (C), Sheep (S), or Goats (G), and Proposed over Present Allotment.

**SPECIAL GRAZING AREAS** Note Stay Limit (Nights)

**DRIFT FENCE**

Smooth Wire

Barbed Wire

Post and Rail

DRIFT

DRIFT

DRIFT

DRIFT

DRIFT

DRIFT

**ELECTRIC FENCE**

**STOCK DRIVEWAY**

**SALT STATION**

**FENCED RANGE STUDY PLOT**

**PERMANENT TRAP** Note first letters of Generic and Specific names of Mammal or first and second letters.

**NATURAL WATER SOURCE** important to Wildlife

**WATER STORAGE - Artificial**

**DEPLETED RANGE** Note Summer or Winter use and Proposed over Present Population.

**WILDLIFE HABITAT or RARE BIOTIC COMMUNITY**

Use Mammal and Bird symbols. Note Winter or Summer use, Breeding Areas, Major Migration Routes, and predominant Plant Species (by name) if important.

**BREEDING AREA**










**MAJOR MIGRATION ROUTE** Note Destination

WINTER 600  
1000

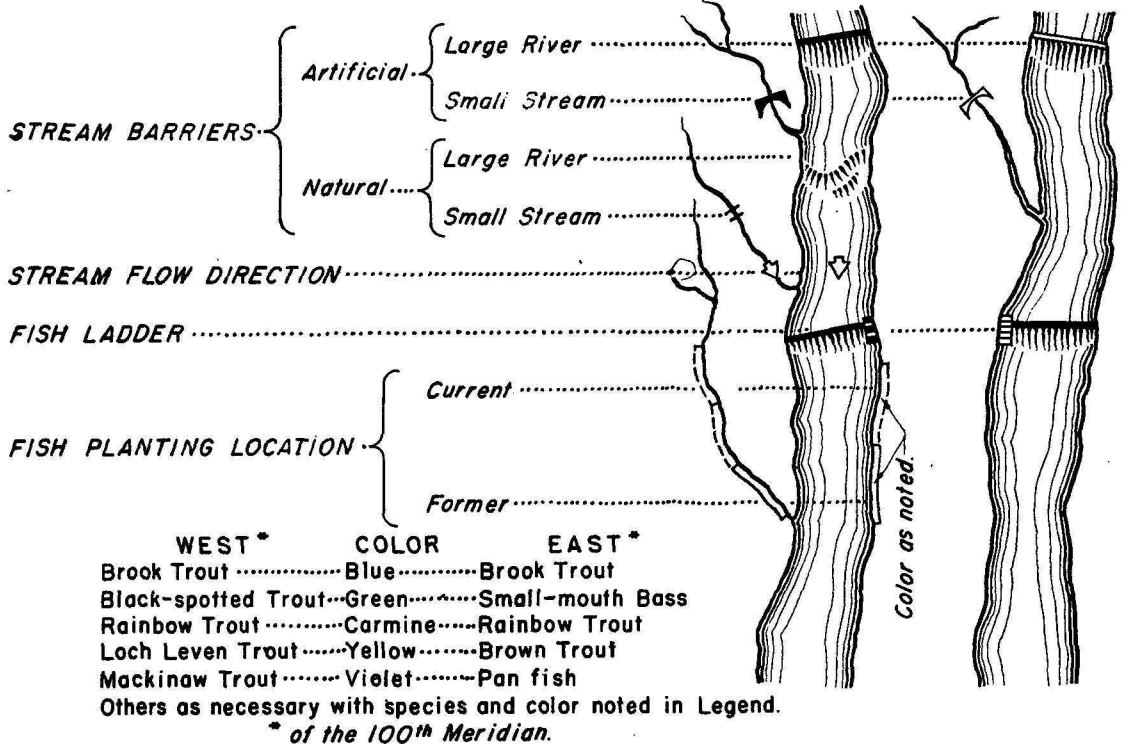
SUMMER

B C

# WILDLIFE

	EXISTING	PROPOSED
FISH HATCHERY .....		
FISH REARING POND .....		
FISH HOLDING POND .....		
FISH EGG COLLECTION STATION .....		
FISH OCCURRENCE (Natural) .....	P  f	

Use first letters of Generic and Specific names or first and second letters of each.



FISHING AREAS RECEIVING EXCESSIVE USE

